Final Announcement

MTS 2019

Organised by:

PERTUBUHAN TORASIK MALAYSIA

18th - 21st July 2019

The Royale Chulan Hotel,
Kuala Lumpur, Malaysia

CONGRESS SECRETARIAT:

MTS 2019
Suite 3B-15,7, Level 15, Block 3B
Plaza Sentral, Jalan Stesen Sentral 5 50470
Kuala Lumpur, Malaysia
Tel : +603-2859 0289 / +603-2856 4053
Fax : +603-2856 4195
Email : m.thoracicsociety@gmail.com / secretariat@mts.org.my
Website : www.mts.org.my/mts2019

www.mts.org.my/mts2019

MTS OFFICE BEARERS

PRESIDENT	Assoc Prof Dr Pang Yong Kek
VICE-PRESIDENT	Dr Nurhayati Mohd Marzuki
HON SECRETARY	Dr Hooi Lai Ngoh
HON TREASURER	Dr Jessie Anne De Bruyne
HON ASSISTANT SECRETARY	Assoc Prof Dr Ahmad Izuanuddin Ismail
HON ASSISTANT TREASURER	Dr Asiah Kassim
COMMITTEE MEMBERS	Dr Lalitha Pereirasamy Dr Dg Zuraini Sahadan Dr Hilmi Lockman Dr Surendran Thavagnanam
CO-OPTED COMMITTEE MEMBER	Prof Dr Roslina A Manap *(Immediate Past President)*
HONORARY AUDITORS	Prof Dr Liam Chong Kin Prof Dato' Dr Abdul Razak Abdul Muttalif

MTS 2019 ORGANISING COMMITTEE

CONGRESS ADVISOR	Assoc Prof Dr Pang Yong Kek
ORGANISING CHAIRMAN	Assoc Prof Dr Ahmad Izuanuddin Ismail
SCIENTIFIC COMMITTEE	Dr Hilmi Lockman *(Adult Programme Chair)* Dr Asiah Kassim Dr Hafizah Zainuddin Dr Noor Ain Noor Affendi *(Paediatric Programme Co-Chairs)* Dr Hj Mohd Arif Mohd Zim Dr Syazatul Syakirin Sirol Aflah Assoc Prof Dr Mohamed Faisal Abdul Hamid Assoc Prof Dr Pang Yong Kek
SECRETARY/ BUSINESS MANAGER	Dr Hooi Lai Ngoh
TREASURER	Dr Jessie Anne De Bruyne
PUBLICITY & PUBLICATION	Dr Jessie Anne De Bruyne Dr Nurhayati Mohd Marzuki
SOCIAL EVENTS	Dr Lalitha Pereirasamy Dr Noorul Afidza Muhammad Dr Aisya Natasya Musa Ms Nurnadiah Nordin
AUDIO-VISUAL FACILITIES	Dr N Fafwati Faridatul Akmar Mohammad Dr Tan Jiunn Liang Mr Hilmi Abdullah

WELCOME ADDRESS FROM PRESIDENT OF MALAYSIAN THORACIC SOCIETY

On behalf of the organising committee, I am delighted to welcome you to the MTS 2019 Congress!

After a lapse of 10 years, the event will be held again at Royale Chulan Hotel - a hotel with uniquely crafted architecture located at the heartland of Malaysia's bustling capital of Kuala Lumpur.

For those who have attended our congress 10 years ago, the same venue may evoke some nostalgic feeling and bring back the sweet memories of the past. For the newcomers, I am sure the ambience of this venue and the scientific programme will excite and charm you.

This year, we have made a significant improvement to the scientific programme with addition of an extra track to the symposia for the second and third days of the Congress - with an objective to allow in-depth discourses of various respiratory disorders. Besides, topics are determined after obtaining feedback from the leaders of various special interest groups. We hope such arrangement will result in a balanced and well-spread programme.
Apart from conventional lectures, hands-on sessions and abstract presentation, we have also created time slots for members/delegates with similar interest to meet, discuss and potentially collaborate on future research projects.
Last but not least, I would like to express my heartfelt gratitude to the scientific committee who have spent a lot of efforts in drawing up this comprehensive programme

I hope you will find this Congress a memorable and rewarding experience!

With warmest regards,

Assoc Prof Dr Pang Yong Kek
President
Malaysian Thoracic Society

WELCOME ADDRESS FROM ORGANISING CHAIRMAN

Welcome to 2019 MTS Annual Congress! It gives me a great pleasure to welcome friends and colleagues to Royale Chulan Hotel, Kuala Lumpur for our lively annual scientific gathering from 18th till 21st July 2019.

Respiratory Medicine has undergone massive transformational changes over the past few years with lots of new developments and advances in the field. With this in mind, our scientific team has come up with a very exciting programme to keep us abreast with the current updates encompassing wide variety of interesting topics. The programme will be tailored to individual needs from general physician level all the way to the subspecialist level. We will also have sessions dedicated to our allied health colleagues to enhance the working environment and improve the teamwork in managing our patients.

Our programme will cover key topics in Respiratory Medicine from across the spectrum of 8 disease areas, including COPD, Asthma, Pulmonary Infections, Lung Cancer, TB, Sleep Disordered Breathing, Interstitial Lung Disease, and Respiratory failures. Our panel of overseas and local expert speakers will also deliver the best in science and education to specifically highlight the importance of rehabilitation, smoking cessation, and vaccination. Not forgetting our interactive sessions with our engaging clinical grand round and dedicated oral and poster presentation to highlight the work done by clinicians and researchers in the field. Accepted abstracts will also be eligible for consideration for our coveted travel awards and investigator awards.

Once again, on the behalf of the MTS Council and Organising team, I welcome you to our annual congress. We hope that you will also take the opportunity to build up network for future collaborations and meet up old and new friends whilst gaining insight and formulate new ideas for betterment of our services. Looking forward to see all of you in July.

Assoc Prof Dr Ahmad Izuanuddin Ismail
Organising Chair

PROGRAMME SUMMARY

PROGRAMME SUMMARY - DAY 1	
Time	**18th July 2019 - Thursday**
0830 - 1700	**CONGRESS WORKSHOP (Includes Lunch)** **Workshop 1** Lung Cancer **Workshop 2** Pulmonary Rehabilitation Program (PRP) in Adults **Workshop 3** Empyema Thoracis in Children
1700 - 1730	**COFFEE BREAK**
1730 - 1820	**SPONSORED SYMPOSIUM 1A** (Procter & Gamble) **SPONSORED SYMPOSIUM 1B** (A. Menarini)

PROGRAMME SUMMARY - DAY 2	
Time	**19th July 2019 - Friday**
0700 - 0800	**REGISTRATION**
0800 - 0810	**WELCOME ADDRESS**
0810 - 0850	**PLENARY 1** Malaysian Respiratory Year in Review
0850 - 1005	**SYMPOSIUM 1** S1A – Asthma S1B – Pulmonary Infection (Non-TB) S1C – Recent Updates of Asthma in Children S1D – Primary Care
1005 - 1035	**COFFEE BREAK**
1035 - 1150	**SYMPOSIUM 2** S2A – Orphan Lung Diseases S2B – Sleep Disordered Breathing S2C – Respiratory Outcomes of Recent Ventilation Strategies in NICU and PICU S2D – MTS Research Grant Investigators Update & Selected Poster Discussions
1150 - 1240	**SPONSORED SYMPOSIUM 2** (AstraZeneca)
1240 - 1430	**LUNCH AND FRIDAY PRAYERS**
1430 - 1600	**SYMPOSIUM 3** S3A – Critical Care S3B – Tobacco & Environmental Health S3C – Pneumonia in Children S3D – Tuberculosis
1600 - 1650	**SPONSORED SYMPOSIUM 3A** (Sanofi Pasteur) **SPONSORED SYMPOSIUM 3B** (Merck, Sharp & Dohme)
1650 - 1845	**MTS ANNUAL GENERAL MEETING & COFFEE BREAK**
1845 - 1935	**SPONSORED SYMPOSIUM 4A** (GlaxoSmithKline Pharmaceutical) **SPONSORED SYMPOSIUM 4B** (Orient Europharma)

PROGRAMME SUMMARY

PROGRAMME SUMMARY - DAY 3	
Time	**20th July 2019 - Saturday**
0700 - 0800	**SUNRISE SESSION 1** Respiratory Year in Review – Asthma / COPD
0800 - 0840	**PLENARY 2** Tuberculosis in Children: Global Overview
0840 - 1010	**SYMPOSIUM 4** S4A – COPD 1 S4B – Interventional Pulmonology S4C – Community Acquired Pneumonia S4D – Pleural Diseases
1010 - 1040	**COFFEE BREAK**
1040 - 1210	**SYMPOSIUM 5** S5A – Lung Cancer 1 S5B – Interstitial Lung Diseases S5C – Infant with Noisy Breathing S5D – Oral Presentations
1210 - 1300	**SPONSORED SYMPOSIUM 5** (GlaxoSmithKline Pharmaceutical)
1300 - 1400	**LUNCH**
1400 - 1500	**SYMPOSIUM 6** S6A – Lung Cancer 2 S6B – Research for Dummies **POSTER PRESENTATION**
1500 - 1550	**SPONSORED SYMPOSIUM 6** (Boehringer Ingelheim)
1550 - 1640	**SPONSORED SYMPOSIUM 7A** (AstraZeneca) **SPONSORED SYMPOSIUM 7B** (Roche)
1640 - 1710	**COFFEE BREAK**
1930 - 2230	**GALA DINNER**

PROGRAMME SUMMARY - DAY 4	
Time	**21st July 2019 - Sunday**
0700 - 0800	**SUNRISE SESSION 2** Pulmonary Rehabilitation in Action
0800 - 0840	**SYMPOSIUM 7** Nutritional Rehabilitation / SIG Meetings
0840 - 1010	**SYMPOSIUM 8** S8A – COPD 2 S8B – Pulmonary Tuberculosis in Children
1010 - 1040	**COFFEE BREAK**
1040 - 1130	**SPONSORED SYMPOSIUM 8** (Bayer)
1130 - 1230	**SYMPOSIUM 9** Multi-Disciplinary Case Discussions Adult Case Combined Case Multi-Disciplinary Case Discussions Paediatric Cases
1230 - 1315	Debate – LABA/ICS as Required in Asthma: The Future of Asthma Treatment?
1315 - 1330	**CLOSING CEREMONY**
1330 - 1430	**LUNCH**

LUNG CANCER

18th July 2019, The Royale Chulan Kuala Lumpur, Executive Boardroom, Level 1

Coordinators : *How Soon Hin*
Poh Mau Ern

TIME	TOPIC	SPEAKER
0730 - 0830	Registration	
0830 - 0900	Biomarkers and Genomics in Lung Cancer	*Pathmanathan Rajadurai, Malaysia*
0900 - 0930	Current Landscape of Targeted Therapy in Advanced NSCLC	*Tan Chih Kiang, Malaysia*
0930 - 1000	Novel Immunotherapy Strategies in Advanced NSCLC	*Tan Chih Kiang, Malaysia*
1000 - 1030	Role of Re-Biopsy in Managing NSCLC	*Poh Mau Ern, Malaysia*
1030 - 1100	Coffee Break	
1100 - 1130	Toxicity Management of Immunotherapy in Lung Cancer	*Azza Omar, Malaysia*
1130 - 1200	Managing Brain Metastases	*Muhammad Azrif Ahmad Annuar, Malaysia*
1200 - 1300	Case Discussions 1	*Poh Mau Ern, Malaysia /* *Irfhan Ali Hyder Ali, Malaysia*
1300 - 1400	Lunch	
1400 - 1435	Locally Advanced Stage 3 NSCLC: Surgical Options	*Soon Sing Yang, Malaysia*
1435 - 1510	Locally Advanced Stage 3 NSCLC: Non-Surgical Options	*Ho Gwo Fuang, Malaysia*
1510 - 1545	Palliative Care in Advanced NSCLC	*Richard Lim Boon Leong, Malaysia*
1545 - 1645	Case Discussions 2	*How Soon Hin, Malaysia /* *Azza Omar, Malaysia*
1645 - 1700	General Discussions & Closing	
1700 - 1730	Coffee Break	

PULMONARY REHABILITATION PROGRAM (PRP) IN ADULTS

18th July 2019, The Royale Chulan Kuala Lumpur, Sri Panglima 2, Level 1

Chairpersons *Anmol Kaur Manjit Singh*
Fatim Tahirah Mirza Mohd Tahir Beg
Azlina Samsudin

TIME	TOPIC	SPEAKER
0730 - 0830	Registration	
0830 - 0910	Current Evidence in PRP	*Fatim Tahirah Mirza Mohd Tahir Beg*
0910 - 0950	Selecting the Right Candidate for PRP	*Azlina Samsudin*
0950 - 1030	Assessment of Efficacy: Outcome Measures in PRP	*Ayiesah Ramli*
1030 - 1100	Coffee Break	
1100 - 1120	PRP in Malaysia: A National Survey	*Siti Mahnum Shaaran*
1120 - 1150	PRP in Clinical Practice Sharing Session 1: An Overview on PRP in Hospital Serdang	*Farhah Amalina Muhammad Ehsan*
1150 - 1210	PRP in Clinical Practice Sharing Session 2: PRP in UMMC: How Much We Have Evolved	*Anmol Kaur Manjit Singh*
1210 - 1230	PRP in Clinical Practice Sharing Session 3: PRP for Non-COPD in IPR	*Nurlisa Sharmin Muhamed Al-Jeffrey*
1230 - 1300	Challenges in Setting Up a PRP	Ayiesah Ramli
1300 - 1400	Lunch	

continue on next page

PULMONARY REHABILITATION PROGRAM (PRP) IN ADULTS

18th July 2019, The Royale Chulan Kuala Lumpur, Sri Panglima 2, Level 1

TIME	TOPIC	SPEAKER
1400 - 1530	Hands-On Session	*Facilitators:*
	• 6 Minute Walk Test (6MWT)	*Anmol Kaur Manjit Singh*
	• Respiratory Adjuncts	
	• Correct Inhaler Technique	*Audi Eryanny Tamrin*
1530 - 1630	Forum:	
	Q1: Awareness Among Doctors on Referral to PRP	*Lam Yoke Fong*
	Q2: Evidence vs. Practice in PRP	*Fatim Tahirah Mirza Mohd Tahir Beg*
	Q3: Role of Nurses in PRP	*Nurhayati Mohd Nur*
	Q4: Can We Start a PRP Without Having a Multidisciplinary Team?	*Lam Yoke Fong*
1630 - 1700	Patient Sharing Session	*Ali Karwi / Kevin Ku Wing Soon*
1700 - 1730	Coffee Break	

EMPYEMA THORACIS IN CHILDREN

18th July 2019, The Royale Chulan Kuala Lumpur, Sri Bendahara 1 & 2, Level 1

Chairpersons *Asiah Kassim*
Patrick Chan Wai Kiong

TIME	TOPIC	SPEAKER
0730 - 0830	Registration	
0830 - 0840	Introduction and Welcoming Speech	*Jessie Anne de Bruyne*
0840 - 0910	Complicated Pneumonia in Children	*Mariana Daud*
0910 - 0940	Common Problems Encountered in Managing Empyema Thoracis in Malaysia	*Dg Zuraini Sahadan*
0940 - 1010	Malaysia Consensus: Approach to Empyema Thoracis	*Su Siew Choo*
1010 - 1030	Radiological Investigations in Empyema Thoracis	*Che Zubaidah Che Daud*
1030 - 1100	Coffee Break	
1100 - 1130	Empyema Thoracis: Medical Treatment and Failure	*Anna Marie Nathan*
1130 - 1200	When is Surgical Intervention Required for Empyema Thoracis?	*Zakaria Zahari*
1200 - 1230	Follow Up and Long-Term Outcome of Empyema Thoracis in Children	*Ahmad Fadzil Abdullah*
1230 - 1400	Lunch	
1400 - 1630	Hands On Workshop	
	• Ultrasound Thorax	*Che Zubaidah Che Daud / Wong Pik Li*
	• Chest Tube Insertion	*N. Fafwati Faridatul Akmar Mohammad / Mohd Fitri Shukri Mohamed Adanan / Shangari Kunaseelan*
	• Intra-Pleurolytic Infusion	*Noor Ain Noor Affendi / Nicholas Chang Lee Wen*
1630 - 1700	Conclusion and Recommendation	*Noor Ain Noor Affendi*
1700 - 1730	Coffee Break	

18th July 2019, Thursday

1730 – 1820	**SPONSORED SYMPOSIUM (SS1A)**	EXECUTIVE BOARDROOM, LEVEL 1
	Company: Procter & Gamble	
	Chairperson: Jass Liew	
	Speaker: Kong Min Han, Malaysia	
	Topic: Individualized Management of Nasal Congestion: Can We Do More?	
	SPONSORED SYMPOSIUM 1B (SS1B)	SRI BENDAHARA 1, LEVEL 1
	Company: A. Menarini	
	Chairperson: Nik Raihan Mohamed	
	Speaker: Rus Anida Awang, Malaysia	
	Topic: Management of Pre-School Wheeze	

19th July 2019, Friday

0700 – 0800	**Registration**	
0800 – 0810	**WELCOME ADDRESS** *Pang Yong Kek, Malaysia* *President, Malaysian Thoracic Society* *Ahmad Izuanuddin Ismail, Malaysia* *Organising Chairman, MTS 2019*	TAMINGSARI 1 & 2, LEVEL G
0810 – 0850	**PLENARY 1 (P1)** *Chairperson: Ahmad Izuanuddin Ismail* Malaysian Respiratory Year in Review *Liam Chong Kin, Malaysia*	TAMINGSARI 1 & 2, LEVEL G
0850 – 1005	**SYMPOSIUM 1 (S1)**	TAMINGSARI 1 & 2, LEVEL G
	S1A – *Asthma* *Chairpersons: Helmy Haja Mydin / Andrea Ban Yu-Lin* 1. Difficult to Diagnose Asthma *Lam Yoke Fong, Malaysia* 2. Dying from Asthma in 2019: A Thing of the Past *Helmy Haja Mydin, Malaysia* 3. Immunomodulation Therapy in Asthma *Azza Omar, Malaysia*	
	S1B – *Pulmonary Infection (Non-TB)* *Chairpersons: Soo Chun Ian / Mustafa Kamal Razak* 1. Respiratory Viral Infecrtions *Mustafa Kamal Razak, Malaysia* 2. Respiratory Infections in the Immunocompromised Host *Suresh Kumar Chidambaram, Malaysia* 3. Management of NTM in 2019 *Pang Yong Kek, Malaysia*	TAMINGSARI 3, LEVEL G
	S1C – *Recent Updates of Asthma in Children* *Chairpersons: Eg Kah Peng / Alison Tih Ying-Hua* 1. Management in Acute Exacerbation of Asthma in Young Children *Patrick Chan Wai Kiong, Malaysia* 2. Childhood Asthma Management – Year in Review *Jessie Anne de Bruyne, Malaysia* 3. Clinical Risk Reduction in Asthma *Peter Le Souëf, Australia*	TUN SRI LANANG 1 & 2, LEVEL G
	S1D – *Primary Care* *Chairpersons: Nurul Yaqeen Mohd Esa / Lai Nai Lang* 1. Management of COPD in Primary Care (Focus on Diagnosis) *B Chantariga A Benbamnan, Malaysia* 2. Community Acquired Pneumonia: Approach to Treatment in the Community *Megat Razeem Abdul Razak, Malaysia* 3. Quiz in Respiratory Diseases for Primary Care *B Chantariga A Benbamnan, Malaysia /* *Megat Razeem Abdul Razak, Malaysia*	EXECUTIVE BOARDROOM, LEVEL 1
1005 – 1035	Coffee Break	

19th July 2019, Friday

1035 – 1150	**SYMPOSIUM 2 (S2)**	TAMINGSARI 1 & 2, LEVEL G
	S2A – *Orphan Lung Diseases*	
	Chairpersons: Michael Stephen Joseph / Ummi Nadira Daut	
	1. Lymphangioleiomyomatosis - My Experience *Andrea Ban Yu-Lin, Malaysia*	
	2. Pulmonary Vasculitis Syndrome - Approach & Management *Ummi Nadira Daut, Malaysia*	
	3. Bronchiectasis Management Update 2019 *Rosmadi Ismail, Malaysia*	
	S2B – *Sleep Disordered Breathing*	TAMINGSARI 3, LEVEL G
	Chairpersons: Muventhiran Ruthranesan / Rashidah Yasin	
	1. Exercise & OSAHS *Muventhiran Ruthranesan, Malaysia*	
	2. How to Improve CPAP Compliance in OSAHS *Ahmad Izuanuddin Ismail, Malaysia*	
	3. Benefits of NIV in Lung Disease Other than OSAHS *Rashidah Yasin, Malaysia*	
	S2C – *Respiratory Outcomes of Recent Ventilation Strategies in NICU and PICU*	TUN SRI LANANG 1 & 2, LEVEL G
	Chairpersons: Noor Ain Noor Affendi / Ahmad Fadzil Abdullah	
	1. Long-Term Respiratory Complications of Neonatal Survival *Anna Marie Nathan, Malaysia*	
	2. Respiratory Outcomes among PICU Graduates *Eg Kah Peng, Malaysia*	
	3. Benefit and Risk of High Flow Nasal Cannula (HFNC) Therapy *Gan Chin Seng, Malaysia*	
	S2D – *MTS Research Grant Investigators' Update* *Coordinators: Liam Chong Kin / Lalitha Pereirasamy*	EXECUTIVE BOARDROOM, LEVEL 1
1150 – 1240	**Sponsored Symposium 2 (SS2)** *Company:* AstraZeneca	TAMINGSARI 1 & 2, LEVEL G
	Chairperson: Mohd Arif Mohd Zim	
	Speaker: *Aileen David-Wang, Philippines*	
	Topic: Asthma Landscape Across Severities: *How Far We've Come*	
1240 – 1430	Lunch	WARISAN CAFÉ
1430 – 1600	**SYMPOSIUM 3 (S3)**	TAMINGSARI 1 & 2, LEVEL G
	S3A – *Critical Care*	
	Chairpersons: Hilmi Lockman / Rosmadi Ismail	
	1. Respiratory Infections in ICU *Sundari Ampikaipakan, Malaysia*	
	2. ARDS Treatment Approach and Options *Sewa Duu Wen, Singapore*	
	3. Optimising Clinical Outcomes in the ICU - Non Therapeutic Options *Sewa Duu Wen, Singapore*	
	S3B – *Tobacco & Environmental Health*	TAMINGSARI 3, LEVEL G
	Chairpersons: Nurhayati Mohd Marzuki / Tan Jiunn Liang	
	1. Rare Earth Lung Disease / Particle Pollution an Occupational Hazard? *Krishna Gopal Rampal, Malaysia*	
	2. Vape Associate Lung Disease - Still a Concern? *Michael Stephen Joseph, Malaysia*	
	3. Surveillance for Occupational Lung Disease *Siti Sara Yaacob, Malaysia*	

19th July 2019, Friday

	S3C – *Pneumonia in Children* *Chairpersons: Rus Anida Awang / Su Siew Choo* 1. Recurrent Pneumonia *Alison Ting Yih-Hua, Malaysia* 2. Unresolved Pneumonia *Norzila Mohamed Zainuddin, Malaysia* 3. Complications of Pneumonia *Surendran Thavagnanam, United Kingdom*	TUN SRI LANANG 1 & 2, LEVEL G
	S3D – *Tuberculosis* *Chairpersons: Mat Zuki Mat Jaeb / Abdul Razak Abdul Muttalif* 1. Finding the Missing Persons with TB *Mohd Ihsani Mahmood, Malaysia* 2. TB Control using Innovative Technology *Muhammad Nazri Aziz, Malaysia* 3. MDR TB with New Drugs *Kalpeshsinh Rahevar, Philippines*	EXECUTIVE BOARDROOM, LEVEL 1
1600 – 1650	**SPONSORED SYMPOSIUM 3A (SS3A)** *Company:* Sanofi Pasteur *Chairperson: Nurhayati Mohd Marzuki* Speaker: *Nordiana Nordin, Malaysia* Topic: Influenza in Older Adults	TAMINGSARI 1 & 2, LEVEL G
	SPONSORED SYMPOSIUM 3B (SS3B) *Company:* Merck, Sharp & Dohme *Chairperson: How Soon Hin* Speaker: *Aumkhae Sookprasert, Thailand* Topic: Immuno-Oncology Breakthrough: Practice Changing Landscape in First-Line Advanced NSCLC	TAMINGSARI 3, LEVEL G
1650 – 1845	Coffee Break	
	MTS Annual General Meeting	TUN SRI LANANG 1 & 2, LEVEL G
1845 – 1935	**SPONSORED SYMPOSIUM 4A (SS4A)** *Company:* GlaxoSmithKline Pharmaceutical *Chairperson: Razul MD Nazri MD Kassim* Speaker: *Melvin A Pasay, Philippines* Topic: Evolving COPD Treatment Paradigm	TAMINGSARI 1 & 2, LEVEL G
	SPONSORED SYMPOSIUM 4B (SS4B) *Company:* Orient Europharma *Chairperson: Andrea Ban Yu-Lin* Speaker: *Perng Diahn-Warng, Taiwan* Topic: Early Detection of Small Airway Disease: Approach and Management	TAMINGSARI 3, LEVEL G

DAILY PROGRAMME

20th July 2019, Saturday

0700 – 0800	**SUNRISE SESSION 1** Moderator: *Hilmi Lockman* Respiratory Year in Review – Asthma COPD *Abdul Aziz Marwan, Malaysia*	TAMINGSARI 1 & 2, LEVEL G
0800 – 0840	**PLENARY 2** *Chairperson: Azizi Omar* Tuberculosis in Children: Global Review *Ben J Marais, Australia*	TAMINGSARI 1 & 2, LEVEL G
0840 – 1010	**SYMPOSIUM 4 (S4)**	TAMINGSARI 1 & 2, LEVEL G
	S4A – *COPD 1* *Chairpersons: Ong Choo Khoon / Norhaya Mohd Razali* 1. GOLD 2019: What's New? *Pang Yong Kek, Malaysia* 2. How Useful is Blood Eosinophil as a Biomarker in COPD *Rhee Chin Kook, South Korea* 3. Are We Ready for Phenotyping in COPD? *Aileen David-Wang, Philippines*	
	S4B – *Interventional Pulmonology* *Chairpersons: Tie Siew Teck / Mona Zaria Nasaruddin* 1. Pulmonologist Led Rigid Bronchoscopy: The Story So Far… *K. Kannan Sivaraman Kannan, Malaysia* 2. Bronchoscopic Thermal Vapour Ablation Therapy *Anantham Devanand, Singapore* 3. Radial EBUS and Navigational Bronchoscopy for Peripheral Lung Nodule *Tie Siew Teck, Malaysia*	TAMINGSARI 3, LEVEL G
	S4C – *Community Acquired Pneumonia* *Chairpersons: Asiah Kassim / Anna Marie Nathan* 1. Morbidities and Mortality in Viral Pneumonia *Peter Le Souëf, Australia* 2. Challenges in Managing CAP in Children *Aina Mariana Abdul Manaf, Malaysia* 3. Rationalization of Hospital Admission and Antibiotic Used in Children with Pneumonia *Ben J Marais, Australia*	TUN SRI LANANG 1 & 2, LEVEL G
	S4D – *Pleural Diseases* *Chairpersons: Mohamed Faisal Abdul Hamid / Fauzi M. Anshar* 1. Role of Early Pleurodesis in Primary Pneumothorax / Non Surgical Treatment in Persistant Pneumothorax *Muhammad Redzwan Muhammad S Rashid Ali, Malaysia* 2. Indwelling Pleural Catheters - Management of Complications *Mohd Arif Mohd Zim, Malaysia* 3. Management of Empyema Thoracis *Narasimman Sathiamurthy, Malaysia*	EXECUTIVE BOARDROOM, LEVEL 1
1010 – 1040	Coffee Break	

20th July 2019, Saturday

1040 – 1210	**SYMPOSIUM 5 (S5)**	TAMINGSARI 1 & 2, LEVEL G
	S5A – *Lung Cancer 1*	
	Chairpersons: How Soon Hin / Soon Sing Yang	
	1. Challenges of Lung Cancer Screening in Malaysia *Nor Zuliana Dzul-kifli, Malaysia*	
	2. Preparing Early Lung Cancer Patient for Surgery: What Should I Do? *Narasimman Sathiamurthy, Malaysia*	
	3. Smoking Cessation Programme into Lung Cancer Screening *Nurhayati Mohd Marzuki, Malaysia*	
	S5B – *Interstitial Lung Diseases*	TAMINGSARI 3, LEVEL G
	Chairpersons: Syazatul Syakirin Sirol Aflah / Chua Keong Tiong	
	1. Pulmonary Vasculitis/ ANCA Associated Vasculitis ILD *Antonella Arcadu, Italy*	
	2. Radiological Diagnosis of ILD - Current and Future Imaging *Mohammad Hanafiah, Malaysia*	
	3. Occupational and Drug Induced Interstitial Lung Disease *Antonella Arcadu, Italy*	
	S5C – *Infant with Noisy Breathing*	TUN SRI LANANG 1 & 2, LEVEL G
	Chairpersons: Alison Ting Yih-Hua / Dg Zuraini Sahadan	
	1. Infant with Noisy Breathing – What is OK and What is Not *N. Fafwati Faridatul Akmar Mohammad, Malaysia*	
	2. A-Z of Laryngomalacia *Saraiza Abu Bakar, Malaysia*	
	3. When NIV fails in Laryngomalacia, …. *Neoh Siew Hong, Malaysia*	
	S5D – *Oral Presentations*	EXECUTIVE BOARDROOM, LEVEL 1
1210 – 1300	**SPONSORED SYMPOSIUM 5 (SS5)** *Company:* GlaxoSmithKline Pharmaceutical *Chairperson: Fauzi M. Anshar* Speaker: *Melvin A Pasay, Philippines* Topic: Asthma Management	TAMINGSARI 1 & 2, LEVEL G
1300 – 1400	Lunch	WARISAN CAFÉ
1400 – 1500	**SYMPOSIUM 6 (S6)**	TAMINGSARI 1 & 2, LEVEL G
	S6A – *Lung Cancer 2*	
	Chairpersons: Poh Mau Ern / Azza Omar	
	1. Refining the Focus in Lung Cancer: New Data and Emerging Biomarkers *Liam Chong Kin, Malaysia*	
	2. Small Cell Lung Cancer? Anything New *Matin Mellor Abdullah, Malaysia*	
	S6B – *Research for Dummies*	TAMINGSARI 3, LEVEL G
	Chairpersons: Mohammed Fauzi Abdul Rani / Asiah Kassim	
	1. How to do Clinical Research in Malaysia *Amar-Singh HSS, Malaysia*	
	2. Role of CRC in Enhancing Clinical Research among Clinicians *Sheamini Sivasampu, Malaysia*	
	3. Role of MREC as Facilitator to Encourage Clinical Research Culture *Salina Abdul Aziz, Malaysia*	
	POSTER PRESENTATION	POSTER DISPLAY
1500 – 1550	**SPONSORED SYMPOSIUM 6 (SS6)** *Company:* Boehringer Ingelheim *Chairperson: Pang Yong Kek* Speaker: *Rhee Chin Kook, South Korea* Topic: Strategy of COPD Management in Asia: Are Our Patients Different?	TAMINGSARI 1 & 2, LEVEL G

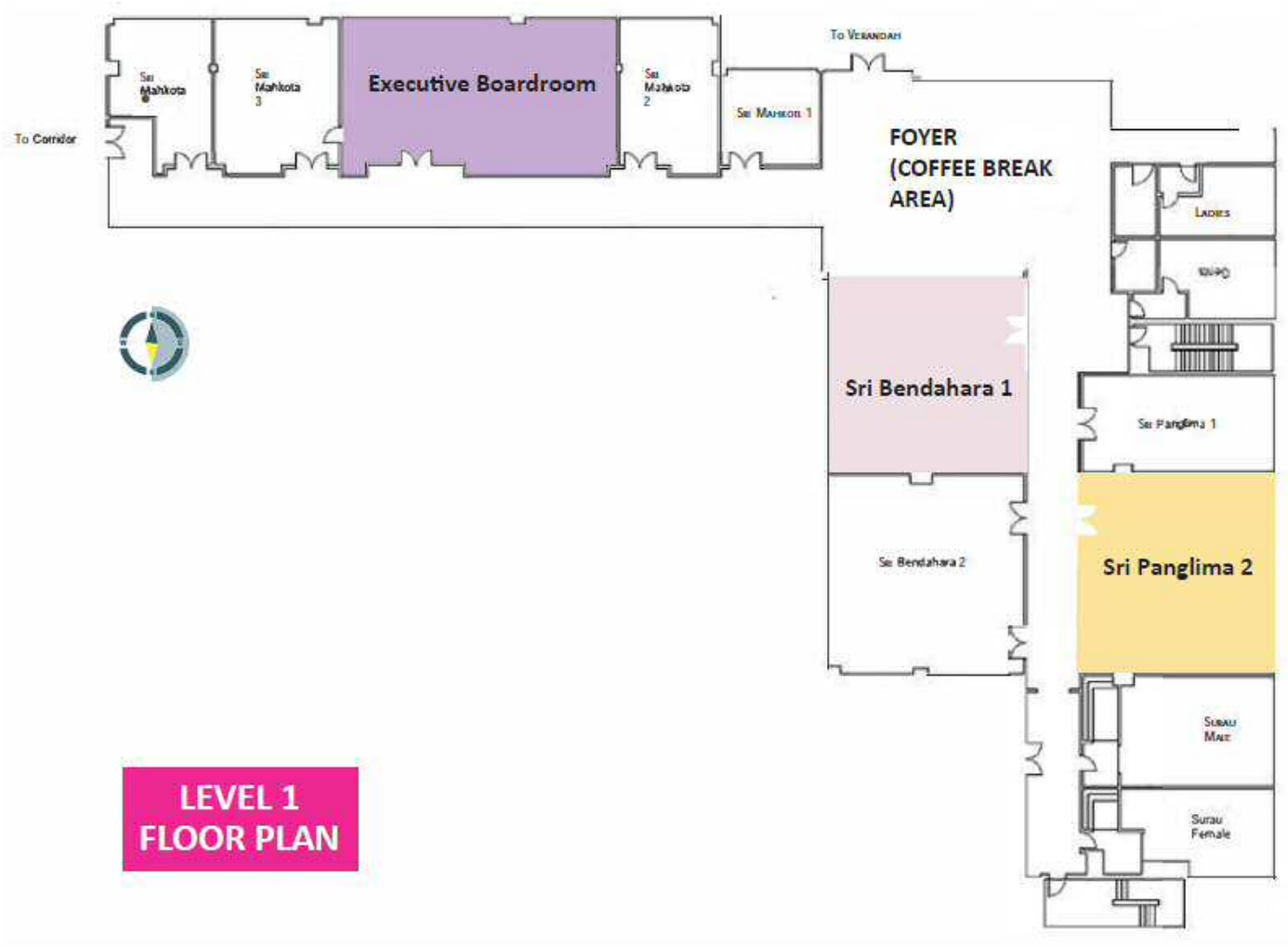
20th July 2019, Saturday

1550 – 1640	**SPONSORED SYMPOSIUM 7A (SS7A)** *Company:* AstraZeneca *Chairperson: How Soon Hin* Speaker: *Wong Siew Wei, Singapore* Topic: EGFR Targeted Therapies, How Do We Choose?	TAMINGSARI 1 & 2, LEVEL G
	SPONSORED SYMPOSIUM 7B (SS7B) *Company:* Roche *Chairperson: Liam Chong Kin* Speaker: *Shengxiang Ren, China* Topic: Practice Changing Frontline Treatment for ALK+ve Patients	TAMINGSARI 3, LEVEL G
1640 – 1710	Coffee Break	
1930 – 2230	**GALA DINNER**	TAMINGSARI 1 & 2, LEVEL G

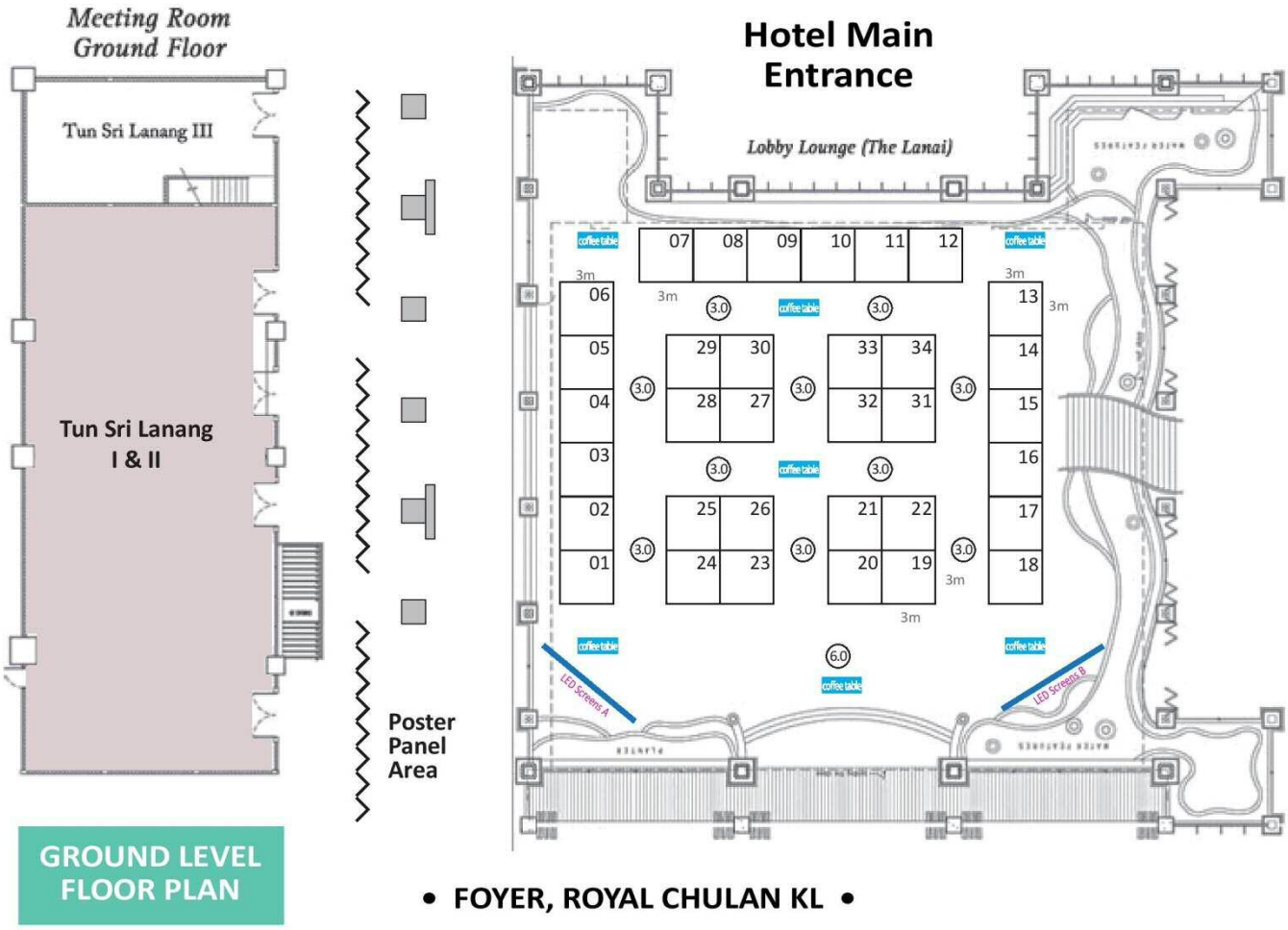
21st July 2019, Sunday

0700 – 0800	**SUNRISE SESSION 2** Pulmonary Rehabilitation in Action *Airena Mohamad Nor, Malaysia /* *Paranthaman S. Kangatharan, Malaysia*	TAMAN MAHSURI, LEVEL G
0800 – 0840	**SYMPOSIUM 7 (S7)** Nutritional Rehabilitation / SIG Meetings	WARISAN CAFÉ, LEVEL G
0840 – 1010	**SYMPOSIUM 8 (S8)** **S8A – *COPD 2*** *Chairpersons: Zainudin Md Zin / Aziah Ahmad Mahayiddin* 1. Non-Pharmacological Treatment in COPD *Azlina Samsudin, Malaysia* 2. Approach in Preventing COPD Exacerbations *Fauzi M. Anshar, Malaysia* 3. Novel Therapies in COPD *Rhee Chin Kook, South Korea*	TAMINGSARI 1 & 2, LEVEL G
	S8B – *Pulmonary Tuberculosis in Children* *Chairpersons: Mariana Daud / Jessie Anne de Bruyne* 1. Making Diagnosis of Pulmonary Tuberculosis in Children *Noor Ain Noor Affendi, Malaysia* 2. Endobronchial TB in Children *Asiah Kassim, Malaysia* 3. MDR Tuberculosis in Children *Ben J Marais, Australia*	TAMINGSARI 3, LEVEL G
1010 – 1040	Coffee Break	
1040 – 1130	**SPONSORED SYMPOSIUM 8 (SS8)** *Company:* Bayer *Chairperson: Hilmi Lockman* Speaker: *Ronald Grossman, Canada* Topic: Evaluating Treatment Options for URTI and CAP – Will you use FQs?	TAMINGSARI 1 & 2, LEVEL G
1130 – 1230	**SYMPOSIUM 9 (S9)** *Chairperson: Mohd Arif Mohd Zim* *Multi-Disciplinary Case Discussions* ***Adult Case*** *Ng Boon Hau, Malaysia* *Mohammad Hanafiah, Malaysia* ***Combined Case*** *Nur Aida Adnan, Malaysia* *Eg Kah Peng, Malaysia*	TAMINGSARI 1 & 2, LEVEL G
	Chairpersons: Dg Zuraini Sahadan / N. Fafwati Faridatul Akmar Mohammad *Multi-Disciplinary Case Discussions* ***Paediatric Cases*** *Speakers: Arni Talib, Malaysia / Che Zubaidah Che Daud, Malaysia* *Case Presenters: Noor Azlina Mustafa, Malaysia /* *Siti Zurina Mohd Tahir, Malaysia*	TAMINGSARI 3, LEVEL G
1230 – 1315	**DEBATE** LABA/ICS as Required in Asthma: The Future of Asthma Treatment *Chairperson: Lalitha Pereirasamy* Proposer: *Abdul Razak Abdul Muttalif, Malaysia* Opposer: *Sundari Ampikaipakan, Malaysia*	TAMINGSARI 1 & 2, LEVEL G
1315 – 1330	**CLOSING CEREMONY** *Ahmad Izuanuddin Ismail, Malaysia*	TAMINGSARI 1 & 2, LEVEL G
1330 – 1430	Lunch	WARISAN CAFÉ, LEVEL G

Floor Plan & Trade Exhibition

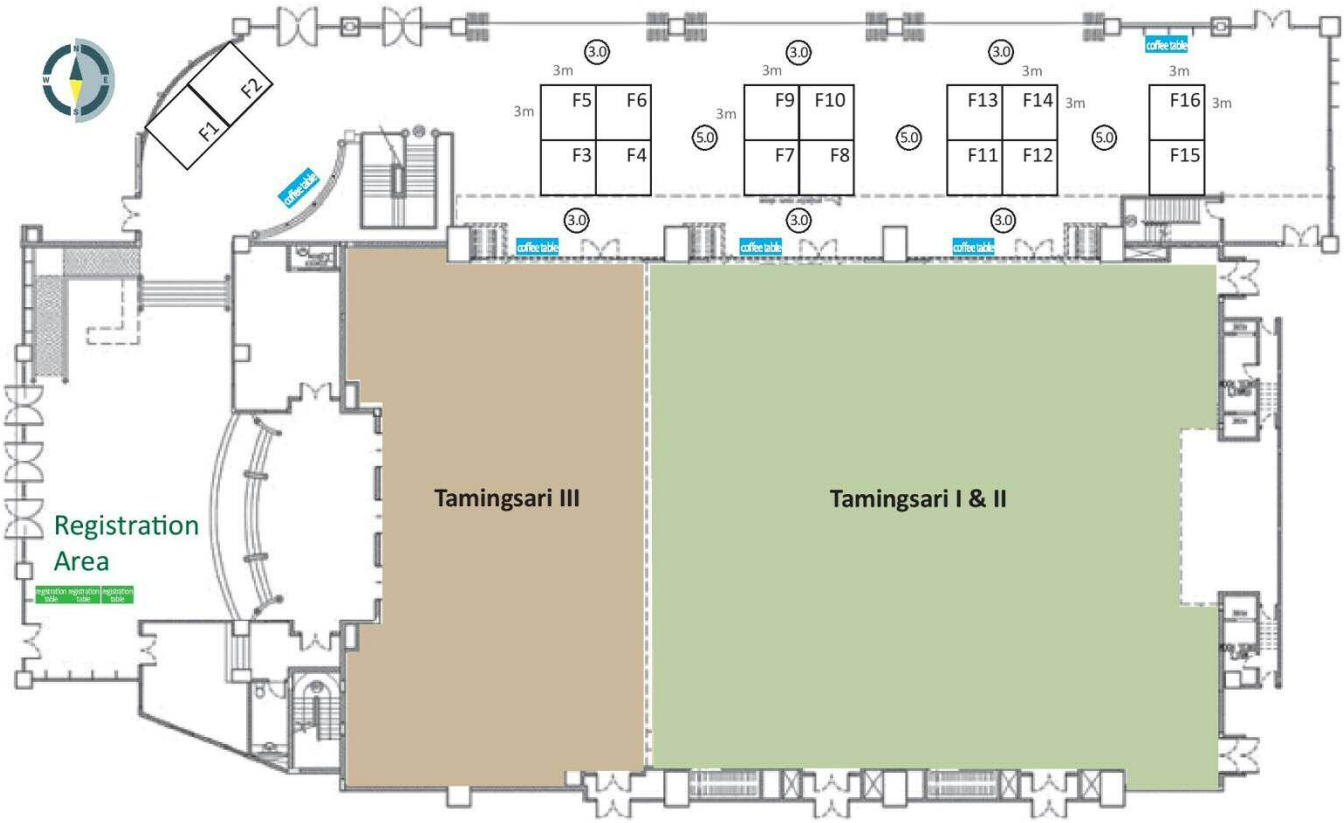


Floor Plan & Trade Exhibition



GROUND LEVEL FLOOR PLAN

• **FOYER, ROYAL CHULAN KL** •



List of Exhibitors

Booth No	Company Name
1	Procter & Gamble (Malaysia) Sdn Bhd
2-6	GlaxoSmithKline Pharmaceutical Sdn Bhd
7	Delfi Marketing Sdn Bhd
8	GlobalMed & H2H Medicare
9	iNova Pharmaceuticals
10	Biomed Global
11	IQVIA Soutions Sdn Bhd
12	Insan Bakti Sdn Bhd
13	Fujifilm (Malaysia) Sdn Bhd
14-15	Pfizer Malaysia Sdn Bhd
16	Mundipharma Pharmaceuticals Sdn Bhd
17	Symbiomed
18	Somnotec (M) Sdn Bhd
19-21	Roche
22	Olympus (Malaysia) Sdn Bhd
23-24	Merck Sharp & Dohme (Malaysia) Sdn Bhd
25	Breathcare Sdn Bhd
26-30	AstraZeneca Sdn Bhd
31	A. Menarini Singapore Pte Ltd
32	BioCare Manufacturing Sdn Bhd
33	DanMedik Sdn Bhd
34	Philips Malaysia Sdn Bhd
F1	Malaysian Thoracic Society
F2	Lung Foundation of Malaysia
F3-F6	Novartis (M) Corporation Sdn Bhd
F7	Orient Europharma (M) Sdn Bhd
F8,F10	Sanofi Pasteur
F9	Bayer Co (Malaysia) Sdn Bhd
F11-F14	Boehringer Ingelheim (Malaysia) Sdn Bhd
F15	DKSH Malaysia Sdn Bhd
F16	Pahang Pharmacy Sdn Bhd

LC WORKSHOP

Lung Cancer Workshop

BIOMARKERS AND GENOMICS IN LUNG CANCER

Pathmanathan Rajadurai
Subang Jaya Medical Centre, Selangor, Malaysia

It is estimated that roughly half of lung cancer cases may be amenable to targeted therapy. Most current guidelines state that all non–small cell lung cancers should be tested for driver mutations before administration of therapy. At a minimum, such testing should include the mutations/fusions - *EGFR, ALK, ROS1*, and the protein programmed death ligand-1 (PD-L1), because FDA-approved therapies are available for these alterations. In patients with *EGFR*-mutant lung cancer, when resistance develops, the T790M mutation using either plasma and tissue assays, because new therapies targeting this mutation are available. Targeting of the BRAF V600E variant, MET gene amplification and exon 14 skipping, RET fusions, and ERBB2 (HER2) mutations have also produced dramatic responses.

First line testing using next generation sequencing (NGS) arguably requires less DNA compared with multiple individual assays. However, limitations include higher cost, longer turnaround times, the availability of reliable bioinformatics pipelines and high-end computing resources.

More extensive analysis such as RNA sequencing, whole-exome sequencing, and whole-genome sequencing are also starting to be used in routine practice. These types of tests can detect rare and novel mutations that occur outside of specific, predefined regions as well as other types of molecular abnormalities such as gene translocations.

While these sophisticated molecular analyses are available currently, it must be stressed that factors that impact the preanalytical stage of testing, pose significant obstacles in the molecular testing workflow. These issues include very real practical challenges related to proper sample collection and adequacy, and the need for repeat biopsies in the recurrence situation when drug resistance emerges.

LC WORKSHOP

Lung Cancer Workshop

CURRENT LANDSCAPE OF TARGETED THERAPY IN ADVANCED NSCLC

Tan Chih Kiang
National Cancer Institute, Malaysia

Traditionally, Non-Small Cell Lung Cancer (NSCLC) was being managed as a single disease. It was over the last two to three decades, where we start managing NSCLC based on different histology and molecular characteristics. We will walk through the developments on the treatment landscape of advanced NSCLC from best supportive care to targeted therapy; targeting multiple targetable "driver" mutations identified in the last few years.

LC WORKSHOP

Lung Cancer Workshop

NOVEL IMMUNOTHERAPY STRATEGIES IN ADVANCED NSCLC

Tan Chih Kiang
National Cancer Institute, Malaysia

Historically, patient with advanced non-small cell lung cancer (NSCLC) has very poor prognosis with high mortality rate up to 80-85% in the first 12 months. In the 1980's the treatment for advanced NSCLC was only supportive care. Palliative chemotherapy was the first treatment which showed survival benefit over supportive care. Over the years, there have been major developments in the management of advanced NSCLC, from the initial palliative chemotherapy to targeted therapy and the more recent development of immunotherapy. We will discuss on the role of immunotherapy in the management of advanced NSCLC and the strategies in its utilisation.

LC WORKSHOP

Lung Cancer Workshop

ROLE OF RE-BIOPSY IN MANAGING NSCLC

Poh Mau Ern

Department of Medicine, Faculty of Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Few rebiopsies are performed in relapses of advanced NSCLC. They are not customary in clinical practice of lung cancer. However, it is not possible to properly target treatments in cases of relapse without knowing the nature of new lesions. This session comprehensively summarizes principles surrounding rebiopsy and broadly discusses the importance of rebiopsy in advanced NSCLC, pertaining to cancer characteristics.

The session will cover common mechanisms of acquired resistance to first and second-line *epidermal growth factor receptor (EGFR)* – tyrosine kinase inhibitors(TKIs) and *anaplastic lymphoma kinase* (ALK) inhibitors. This will lay the foundation as to why rebiopsies are useful to predict therapeutic resistance and redirect targeted therapies.

The session will also explore the best timing to perform biopsies, as well as the pros and cons of liquid biopsy in contrast to the conventional tissue biopsy. Done separately or together, these modalities of biopsies are complementary and led to major diagnostic paradigm shifts in recent years.

LC WORKSHOP

Lung Cancer Workshop

TOXICITY MANAGEMENT OF IMMUNOTHERAPY IN LUNG CANCER

Azza Omar

Hospital Kota Bharu, Kelantan, Malaysia

Lung cancer is the leading cause of cancer death in both men and women and the second most commonly diagnosed cancer. The 5-year relative survival rate for lung cancer is 18% (15% for men and 21% for women). The majority of lung cancers are diagnosed at an advanced stage with 5% 5-year survival rate. Platinum based chemotherapy is used as first line treatment in advanced NSCLC with a 15% to 30% response rate. Targeted therapies (epidermal growth factor receptor [EGFR] and anaplastic lymphoma kinase [ALK] mutant) as first and second line treatment are limited to less than 50% of patients. Thus, the new era of immunotherapy for the treatment of lung cancer has shown much promising results. The PD-1/PD-L1 inhibitors are part of a new wave of immunotherapy treatments for cancer. Although these new agents are generally more tolerable than conventional cytotoxic chemotherapy, their irAEs are unique and can be quite serious, especially if they are not recognized and treated appropriately. The precise pathophysiology of ICI-mediated irAEs is currently unknown and not yet fully understood, knowledge regarding the role of immune checkpoint pathways in autoimmune disease provides some clues. Many autoimmune diseases are related to failure of T-cell tolerance and uncontrolled activation of immune effector cells. Alterations in the genes encoding immune checkpoint proteins have been implicated in autoimmune disease. The approach of management of these irAE are based on a few guidelines however there is no specific studies to evaluate each and every irAE. In the absence of prospective data, these patients should be managed as per established guidelines based upon pooled clinical experience. Additional data on toxicities will enable us to utilize the full therapeutic potential of these novel drugs.

LC WORKSHOP

Lung Cancer Workshop

MANAGING BRAIN METASTASES

Muhammad Azrif Ahmad Annuar
Prince Court Medical Centre, Jalan Kia Peng, Kuala Lumpur, Malaysia

Approximately 25% of lung cancer patients have brain metastases at initial diagnosis and about 40% will develop brain metastases during the course of their disease. Prognosis was considered to be poor for these patients. However, in the era of targetable mutations, there has been a paradigm shift in the management of patients with brain metastases. The major change though has been in the widespread use of tyrosine kinase inhibitors in targeting EGF, ALK and ROS1 driver mutations in improving the control of extra-cranial disease, prolonging progression free survival and preventing relapse in the central nervous system. A major hurdle in the past has been the relatively impermeable blood brain barrier but new TKIs such as osimertinib and alectinib with better CNS penetration have reduced brain metastases significantly. Immune checkpoint inhibitors have also improved outcomes for lung cancers without driver mutations and have lead to a reduction in CNS relapse. Local therapies such as surgery, stereotactic radiosurgery and whole brain radiotherapy also play a significant role in improving local control.
Selecting the right patient for the right local therapy in addition to systemic therapy is important for ameliorating symptoms, improving quality of life and prolonging survival

LC WORKSHOP

Lung Cancer Workshop

CASE DISCUSSIONS 1

Poh Mau Ern
Department of Medicine, Faculty of Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Title: **NSCLC patients with brain metastases – a tough-to-treat subgroup**
Non-small cell lung cancer (NSCLC) patients with brain metastases remains a difficult to treat group and alongside patients with liver metastasis, holds one of the poorest prognosis in terms of survival outlook. Here we explore the management of such a patient and discuss the roles of different forms of treatment modalities, in particular a new combination therapy that has significantly slashed the death risk of such patients by half, according to a new analysis.

LC WORKSHOP

Lung Cancer Workshop

CASE DISCUSSIONS 1: WHEN TKI CANNOT BE USED AS FIRST LINE FOR A PATIENT WITH EGFR POSITIVE ADENOCARCINOMA

Irfhan Ali Hyder Ali
Respiratory Department, Hospital Pulau Pinang, Malaysia

We present a case of a 58 year old female, diagnosed as Stage IV EGFR positive Adenocarcinoma , who was treated with doublet chemotherapy with bevacizumab, followed by a TKI as second line therapy. Unfortunately, her disease continued to progress. Although her T790M was positive by this time she was subjected to further chemotherapy. This case study highlights the potential yet common difficulties faced when treating a patient with adenocarcinoma of lung when treatment options are made based on availability and resources.

LC WORKSHOP

Lung Cancer Workshop

LOCALLY ADVANCED STAGE 3 NSCLC: SURGICAL OPTIONS

Soon Sing Yang
Pusat Jantung, Hospital Umum Sarawak, Malaysia

Stage 3 lung cancer represents a wide spectrum of disease. It ranges from large tumours to locally advanced with invasion into surrounding structures to spread to loco-regional and mediastinal lymph nodes.

Its treatment reflects the multidisciplinary nature of lung cancer managment involving various disciplines and specialites working as a team.

Surgery is a useful part of the armamentarium of options available to clinicans. Modern lung cancer surgery is extremely safe with low incidences of morbidities. Resection can provide highly effective loco-regional control. Multiple techniques ranging from minimally invasive to extensive reconstructions can be employed.

LC WORKSHOP

Lung Cancer Workshop

PALLIATIVE CARE IN ADVANCED NSCLC

Richard Lim Boon Leong
Palliative Care Unit, Selayang Hospital, Malaysia

The field of oncology has made great advances in the management of advanced NSCLC and with the increasing use of molecular targeted therapies and immunotherapies, patients who would previously have a fairly short survival are now living longer and better with their disease. Despite this, lung cancer remains as the commonest cause of cancer death in the world today and although research to find even better treatments for this disease are continuously moving forward, the majority of patients with advanced NSCLC will inevitably face the end of their lives. Dying from lung cancer is commonly associated with numerous distressing symptoms particularly fatigue, pain and breathlessness which is where palliative care plays an important role. Research has shown that early palliative care in advanced NSCLC actually improves quality of life and also patient survival compared to standard oncology care alone. For this reason, all clinicians who care for patients with NSCLC should have basic knowledge and skills in palliative care for these patients. Knowledge on the management of pain and dyspnea using opioid therapy is most important. Apart from this, clinicians should also be able to communicate sensitively with patients and families on how to explain issues of prognosis and also discussing goals of care. Lastly, handling patients at the very end in the terminal phase is also an essential skill for the respiratory physician.

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

SELECTING THE RIGHT CANDIDATE FOR PRP

Azlina Samsudin
Hospital Sultanah Nur Zahirah, Kuala Terengganu

Pulmonary rehabilitation (PR) is a comprehensive intervention designed to improve physical and psychological condition of people with chronic respiratory disease. Daily symptoms,exercise performance and health status generally improve following PR. However, identification of patients that do respond to PR will improve its cost effectiveness.

The outcomes of PR eg symptoms of dyspnea, cycle endurance time, performance of problematic activities of daily life are essential to evaluate the efficacy of the program.

Factors that need to be considered when recruiting patients for right PR program are :

1. Age with comorbities
2. Nutritional status
3. Severity of functional impairment
4. Compliance to program
5. Motivation and support

In conclusion, multidimensional outcome profiling to identify the right patients for the right individually tailored PR program.

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

ASSESSMENT OF EFFICACY AND OUTCOME MEASURES TO FOCUS IN PRP

Ayiesah Ramli
Free Lance Condultant (PT)

Pulmonary rehabilitation, is an important part of the management and health maintenance of people with chronic respiratory disease. In order to evaluate the outcomes of such programmes, a reliable, valid, and responsive measures of outcome are essential to assess symptoms and evaluate the activity levels. Objectively, these outcome measurements not only assesses the progress of the individual, but also helps evaluate the effectiveness of the rehabilitation program and the discipline as a whole. Common outcome measure includes the 6 minute walk test which is valid, reproducible and very relevant to the exercise of daily activities. However, the assessment of the 6MWT is associated with spatial requirements and is personnel- and time-consuming. During such procedure, the Borg-Scale is used to measure exertional dyspnoea. Although this 10-point category ratio scale is easy to use, concise and detailed instructions for patients are indispensable for appropriate application. However, when the MRC dyspnoea scale is used, the patient would selects a grade on the self-applied 5-point instrument that describes their activity levels that provoke breathlessness. When considering, health-status, the self-complete St George Respiratory Questionnaire (SGRQ) is easy to administer and it can discriminate different severity of respiratory disease. The use of this outcome measures needs to be administered pre- and post rehabilitation and, preferably, at a later date for follow up evaluation. The understanding of the merits and limitations of this outcome measures is crucial when assessing physiological and clinical outcomes of the pulmonary rehabilitation programme carried out.

PRPA WORKSHOP

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

PULMONARY REHABILITATION IN MALAYSIA: A NATIONAL SURVEY

Mirza FT,[1] **Shaaran SM,[1,2]** Kasim Z,[3] Se To PL,[4] Adithan P, [5] CY Norhayati

[1]Centre of Physiotherapy, Faculty of Health Sciences, Universiti Teknologi MARA, 42300, Puncak Alam, Selangor. [2]Hospital Tengku Ampuan Rahimah, 41200, Klang, Selangor, [3]Hospital Kuala Lumpur, 50586 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, [4]Hospital Selayang, 68100 Batu Caves, Selangor and [5]Hospital Universiti Sains Malaysia Jalan Raja Perempuan Zainab II, Kubang Kerian, 16150 Kota Bharu, Kelantan, Malaysia.

Background: Pulmonary Rehabilitation Programs (PRP) helps to improve dyspnoea and fatigue as well as increase in functional exercise capacity and quality of life (QoL) and it is recommended approach as part of the management and treatment of patients with COPD.

Objective: To study the current structure and content of pulmonary and cardiac rehabilitation programs in Malaysia.

Materials and Methods: A self-administered survey questions were distributed to the physiotherapy department of all Malaysian hospitals with more than 250 beds (private and public). The survey includes questions on content and structure of pulmonary and cardiac rehabilitation program, assessment components of pulmonary and cardiac rehabilitation program, exercise training component of PRP and CRP and basic prescription of intensity of program.

Results: In total, 15 over 51 (29%) hospitals (n=15) has PRP. Out of 87% is doing PRP as outpatient and 13% did PRP as inpatients. The response rate was 100% (15/15). Programs were coordinated by physiotherapists (8/15, 53%) and/or physician (5/15, 33%) and nurses (2/15, 13%) and the PRP ran for 6-8 weeks (6/15, 40%). Pre (15/15, 100%) and post (12/15, 80%) program assessment was undertaken using a variety of measures. The Six Minute Walk Test (13/15, 87%) and Modified Borg Scale assessment (13/15, 87%) was the most commonly used for exercise capacity test. Exercise training was included in 145 programs (100%). Most patients attended at least two supervised exercise sessions per week (7/15, 47%) and exercised for at least 30-40 minutes (9/15, 60%). The most commonly used modes of exercise were lower limb endurance, upper limb endurance, strength training, and stretching/flexibility exercises. Intensity prescription for exercise training was based on the symptoms (9, 60%) and also the results of an exercise test (15, 100%). Many of the Malaysian physiotherapist not aware of the Pulmonary Rehabilitation Toolkit (10, 67%) and only 33% (5) aware of the ATS/ERS Statement on Pulmonary Rehabilitation, 2006.

Conclusion: PRP in Malaysia did not meet the recommended practice in terms of components, assessment, exercise training and program length. Awareness of Pulmonary Rehabilitation Toolkit is needed to improve the clinical practice of PRP.

PRPA WORKSHOP

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

PRP IN CLINICAL PRACTICE SHARING SESSION 1: AN OVERVIEW ON PRP IN HOSPITAL SERDANG

Farhah Amalina Muhammad Ehsan

Hospital Serdng, Selangor, Malaysia

Pulmonary rehabilitation is a comprehensive intervention based on a thorough patient assessment followed by patient-tailored therapies that include, but are not limited to, exercise training, education and behaviour change, which are designed to improve the physical and psychological condition of people with chronic respiratory disease and promote the long-term adherence to health-enhancing behaviours .

It is acknowledged as a core component of the integrated care of people with chronic respiratory disease. It is an evidence-based, multidisciplinary, and comprehensive intervention for patients with chronic respiratory diseases who are symptomatic and often have decreased daily activities. It is designed to reduce symptoms, optimize functional status, increase participation, and reduce health care costs by stabilizing or reversing systemic manifestations of the disease.

Pulmonary rehabilitation program in Malaysia is still new and only few centers in Ministry of Health are offering the service. Rehabilitation Department at Serdang Hospital is one of the pioneers among MOH hospital that is providing this service. This lecture will share on the program design and delivery at Serdang Hospital and a discussion on the limitation and barriers faced for running the program.

PRPA WORKSHOP

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

PRP IN CLINICAL PRACTICE SHARING SESSION 2: PRP IN UMMC: HOW MUCH WE HAVE EVOLVED

Anmol Kaur Manjit Singh
University of Malaya Medical Centre, Kuala Lumpur, Malaysia

Sharing an experience in developing Pulmonary Rehabilitation in UMMC and challenges faced during the phase. It is important to use some standard guidelines before commencing a program. Further development of program and evaluation is required to identify the competency level. Examples on ways of improving and modifications done to overcome the situation before, during and after the program was developed.

PRPA WORKSHOP

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

PRP IN CLINICAL PRACTICE SHARING SESSION 3: PRP FOR NON-COPD IN IPR

Nurlisa Sharmin Muhamed Al-Jeffrey
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia

In this clinical practice sharing session, experience of conducting a PRP of non-COPD patients in Institut Perubatan Respiratori (IPR) will be shared. This session will show how PRP in IPR has evolved in terms of different of types of non-COPD patients being referred and undergone the program. The treatment plan for each patient is customized according to patients' needs, thus this session will also show how different patients adapt to the physiotherapy treatment in PRP.

PRPA WORKSHOP

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

CHALLENGES IN SETTING UP A PRP

Ayiesah Ramli
Free Lance Consultant (PT)

Pulmonary rehabilitation is an evidence-based, multidisciplinary and comprehensive non-pharmacological intervention that has emerged as a recommended standard of care. The challenges in setting up such programme includes financial implication where the hospital has to incur expenditure in getting the necessary equipments for assessment and training of the existing staff. The environmental factor should be conducive as adequate space, patient accessibility and safety are the prime issues for establishment of rehabilitation clinics. The medical physicians also play a critical role in referring such patients for the programme. Usually, there is low acceptance among medical professionals on the beneficial effects of pulmonary rehabilitation programmes due to lack of awareness and exposure of its concepts and usefulness. This 'ignorance' generally leads to delay in rehabilitation referral which reduces the prospects of improvements. Patients, on the other hand when advised rehabilitation, are very sceptical, show disapproval, question its merits, and mainly prefer medicines over exercise for their disease management. Patient motivation is foremost for a successful rehabilitation programme. In ensuring successful benefits of such programme, creativity of health personnel is necessary to determine strategies in ensuring that the patients would be able to continue the benefits of existing PRP in hospital setting continuously to the home. Therefore, overcoming the challenges associated with the personal and/or healthcare system environment will be imperative to improving access and uptake of pulmonary rehabilitation

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

FORUM Q1: AWARENESS AMONG DOCTORS ON REFERRAL TO PRP

Lam Yoke Fong
Hospital Ipoh, Perak, Malaysia

PR is an effective and cost-effective therapeutic intervention that improves physical performance ability, shortness of breath, and the quality of life in
patients with COPD, but it has not yet been fully implemented as recommended in the relevant guidelines. There is a need for targeted, problem-oriented referral to a range of PR programs with problem-specific content. The necessary outpatient PR
structures still need to be established.
Providers face many barriers which cause this gap between the evidence and clinical practice, such as a lack of understanding of the rehabilitation program.
Being one of the nonpharmacological therapeutic methods for COPD and playing an important role in decreasing COPD symptoms, pulmonary rehabilitation (PR) is not known adequately by the physicians and other healthcare providers in the primary care.

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

Q3: ROLE OF NURSES IN PRP

Nurhayati Mohd Nur
Retired Repiratory, Matron

Pulmonary Rehabilitation aims to reduce symptoms, disease disability, increase participation in physical and social activities. This programme will help to improve the overall quality of life and enable the patients to self- manage their conditions on a day to day basis.
Although traditionally provided by physiotherapist, nurses are increasingly undertaking to help the patients to understand the link between active lifestyle and increased in their ability to manage their daily activities. This requires a holistic approach to care, that all nurses adapt in their clinical practices.
Many of COPD patients also have other comorbidities such as:

- Cardiovascular
- Cachexia
- Metabolic disorders such as diabetes
- Psychological problems

Patients are anxious about the rehabilitation tests and fear that it can worsen their conditions. By using the nursing process to assess, plan and evaluate, the nurses can help the patienst to understand why exercise is important and how it can improve their ability to do daily activities.
Some of the clinical assessments include patient's nutritional intake and sleep pattern. In dietary advise, being underweight can add to the decline of patient's physical condition and overweight can make the patients breathless and difficult to move around. Disturb sleep pattern may be caused by sleep apnoea, pulmonary hypertension or anxiety. These indicate non adherence to or inadequate inhaler usage. Medication education is important to achieve good relief of respiratory symptoms.
With compassion, nurses can sensitively assess the balance of independence and dependence, and help the patients identify the needs to continue to maintain their dignity.

PRPA WORKSHOP

Pulmonary Rehabilitation Program (PRP) in Adults Workshop

Q4: CAN WE START A PRP WITHOUT HAVING A MULTIDISCIPLINARY TEAM?

Lam Yoke Fong
Hospital Ipoh, Perak, Malaysia

Common symptoms of COPD patients are chronic and progressive dyspnea, cough, and sputum production. These symptoms can be disabling and lead to activity limitation and ultimately inability to work and take care of themselves. For several decades, treatment of COPD has been focused on smoking cessation, and pharmacological but with ever-increasing literature, intense exercise programs like pulmonary rehabilitation (PR) have become an integral part of management of COPD. Pulmonary rehabilitation has been defined as a comprehensive program which is individual patient focused and includes exercise training, education, and behavior change.
Comprehensive and multidisciplinary approach to the pulmonary rehabilitation programs have remained the key to its success. It involves a team effort from physical therapist, respiratory therapist, nurses, physician and other support staff.

ETIC WORKSHOP

Empyema Thoracis in Children Workshop

COMPLICATED PNEUMONIA IN CHILDREN

Mariana Daud
Department of Paediatrics, Hospital Raja Perempuan Zainab 2, Kelantan, Malaysia

Pneumonia is a global health issue and it's the one of the commonest cause of childhood mortality and morbidity with many complications. Complicated pneumonia was defined by a temperature >38.0C, and the presence of lung parenchymal infiltrates and pleural effusions of any size or character on chest radiography or chest imaging.
Nearly 50 per cent of patients with acute bacterial pneumonia have an accompanying pleural effusion (parapneumonic effusion , PPE). Most forms of pleural infection represent a progressive process that transforms a 'simple' self-resolving parapneumonic pleural effusion into a 'complicated' multiloculated fibrinopurulent collection associated with clinical and/or biochemical features of sepsis. Empyema is the presence of pus within the pleural space.
A diagnostic thoracentesis should be performed when chest radiograph showed pleural effusion on chest radiograph. If in doubt, thoracic ultrasound will help to confirm the presence of effusion, the size and nature of the effusion whether it is a simple free flowing or loculated/multiseptated effusion. Pleural fluid analysis also can identify patients with complicated parapneumonic effusions which are characterized by low pleural fluid pH and glucose levels, a high pleural fluid LDH, and a positive Gram stain of the pleural fluid. CT Thorax is superior in evaluating lung parenchymal involvement, eg. concurrent necrotizing pneumonia or lung abscess.
The management of complicated pneumonia depends on the stage of the disease. Generally, all patients need high dose parenteral antibiotics with/without needle thoracocentesis. Presence of medium or large PPE or empyema necessitate tube thoracostomy. If it is a complicated PPE(stage 2 or early stage 3), then anti-fibrinolytic therapy or VATS (video-assisted Thoracoscopy) is needed based on the availability of expertise at local setting. Only a minority of patients who failed medical therapy require surgical open thoracotomy/decortication. The children with complicated pneumonia generally need longer course of antibiotics of minimum 4- 6 weeks duration. Prognosis of these children with complicated PPE are generally good with majority have normal/near normal chest radiograph within 3-6 months.

ETIC WORKSHOP

Empyema Thoracis in Children Workshop

COMMON PROBLEMS ENCOUNTERED IN MANAGING EMPYEMA THORACIS IN MALAYSIA

Dg Zuraini Sahadan
Respiratory Paediatrician, Paediatric Department, Hospital Serdang, Selangor, Mala

Empyema thoracis is a known complication of bacterial pneumonia. The proper management of empyema thoracis in children continues to be a source of debate. An appropriate therapy depends on the stage of disease at presentation. There are three stages of empyema namely exudative, fibrinopurulent and organized.

Any patient presenting with pneumonic symptoms who are failing to respond to appropriate therapy and have a pleural-based opacity on chest radiograph that obscures the hemidiaphragm should be considered for ultrasound thorax. Ultrasound is helpful in determining the size and stage of effusion as well as to see any signs of necrotizing pneumonia on the parenchyma. However, it is operator dependent and may puzzle the paediatrician on the next step of management. Sometimes, patient may end up with unnecessary CT thorax radiation.

In some occasions, there are also dilemma in decision on when and how to drain the empyema. Subsequently, the decision of fibrinolytic agent instillation can be difficult in borderline stage 2 and 3 of empyema. The timing of surgical intervention is also arbitrary. Furthermore, the availability of surgical intervention options limited to some centres in Malaysia only. Surgery should be considered without delay in patients who fail to improve with antibiotics and chest tube drainage, and who have persistent infective symptoms, fever, leucocytosis and raised inflammatory markers.

As conclusion, managing empyema thoracis should be based on the stage of empyema and clinical aspects of the patient as the whole.

ETIC WORKSHOP

Empyema Thoracis in Children Workshop

MALAYSIA CONSENSUS: APPROACH TO EMPYEMA THORACIS

Su Siew Choo
Respiratory Paediatrician, Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang, Selangor, Malaysia

Empyema thoracis is an accumulation of infected fluid in the pleural space, which is an uncommon complication of pneumonia. All children with empyema or parapneumonic effusion should be managed in a hospital with appropriate paediatric expertise. In Malaysia, the approach and management of empyema in children may differ from hospital to hospital depending on the local expertise and resources available at each centre.

The Malaysian consensus on the approach and management of empyema thoracis in children was developed by the Empyema Working Group comprising of paediatric respiratory physicians, general paediatricians, radiologists, paediatric radiologists, cardiothoracic surgeons and paediatric surgeons, with the objective of outlining a practical approach to management of empyema in children applicable to most hospitals with general paediatricians and radiologists in the country.

The consensus clearly outlines the three stages of parapneumocic effusion, which are the exudative stage (Stage 1), fibrinopurulent stage (Stage 2) and lastly, organizing stage (Stage 3). These stages are important as the management differs with each stage. The gold standard radiological tool for distinguishing the different stages is the ultrasound thorax.

All children with empyema should receive high dose antibiotic therapy via the intravenous route to ensure pleural penetration. Appropriate antibiotics should be used to cover at least Streptococcus pneumoniae and Staphylococcus aureus. Moderate to large effusions require drainage. Instillation of intra-pleural fibrinolytic agent (Urokinase or Streptokicase) may be required to facilitate drainage of fluid. Surgical intervention includes video-assisted thoracoscopic surgery or open thoracotomy with debridement and decortication.

ETIC WORKSHOP

Empyema Thoracis in Children Workshop

RADIOLOGICAL INVESTIGATIONS IN EMPYEMA THORACIS

Che Zubaidah Che Daud
Consultant Paediatric Radiology, Women and Children Hospital, Kuala Lumpur, Malaysia

Pneumonia is a leading infectious cause of death in children worldwide causing 15% of deaths of children less than 5 years of age. Parapneumonic effusions (PPEs) are common in pediatric bacterial pneumonia, with a frequency of 21%-91%, evolving into empyema in 28%-53% of cases. The incidence of empyema is increasing, with approximate incidences of 7 per 100,000 in children less than 2 years of age and 10 per 100,000 in children 2-4 years of age. PPE is a pleural effusion secondary to pneumonia. Empyema is defined as purulent material within the pleural space. There are divided into three stages namely exudative/simple, fibrinopurulent and organizational stage. Chest radiograph is used to confirm the diagnosis. Ultrasound is the most sensitive and specific imaging modality to confirm the presence and nature of the effusion. Routine CT Scan should be avoided to minimize radiation exposure in children. This presentation highlights the radiological investigations in Empyema Thoracis.

ETIC WORKSHOP

Empyema Thoracis in Children Workshop

EMPYEMA THORACIS: MEDICAL TREATMENT AND FAILURE

Anna Marie Nathan
Consultant Paediatric Respiratory, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Empyema thoracis occurs in about 17% of children admitted with lower respiratory tract infection. Medical treatment is usually successful, which includes (1) the appropriate antibiotics ± tube thoracostomy± fibrinolytics. In the event there is persistent fever, surgical decortication will be necessary.
Failure of medical treatment (with fibrinolytics) is seen in about 15%, while surgical failure rate is about 3%. However, latest randomized studies have shown no major benefit of primary surgical decortication over medical management with fibrinolytics. Furthermore, in the presence of a necrotising pneumonia, both surgery and use of fibrinolytic treatment are contraindicated due to the risk of auto-lobectomy and development of bronchopleural fistula respectively.
I recommend a rationale approach to the management of empyema thoracis with careful monitoring of clinical symptoms and signs to guide the need for further intervention.

ETIC WORKSHOP

Empyema Thoracis in Children Workshop

FOLLOW UP AND LONG-TERM OUTCOME OF EMPYEMA THORACIS IN CHILDREN

Ahmad Fadzil Abdullah
Consultant Paediatric, Hospital Pakar PRKMUIP, Kuantan, Pahang, Malaysia

The standard practice in treating empyema thoracis is to use prolong antibiotics in order to get total clearance of the causative microorganism. Thus many patients were discharge with oral antibiotic in order to complete the treatment.
At the moment there is no valid parameter which can be used to determine the outcome of patients with empyema either in acute or in long term stage. However it is acceptable to think empyema thoracis as a disease with a lot of acute morbidity but have little long term effect.
Clinical parameter, x-ray finding, spirometry and QOL measurement have being used to determine patient status and outcome in patients of empyema thoracis. Most of children who have no associated morbidity usually recovered completely after a year or much earlier though in many of them, their spirometry can be still restrictive pattern.

However these children do not have any clinical symptoms. Those patients who are of immune impairment, malnutrition, having complications, associated necrotising pneumonia and need PICU care during the acute episode, they may need more closer follow-up as the data of their long term sequelae are still not available.

PLENARY 1

MALAYSIAN RESPIRATORY YEAR IN REVIEW

Liam Chong Kin
Department of Medicine, Faculty of Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

In this review, several selected studies published in 2018-2019 that were wholly/partly conducted in Malaysia and authored/co-authored by Malaysians will be discussed.
Three distinct COPD subgroups with differing severities and symptoms were identified in in a cohort of 1676 COPD patients from 13 Asian cities. Patients in the subgroup with severe disease and more symptoms had the most frequent exacerbations, most rapid FEV1 decline and greatest decline in SGRQ total score in one year. In a cross-sectional study, of 189 Malaysian COPD patients, the phenotype who were exacerbators (with 2 or more episodes of moderate exacerbation or one an episode of severe exacerbation in the past 1 year) with chronic bronchitis had significantly poorer HRQoL and recorded the worst score in each of the CAT items and SGRQ-c components than other clinical phenotypes. In a cohort of 112 Malaysian COPD subjects, those with "severe mixed airway-emphysema" phenotype based on CT-emphysema index and post-bronchodilator FEV1 had increased risk of mortality.
In a multicentre cross-sectional Cohort of Asian and Matched European Bronchiectasis (CAMEB) patients recruited in Singapore (n=124), Malaysia (n=14) and Dundee, Scotland (n=100), there was a high frequency of sensitisation to multiple allergens with two distinct immuno-allertypes'. Sensitisation to allergens was associated with poor clinical outcomes including decreased pulmonary function and more severe disease.
In an exploratory analysis, two EGFR mutation tests, a tissue-based assay (cobas® v1) and a tissue- and blood-based assay (cobas® v2) were used to analyse matched biopsy and blood samples (n=897 paired samples) from advanced NSCLC patients from three Asian studies of first-line erlotinib. Patients with discordant EGFR (tissue+/plasma-) mutation status had longer progression-free and overall survival than those with concordant (tissue+/plasma+) mutation status.

SYMPOSIUM 1

S1A - Asthma

DIFFICULT TO DIAGNOSE ASTHMA

Lam Yoke Fong
Hospital Ipoh, Perak, Malaysia

Asthma can often be challenging to diagnose especially when patients present with atypical symptoms. Because asthma is a common disorder with nonspecific presenting features, other disorders are often misdiagnosed as asthma Therefore, it is important to have a broad differential diagnosis for asthma to ensure that other conditions are not missed.
Clinicians must maintain a high index of suspicion for asthma mimickers, especially when patients fail to respond to conventional therapy.
Many conditions may be confounded by or associated with asthma, and the latter can influence clinical manifestations of a patient.
There is an increasing importance to carefully perform a differential diagnosis for patients presenting with severe asthma symptoms and to reevaluate all potential asthma triggers and inducers each time a step-up-therapy is considered by asking the question: "Is it asthma?"

SYMPOSIUM 1

S1A - Asthma

IMMUNOMODULATION THERAPY IN ASTHMA

Azza Omar
Hospital Kota Bharu, Kelantan, Malaysia

The approach to uncontrolled asthma has evolved substantially in the recent years. Asthma is now recognized as a heterogeneous entity that has a complex to treat. Eventhough we do not have our own data, the Netherlands reported only one-fifth of these (3.6% of the asthmatic population) having severe refractory asthma as defined by difficult-to-control asthma, who are adherent to treatment with the correct inhaler technique. The introduction of immunomodulation therapies as a treatment option for severe asthmatic patients paved the way to a personalized approach, which aims at matching the appropriate therapy with the different asthma phenotypes. These novel immunomodulatory therapies are targeting specific cytokines or cell-surface receptors and interfere with these pathological mechanisms, thereby altering the course of the disease. The biologic therapies in asthma are designed to block key immune regulators, such as IgE, or certain pro-inflammatory cytokines, e.g. interleukin (IL)-5, IL-4, IL-13 or IL-17. Patients with severe asthma and eosinophilic phenotype may benefit from biologic therapies aimed at reducing blood and tissue eosinophils, such as mepolizumab, reslizumab and benralizumab. Patients with Th2-high phenotype may also benefit from therapy with anti-IL-4/anti-IL-13 monoclonal antibodies (dupilumab).
However, the challenge we now face is which immunomodulation that can fit suitably for our patients with the multiple factors both the patient himself, overlap of the different pathways in the pathogenesis of asthma, the high costs and the availability in our country.

SYMPOSIUM 1

S1B - Pulmonary Infection (Non-TB)

RESPIRATORY VIRAL INFECTIONS

Mustafa Kamal Razak
KPJ Penang Specialist Hospital, Penang, Malaysia

There are number of viruses that are pneumotropics. The infections can cause mild illness to fatal. The ability to recognise the viruses involves definitely will help clinical management.
Since the past two decades we have seen common viral infections reemerging in fatal pandemics, namely SARS, Influenza H1N1 and MERSCoV.

Current frequent travels scenario, such as religious gathering, sports events and political gatherings lead outbreaks from certain part of the world and may spreads within hours or days. The commonest virus encountered during such events are rhinovirus (5.9-48.8% prevalence), followed by influenza virus (4.5-13.9%) and non-MERS coronaviruses (2.7-13.2%) with most infections due to coronavirus 229E; other viruses were less frequently isolated.[1]
Understanding the commonest cause of viral infection may help us predict and prevent the spread and complications.

Rapid tests at affordable price and its availability are greatest concerns as the presentations of different viral infections. Laboratory diagnosis of respiratory infections consists of culture testing, rapid antigen testing, fluorescent antibody assays, PCR, and serological diagnosis are important in identifying type of virus infection.[2]

References

1. Gautret P, et al., Hajj-associated viral respiratory infections: A systematic review, Travel Medicine and Infectious Disease (2016).
2. Kevin P, et al., Ageing and Infectious disease. (2009)

SYMPOSIUM 1

S1B - Pulmonary Infection (Non-TB)

RESPIRATORY INFECTIONS IN THE IMMUNOCOMPROMISED HOST

Suresh Kumar Chidambaram
Hospital Sungai Buloh, Selangor, Malaysia

The incidence rates and etiological agents causing pneumonia in immunocompromised varies depending on the type, severity and duration of immunosuppression. Possible etiological agents are broad and include Bacteria, Fungi (such as pneumocystis, aspergillus), Viruses (CMV, influenza), and Parasites (including strongyloides and toxoplasmosis). Multiple simultaneous infection is not uncommon complicating and delaying appropriate therapy. Pnemonia has also to be differentiated from primary connective tissue disease, drug induced and radiation induced injury.
Given the broad differential diagnosis, approach to diagnosis includes looking at the exposure history, degree of hypoxaemia, radiological clues and finally microbiological tests. Molecular tests have revolutionised early diagnosis. Early diagnosis and specific therapy in contrast to escalating empirical therapy has higher chance of successful outcome.

SYMPOSIUM 1

S1B - Pulmonary Infection (Non-TB)

MANAGEMENT OF NTM IN 2019

Pang Yong Kek
Department of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

The prevalence of non-tuberculous mycobacteria (NTM) is increasing worldwide. Despite the presence of > 200 species of mycobacteria, only a handful of them is clinically significant.
In the management of NTM, the decision to initiate therapy is often a complex affair - as considerations have to be taken on a number of issues:

1. Whether it is a genuine infection (versus a coloniser),
2. The severity of NTM infection and whether there is a significant co-morbid condition.
3. The choice of anti-microbial agents, as there is a lack of standardised treatment regimen in the laboratory.
4. The optimal duration of therapy

Suboptimal treatment may lead to the emergence of drug-resistance NTM. This will further impact the success of the subsequent treatment regimen. Until recently, the options are very limited. In this lecture, some recent update on new NTM treatment will be highlighted and discussed.

SYMPOSIUM 1

S1C - Recent Updates of Asthma in Children

MANAGEMENT OF ACUTE EXACERBATION OF ASTHMA IN YOUNG CHILDREN

Patrick Chan Wai Kiong
Gleneagles Medical Centre, 282 & 286, Jalan Ampang, 50450 Kuala Lumpur

Acute asthma in young children is a common cause for attendance at both in the primary care setting and when severe, the emergency department.
The principles of managing an acute asthma exacerbation is to first establish the severity of respiratory distress (mild/moderate, severe or life-threatening) while starting bronchodilator treatment. Oxygen therapy should be administered if peripheral capillary oxygen saturation measured by pulse oximetry (SpO2) is less than 95%. Administration of parenteral corticosteroids is a standard of care for acute asthma exacerbations and is reflected in all evidence- based guidelines.
The younger child nonetheless poses additional challenges; changes in a young child's acute illness can be subtle before a rapid decline in clinical condition. Repeatedly reassessing response to treatment and either continuing

treatment or adding on treatments, until acute asthma has resolved or patient has been transferred to an intensive care unit or admitted to hospital.
Recent acute asthma treatment development include the use of nebulised corticosteroids and pre-emptive increase in the inhaled corticosteroid dose at home.
More importantly, treatment of acute asthma exacerbation provides an opportunity to identify problems in long term asthma prevention management ie compliance with treatment, consideration of preventer medication, the requirement for an asthma action plan and asthma education

SYMPOSIUM 1

S1C - Recent Updates of Asthma in Children

CHILDHOOD ASTHMA MANAGEMENT – YEAR IN REVIEW

Jessie Anne de Bruyne
Department of Paediatrics, University Malaya Medical Centre, Kuala Lumpur, Malaysia

The year has seen landmark changes in the bible of asthma management, the GINA guidelines, based on studies in both children and adults. It no longer recommends starting treatment of asthma with short-acting beta2-agonist (SABA) reliever inhalers on their own but adds in anti-inflammatory controller treatment such as inhaled corticosteroids (ICS). GINA 2019 recommends patients with asthma should receive either symptom-driven (for mild asthma) or daily inhaled anti-inflammatory controller treatment. This aims to reduce their risk of serious exacerbations and asthma-related deaths, including in patients with so-called mild asthma. Hence, Step 1 of management, as needed SABA now reads as-needed low dose ICS-formoterol or low dose ICS whenever SABA is taken.
As-needed low dose ICS-formoterol has also been added in to Step 2 as an alternative to daily low dose inhaled corticosteroids. (Studies of as-needed ICS-formoterol are needed in children 4-11 years; maintenance and reliever therapy with low dose budesonide-formoterol reduced exacerbations) Other alternatives include low dose ICS or leukotriene receptor antagonist whenever SABA is taken.
Patients requiring Step 4 of treatment may be started on medium dose ICS-LABA but should be referred for specialist assessment.
High dose ICS is now moved up to Step 5 of treatment and the use of monoclonal antibodies in severe asthma can be extended from 6-12 months awaiting response.
These changes are also aimed at real-world usage of medication - they emphasise the need for anti-inflammatory treatment and discourage patient reliance on quick relief medications early in the course of the disease.
Good asthma management includes recognising that it is a heterogenous condition caused by diverse pathophysiological factors the understanding of which is evolving. Management should be individualised and targeted not just to the perceived cause but also individual needs.

SYMPOSIUM 1

S1C - Recent Updates of Asthma in Children

CLINICAL RISK REDUCTION IN ASTHMA

Peter Le Souëf
Division of Paediatrics, Faculty of Health and Medical Sciences, University of Western Australia, Australia

What should the clinician do to reduce the risk of asthma? With respect to reducing the **risk of the onset of asthma**, options are surprisingly limited given that we know the environment has the major role in determining the asthma prevalence in populations and asthma risk in individuals. Evidence for this is strong: for example, asthma is uncommon in most economically deprived countries, but if individuals from these locations move to wealthy countries, asthma rates gradually increase to the levels in the new country. Yet, we have little idea which factors contribute to this imbalance. Tobacco smoke exposure remains the only risk factor known to consistently modify asthma risk. Associations between home environment exposures and asthma risk have been reported, but controlled studies examining these exposures have shown inconsistent results. The key to this problem may be through introducing agents that modify immune responses; studies investigating using immuno-modulating agents to prevent asthma are now underway. To reduce the **risk of asthma exacerbations**, the obvious need is to optimise preventative pharmacological therapies. In children, this is relatively straight forward, as it means ensuring that inhaled

corticosteroid therapies are appropriate for the level of asthma severity and the age of the child. Importantly, making a correct diagnosis is vital and many conditions can masquerade as asthma. Anti-leukotrienes also have a place in childhood asthma. Newer pharmacological approaches, especially biologics, have a limited role at present and the prospects for individualised medicine to further improve asthma treatment in children are not promising.

SYMPOSIUM 1

S1D - Primary Care

MANAGEMENT OF COPD IN PRIMARY CARE (FOCUS ON DIAGNOSIS)

B Chantariga A Benbamnan
Hospital Tuanku Ja'afar, Negeri Sembilan, Malaysia

Chronic Obstructive Pulmonary Disease(COPD) is currently the fourth leading cause of death in the world but projected to be the 3rd leading cause of death by 2020.
Early detection and treatment will improve the long term prognosis of COPD patients.
Primary care provider are the main point of contact for the COPD patients. One of the most common challenges in management of COPD patients in primary care is to correctly identifying and diagnosing COPD.
This lecture will outline the key aspects in management of COPD patient in primary care with focus on diagnosis ie symptom assessment, spirometry assessment, classification of airflow limitation and differential diagnosis of COPD.

SYMPOSIUM 1

S1D - Primary Care

COMMUNITY ACQUIRED PNEUMONIA: APPROACH TO TREATMENT IN THE COMMUNITY

Megat Razeem Abdul Razak
Hospital Tengku Ampuan Afzan, Kuantan, Pahang Malaysia

Pneumonia remains one of the major cause of morbidity and death in world and in Malaysia. In 2017 the second most common cause of death in Malaysia was pneumonia which accounts to 12.7%. Most common causative agent for community acquired pneumonia (CAP) is Streptococcus pneumonia. Other organisms include Haemophilus influenza, Mycoplasma pneumonia and Mycobacterium tuberculosis. Most patients with CAP can be safely treated as outpatients. However, about 20% of CAP patients need
hospitalization and approximately 1% require treatment in an ICU (Liam CK,2005).
Pneumonia scoring systems such as PSI and CURB-65 are not intended to replace clinical judgment as certain patients with low PSI or CURB-65 scores may require hospitalization.
The start of appropriate antibiotic therapy should be based on local antibiotic guidelines and the antibiogram of the local hospital. Most guidelines recommend initial empirical therapy consisting of a macrolide combined with a broad-spectrum beta lactam antibiotic or monotherapy with a newer fluoroquinolone which has antipneumococcal activity
in all CAP patients requiring hospitalisation. Most patients with CAP have traditionally been treated for 7-10 days or longer. However, there are very few well-controlled studies that have evaluated the optimal duration of therapy.
Key information messages to be given to the patient include a description of the cause and seriousness of community-acquired pneumonia, measures to be taken by the patient to speed recovery and relieve symptoms, criteria for follow-up, help in deciding when to return to work, secondary prevention measures, and other important issues of concern to the patient.

SYMPOSIUM 2

S2A - Orphan Lung Diseases

LYMPHANGIOLEIOMYOMATOSIS - MY EXPERIENCE

Andrea Ban Yu-Lin
Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Lymphangioleiomyomatosis (LAM) is a rare disease that affects predominantly young women. It is a progressive cystic lung disease associated with inappropriate activation of mammalian target of rapamycin (mTOR) signaling. The only treatment for severe LAM is currently lung transplantation. We will discuss a case of LAM and share the experience of sirolimus therapy in this patient.

SYMPOSIUM 2

S2B - Sleep Disordered Breathing

EXERCISE & OSAHS

Muventhiran Ruthranesan
Pantai Hospital Ayer Keroh, Malacca, Malaysia

Out of the many sleep disorder, obstructive sleep apnea-hypopnea syndrome is one of the most harmful. This syndrome is an important risk factor for the development of cardiovascular disease and patient mortality. Over two decades, reports of the prevalence of OSAHS increased from 4% in men and 2% in women to 32% of the total population. Exercise can play an important role as an adjunct to the management of OSAHS. It can play a role is in reducing cardiovascular mortality, which also results in improved sleep quality and may act on the pathogenesis of obstructive sleep apnea-hypopnea syndrome.

SYMPOSIUM 2

S2B - Sleep Disordered Breathing

HOW TO IMPROVE CPAP COMPLIANCE IN OSAHS

Ahmad Izuanuddin Ismail
Faculty of Medicine, UiTM Medical Specialist Centre, Selangor, Malaysia

Continuous Positive Airway Pressure (CPAP) has been recognised as the first line of treatment in managing patients with Obstructive Sleep Apnoea Hypopnoea Syndrome (OSAHS). By applying positive pressure to the upper airway, CPAP, effectively removes the obstruction of the upper airway by the tongue and pharyngeal tissue, and allows for continuous airflow throughout the breathing cycle. Patients usually reported that they have improved sleep quality and an increased level of alertness during the day. They also report reduced daytime sleepiness and they have fewer automobile accidents. Their blood pressure decreases as well as other cardiovascular abnormalities, including reduced atrial fibrillation and improved ejection fraction for those with OSAHS and congestive heart failure (CHF). Despite all the positive results, compliance with using CPAP is a problem. During my talk, I will share some recommendations on how to improve CPAP compliance by demonstrating few case studies taken from our clinic settings. We will discuss factors that contribute to the non-compliance, and discuss on the tips to overcome those issues. BY ensuring adherence to treatment, we can ensure that the patient benefit from this useful forms of treatment and overcome the ill effects of the condition.

SYMPOSIUM 2

S2B - Sleep Disordered Breathing

BENEFITS OF NIV IN LUNG DISEASE OTHER THAN OSAHS

Rashidah Yasin

Oriental Melaka Straits Medical Centre, Malacca, Malaysia

Non-invasive mechanical ventilation (NIV) has been used in patients with stable chronic lung diseases other than obstructive sleep apnea (OSA), such as neuromuscular disorders, obesity-hypoventilation syndrome (OHS) and chronic obstructive pulmonary disease (COPD). Alveolar hypoventilation is a result of an imbalance between the capability of respiratory muscles to maintain ventilation and gas exchange and is characterized by daytime hypercapnia assessed by blood gas analysis. In the presence of daytime hypoventilation, polysomnography is recommended to exclude OSA. The clinical symptoms of hypoventilation are used to evaluate the disease severity and prognosis as well as decision-making for initiating NIV. The main types of NIV used to treat sleep-disordered breathing and respiratory conditions associated with hypoventilation and hypercapnia are Bilevel positive airway pressure (BIPAP) and Average volume-assured pressure support (AVAPS). The main purpose for the application of NIV is the correction of hypercapnia to physiological levels. NIV has been used in patients with progressive neuromuscular disease with recognized benefits, which include improvements of daytime hypercapnia, an increase in the ventilatory response, improved lung compliance and quality of life. In patient with OHS, the presence of daytime hypercapnia is explained by several co-existing mechanisms such as obesity-related changes in the respiratory system, alterations in respiratory drive and breathing abnormalities during sleep. NIV improve clinical symptoms, quality of life and gas exchange in patients with hypoventilation during sleep with no or milder forms of OSA. The application of NIV in patients with severe COPD should be considered carefully with regard to patient selection and the optimal ventilatory settings to be used. There has been conflicting evidence for its benefits. However, with the introduction of high-intensity NIV (HI-NIV), important benefits have been shown.

SYMPOSIUM 2

S2C - Respiratory Outcomes of Recent Ventilation Strategies in NICU and PICU

LONG-TERM RESPIRATORY COMPLICATIONS OF NEONATAL SURVIVAL

Anna Marie Nathan

Consultant Paediatric Respiratory, University Malaya Medical Centre, Kuala Lumpur, Malaysia

BPD is the major cause of chronic lung disease and morbidity for preterm infants, affecting 10,000–15,000 infants per year in the US. The‘‘new” bronchopulmonary dysplasia (BPD) pathology for these extremely low gestational age infants is characterized by arrested alveolar-capillary development with larger, simplified alveoli, increased interstitial fibrosis, and abnormal pulmonary vasculature with decreased branching and precapillary arteriovenous anastomoses. Preterm birth, BPD and early respiratory infections may result in dysanaptic growth with increased alveolar size but blunted airway growth. These changes result in fixed airflow obstruction into adulthood and constitute a cause of early life origins of chronic obstructive pulmonary disease. Studies have shown that 68% of infants had preterm related lung disease at 1 year of age and 38% had severe disease. Importantly, both perinatal factors and the diagnosis of BPD accurately predicted respiratory outcomes. Pulmonary gas exchange is impaired in 2-year-old infants with BPD compared to non-BPD controls; however, alveolar volume was normal in both cohorts, suggesting a lower alveolar surface area, consistent with an alveolar hypoplasia lung phenotype.Persistent abnormalities in lung parenchyma have long-term functional consequences: 7-to-8-year-olds who had BPD and received surfactant during the perinatal period had lower forced expiratory volume and higher airway resistance, compared to age and sex- matched controls without BPD, indicative of increased work of breathing. Mild prematurity is now recognised to be associated with adverse health outcomes. Respiratory problems associated with late preterm birth include neonatal respiratory distress, severe RSV infection and childhood wheezing. Risk factors affecting the late preterm population, including maternal smoking, early life growth restriction and vulnerability to viral infection.

SYMPOSIUM 2

S2C - Respiratory Outcomes of Recent Ventilation Strategies in NICU and PICU

RESPIRATORY OUTCOMES AMONG PICU GRADUATES

Eg Kah Peng
Paediatric Department, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Recent advances in ventilation strategies have improved overall outcomes in critically ill children admitted to paediatric intensive care unit (PICU). Various lung-protective strategies have reduced the mortality rates and more and more children survived from severe lung injury resulted from a severe respiratory infection. In addition, the availability of home ventilatory support has led to shortened hospital stay and contributed to the improved survivals. Consequently, new morbidities have emerged in these PICU graduates due to long term complications and the effects of the original disease and its treatment. Besides survival and morbidity, physical and psychological sequelae, as well as the quality of life are the important outcome measures in these PICU graduates.

Respiratory outcome is one of the major domains in determining physical performance and quality of life. Nonetheless, studies evaluating long term respiratory outcome among the PICU survivors are scarce. Few small studies reported paediatric acute respiratory distress syndrome survivors were at risk for both restrictive and obstructive lung disease and hypoxaemia during exercise. The small numbers, heterogeneity of the studied populations and the used of various non-validated measurement tools pose significant challenges in making strong conclusive statement.

SYMPOSIUM 2

S2C - Respiratory Outcomes of Recent Ventilation Strategies in NICU and PICU

BENEFITS AND RISKS OF HIGH FLOW NASAL CANNULA (HFNC) THERAPY

Gan Chin Seng
Paediatric Department, University Malaya Medical Centre, Kuala Lumpur, Malaysia

The use of non-invasive ventilation (NIV) in children is widespread despite the lack of high-quality scientific evidence in past 2 decades, while the heated and humidified high flow nasal cannula (HFNC) oxygen therapy has gained its popularity in providing respiratory support for patients in acute respiratory distress through all age groups in the recent past 10 years. This is simple to use, easy to set up & apply, and very well tolerated by children. It is more superior to the standard oxygen therapy which is cold and dry. HFNC provides only just oxygen supplement but its high flow provides the inspiratory demands, and overcomes the extrathoracic deadspace of a respiratory distressed child. In addition, the heated and humidified oxygen also decreases airway inflammation, maintain mucociliary function, improve mucous clearance and reduce the caloric expenditure in acute respiratory failure. However, it is also because of the simplicity of this device, HFNC has been used increasingly outside of the critical areas without a close and careful monitoring & re-assessment. This could potentially delay in identifying the complications or deteriorations of respiratory distress, and in instituting further respiratory intervention timely. Therefore, a clearly written guideline and policy must be put in place for the safe and successful use of HFNC.

SYMPOSIUM 3

S3A - Critical Care

RESPIRATORY INFECTIONS IN THE ICU

Sundari Ampikaipakan
Pantai Hospital Kuala Lumpur

Respiratory infections are by far the most challenging nosocomial complications in intensive care units (ICUs) [1]. The incidence rate of respiratory infections in ICUs has dramatically increased over recent years, with an important component related to ventilator-associated pneumonia (VAP) episodes [2].

This talk will be an overview of the clinical spectrum of lower respiratory tract infections potentially affecting patients managed in the ICU, the challenges in management and optimizing outcomes.

1. Martin-Loeches I, Povoa P, Rodríguez A, et al. Incidence and prognosis of ventilator-associated tracheobronchitis (TAVeM): a multicentre, prospective, observational study. Lancet Respir Med 2015; 3: 859–868

2. Zilahi G, Artigas A, Martin-Loeches I. What's new in multidrug-resistant pathogens in the ICU? Ann Intensive Care 2016; 6: 96

SYMPOSIUM 3

S3A - Critical Care

ARDS TREATMENT APPROACH AND OPTIONS

Sewa Duu Wen
Department of Respiratory and Critical Care Medicne, Singapore General Hospital, Singapore

Acute Respiratory and Distress Syndrome (ARDS) represents a complex syndrome with considerable morbidity and mortality. Treatment options are limited and supportive care with mechanical ventilation remains the cornerstone of patient management. However mechanical ventilation itself can cause and potential lung injury, and research has focused on ventilatory strategies and adjunctive measures aiming to mitigate ventilator induced lung injury. The use of extracorporeal life support (ECLS) has shown potential to rescue patients with severe ARDS but the superiority of ECLS over conventional mechanical ventilation has not been definitely proven. Evidence based management of ARDS has been advocated in various guidelines but there is much to improve on the adoption of these recommendations in the intensive care units.

SYMPOSIUM 3

S3A - Critical Care

OPTIMISING CLINICAL OUTCOMES IN THE ICU - NON THERAPEUTIC OPTIONS

Sewa Duu Wen
Department of Respiratory and Critical Care Medicne, Singapore General Hospital, Singapore

Critically ill patients continue to have high morbidity and mortality in the ICU despite improvement in healthcare standards over the years. There are many non-therapeutic options that units can adopt to improve important clinical outcomes. Constant review of key quality indicator can help to establish standards against which to continuously improve all aspects of our practice.

SYMPOSIUM 3

S3B – Tobacco & Environmental Health

RARE EARTH LUNG DISEASE / PARTICLE POLLUTION - AN OCCUPATIONAL HAZARD?

Krishna Gopal Rampal
Cyberjaya University College of Medical Sciences, Selangor, Malaysia

The rare earth elements (REE) consist of 15 Lanthanides of which Cerium (Ce) is the most abundant, and scandium (Sc) and yttrium (Y). The REE are playing an increasingly important role through their use in "high technology" applications. They are used in making magnets, light-emitting diodes, catalysts and glass polishes. The REE have no known role or requirement in living systems. They have very similar physical and chemical properties and hence similar toxicological properties. The lung is the primary target organ via inhalation exposure. Inhalation exposure to the REE, mainly from occupational exposure, is associated in the short-term with acute bronchitis, and in the long-term by pneumoconiosis and progressive pulmonary fibrosis. Most cases of pneumoconiosis and pulmonary fibrosis have been observed in photoengravers, film projectionists and workers who mine rare earth metals. These cases are often associated with high REE concentrations in the lungs. Rare-earth oxide nanoparticles have been found to damage cells triggering inflammation and lung damage in mice and that coating the materials with phosphate could mitigate the risk to workers exposed to the nanoparticles. While it is not clear how prevalent the lung disorders are, increased risk is expected as more and more workers are being exposed to these REE, Occupational Exposure Limits (OELs) are generally used as benchmarks of safe levels of long-term chemical exposure via the inhalation routes of exposure. Except for yttrium (Y), no OELs have been established by OSHA, NIOSH, or ACGIH for the remaining REE. There is very little data regarding the mutagenicity and carcinogenicity of the REE and none of the REE have been classified as carcinogens by the USEPA at this time.

Reference: Damian P. (2014) A Literature Review of the Health and Ecological Effects of the Rare Earth Elements. Stand Alone Report 14 for Rare Element Resources, Inc.

SYMPOSIUM 3

S3B – Tobacco & Environmental Health

VAPE ASSOCIATED LUNG DISEASE - STILL A CONCERN?

Michael Stephen Joseph
Pantai Hospital Ipoh, Perak, Malaysia

Since the introduction of electronic nicotine delivery systems (ENDS) in 2007, these devices have been gaining in popularity, especially among teens & young adults. They are promoted as safer alternatives to tobacco cigarettes. However, not much is known about the short & long term effects of their use. There is a paucity of published literature on the respiratory complications of ENDS use, as well as, vape-related lung disease.
The lecture will introduce ENDS devices and their components & constituents. It will also discuss possible effects of these constituents, and possible mechanisms in causing lung damage.

SYMPOSIUM 3

S3B – Tobacco & Environmental Health

SURVEILLANCE FOR OCCUPATIONAL LUNG DISEASE

Siti Sara Yaacob
Jabatan Kesihatan Negeri Selangor, Selangor, Malaysia

Occupational disease is due to causes and conditions attributable to a particular occupational environment and not to stimuli encountered outside the workplace (Bernstein et al 1993). According to the Protocol of 2002 to the Occupational Safety and Health Convention, 1981 (No. 155), the term "Occupational Disease" covers any disease contracted as a result of an exposure to risk factors arising from work activity.

Occupational lung diseases are the third commonly reported occupational disease in Malaysia after noise-induced hearing loss and occupational musculo-skeletal diseases. Examples of occupational lung disease are occupational asthma, pneumoconiosis, organic pneumonitis, inhalation fever, lung cancer and others. These diseases can be prevented through a thorough surveillance programme e.g. spirometry testing.The burden of chronic diseases, including occupational lung diseases (OLDs), is increasing worldwide; similar trend observed in Malaysia (Department of Occupational Safety and Health Malaysia, 2017).

History taking is very crucial, especially work history in order to come into the diagnosis of occupational lung disease. Spirometry is an important tool to establish the diagnosis, that able to detect and quantitate abnormal lung function. Spirometry is used as part of medical surveillance for exposed workers. It ranges from usually simple portable spirometer used in the industry to the spirometry in the hospitals which are more sophisticated equipment.

While occupational lung disease remains under-recognised, especially in developing countries, it remains poorly diagnosed and managed and inadequately compensated worldwide. Lung function test in younger workers needs careful assessment in order to best identify early cases of disease. Immunological tests appear useful in small groups of workers exposed to common occupational allergens. Prevention and control based of hierarchy of hazard controls are very important. Primary and secondary preventive strategies should be directed at controlling workplace exposures, accompanied by intense educational and managerial improvements

SYMPOSIUM 3

S3C -PneumoniainChildren

RECURRENT PNEUMONIA

Alison Ting Yih-Hua
Timberland Medical Centre, Kuching, Malaysia

Respiratory tract infections are common in children. Most of these episodes represent viral upper respiratory tract infections in otherwise well children and are often self-limiting. Preschool children may have as many as 6 episodes of viral colds a year. Lower respiratory tract infections are less common, however because of symptom overlap, it may be difficult to accurately differentiate lower from upper respiratory tract infections. When faced with a child with recurrent infections, the challenge is to correctly distinguish children with recurrent self-limiting infections, and avoiding over-investigating these children, from those with an underlying disease who require further diagnostic work up and treatment.

Recurrent pneumonia refers to at least two episodes of pneumonia in one year or three episodes ever with radiographic clearing of densities in between episodes. A thorough approach to assessment of these children is important, paying close attention to history and examination. In selected cases appropriate investigations are required for further evaluation bearing in mind the possibility of uncommon disorders such as immunodeficiencies, ciliary abnormalities, or congenital anomalies of the respiratory tract. Early and accurate diagnosis is essential to ensure that optimal treatment is given and to minimise the risk of progressive or irreversible lung damage in those with underlying disease. A systematic approach to the assessment of these children will be discussed.

SYMPOSIUM 3

S3C -PneumoniainChildren

UNRESOLVED PNEUMONIA

Norzila Mohamed Zainuddin
Sunway Medical Centre, Selangor, Malaysia

It is defined as a clinical syndrome in which infiltrates begin with clinical association of acute pulmonary infection and despite a minimum of 10 days antibiotic therapy; the condition does not improve or worsen or radiographic opacities fail to resolve within 12 weeks. There are many causes that result in non resolution of pneumonia such as inappropriate antimicrobial therapy which include the correct dosage, super-infection, complications of initial pneumonia such as empyema, host factors, delayed radiological recovery, presence of resistant or unusual organisms, defects in defense or disease that may mimic pneumonia.
A diagnostic evaluation of the underlying causes is required This will include evaluation of the host factors and to evaluate the possibility of antimicrobial failures such as patient non- compliance, in adequate dosage, unusual or antibiotic resistant pathogen, sensitivity of the organism. If an infectious complication is suspected such as empyema or super-infection, the radiographic evaluation is warranted which include chest radiograph, Ct scan or chest ultrasound. Flexible bronchoscopy may be required for further respiratory sampling and evaluation of the airway.

SYMPOSIUM 3

S3C -PneumoniainChildren

COMPLICATIONS OF PNEUMONIA

Surendran Thavagnanam
The Royal London Hospital, London, United Kingdom

Community acquired pneumonia (CAP) is a common paediatric infection and, even with the introduction of pneumococcal and Haemophilus vaccination, most children will experience at least one episode before adult life. Most cases are self-limiting but a small number of children will develop sequelae and require hospitalisation.

The educational aims of this talk are to understand the pathogenesis of complicated CAP in children and to gain an understanding into the presentation and management of common complications of CAP in children.

YMPOSIUM 3

S3D - Tuberculosis

FINDING THE MISSING PERSONS WITH TB

Mohd Ihsani Mahmood
Disease Control Division, Ministry of Health Malaysia

Over the past two decades, thousands of patients with tuberculosis go missing. Recognizing the challenges of locating missing patients with Tuberculosis, regular assessments of barriers to the reduction of Tuberculosis incidences were performed. A pathway to assess the alignment tuberculosis care-seeking patterns and the availability of tuberculosis services is ongoing to guide the programmatic priorities. Through planning and programming tools, the programmer role in finding these missing cases first, has built an evidence base to improve case finding through simplified diagnostic algorithm for screening and diagnosis TB among high risk groups. Access to TB screening and diagnosis at pre-employment for healthcare and foreign workers has improved the case finding as a result of collaboration between The Ministry of Health with several ministries and agencies to incorporate and scale-up systematic TB screening. The scale up of MDR Tuberculosis through strengthening the laboratory capacity to roll out Xpert MTB/RIF, shows improved performance in diagnosis. Linkage between laboratory system and TB surveillance system is ongoing, as well as control and prevention activities are enhanced at district level. Strengthening surveillance systems for Latent Tuberculosis Infection remain as priority, while the feasibility of IGRA in detecting LTBI among the smear positive Tuberculosis contacts is in progress. All strategies come with operational guides that define practical various level approach to find, diagnose and treat missing patient with Tuberculosis.

SYMPOSIUM 3

S3D - Tuberculosis

TB CONTROL USING INNOVATIVE TECHNOLOGY

Muhammad Nazri Aziz
LABLINK (M) SDN BHD, Kuala Lumpur, Malaysia

The utilization of new and innovative technology is crucial in management and control of TB. Leading through innovation and technology in clinical microbiology, Lablink Medical Laboratory has adopted three basic pathology principles in TB diagnostics which comprise the following; 1. Bedside to Results, 2. Cheaper, Faster & Better, and, 3. Rapid, Accurate, Actionable and Comprehensive Diagnostics.

Bedside to Results can be explained as acceptable Total Turn-Around-Time or T-TAT. It comprise of three important diagnostics stages; pre-analytical, analytical and post-analytical. The following innovations and technologies will be discussed; sample transportation or effective courier services from sample collection site to laboratories, point-of-care molecular diagnostics, and result & data management utilizing IT.

Cheaper, Faster & Better concept is important to explain the limitation of diagnostics utilization in relation to cost and rapid result. Utilization and limitation of a 100 years old technology by AFB direct smear will be discussed. New technology using point-of-care molecular diagnostics to supplement AFB Direct smear and culture will be discussed as well.

Rapid, Accurate, Actionable and Comprehensive RAAC Diagnostics (RAAC) is a new concept to explain the diagnostics utilization of various methodology in TB diagnostics. Application RAAC diagnostics should be explore in the field of TB control.

SYMPOSIUM 3

S3D - Tuberculosis

MDR TB WITH NEW DRUGS

Kalpeshsinh Rahevar
ETB and Leprosy Unit Division of Communicable Diseases, World Health Organization Regional Office for the Western Pacific, Manila, Phillippines

The presentation focuses on the WHO's new consolidated guidelines on drug-resistant TB which offer effective and convenient regimens for MDR/RR-TB.

Globally, over half a million people develop MDR/RR-TB every year. However, only a quarter of them diagnosed and started on treatment. The treatment success rate too has remained low at around 55%. Following thorough assessment of available evidences of the relative benefits and harms, the drugs for MDR/RR-TB were classified into three groups. With the inclusion of new drugs, there is a possibility of all-oral longer regimen for MDR/RR-TB. Atleast 4 most effective agents mainly from Group A and B have been recommended for longer regimen. Kanamycin and Capreomycin linked to poorer outcomes in IPD meta-analysis are no longer recommended. In MDR/RR-TB patients on longer regimens, total treatment duration of 18–20 months is suggested for most patients.

In MDR/RR-TB patients who have not been previously treated for more than 1 month with second-line medicines or in whom resistance to fluoroquinolones and second-line injectable agents has been excluded, a shorter MDR-TB regimen of 9–12 months can be used. As Kanamycin is no longer recommended, it should be replaced by Amikacin.

Sputum sample of MDR/RR-TB patients on longer regimen must be tested for smear microscopy and culture ideally on monthly basis to monitor treatment response. The guidelines also recommend early initiation of ART among all DR-TB patients with co-HIV co-infection. Above all, health education and counselling as well treatment adherence interventions are essential for supporting patients to complete treatment successfully. More importantly, along with transitioning to the new guidelines, countries should strive for increasing the MDR/RR-TB treatment coverage including the treatment success rate.

SUNRISE SESSION 1

RESPIRATORY YEAR IN REVIEW - ASTHMA/ COPD

Abdul Aziz Marwan
University Sans Islam Malaysia, Kuala Lumpur, Malaysia

An exciting year for respiratory medicine kicked off with the latest update of Global Strategy for Asthma Management and Prevention report (GINA 2019) highlighting risk of serious adverse events in mild asthmatics. As-needed low dose ICS-formoterol has entered as both preferred controller and preferred reliever for Step 1 and 2 in treatment strategy as old and new evidences merged the danger of SABA-only treatment, and risk reduction of the regime in mild asthma. Difficult-to-treat and severe asthma received a special attention with the newly published dedicated GINA pocket guide emphasising on comprehensive treatment algorithm which includes the use of biologics and thermoplasty. The 2019 revision of the Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease (GOLD 2019) has kept the A, B, C, and D classification systems, with no changes to the initial treatment recommendation. A more refine proposed treatment algorithm, subsequent pharmacological treatment decision for second treatment pathway, and treatment escalation pathways were made. Special emphasis on eosinophil-guided corticosteroid therapy was outlined, and a special chapter on interventional therapy was updated. A management cycle was formally addressed in this update. On a side note, it is known that several meta-analyses and epidemiological studies had established an increased risk of cardiovascular events following SAMA or LAMA treatment. The publication of ASCENT-COPD trial this year has found no increase in risk of MACE with the use LAMA (aclidinium) in COPD patient.

PLENARY 2

TUBERCULOSIS IN CHILDREN: GLOBAL OVERVIEW

Ben J Marais
The Children's Hospital at Westmead, Sydney, Australia

Tuberculosis (TB) is the number-1 infectious disease killer on the planet. Many clinicians still regard TB as an adult disease diagnosed by sputum smear microscopy; hence it is rarely considered in the differential diagnosis of sick children. However TB is a major, but often unrecognised, cause of disease and death among children in high incidence settings. Children generally get TB where adults spread the disease and cases are highly concentrated in areas affected by poverty and social disruption. This talk provides a brief overview of the global burden of childhood TB with careful consideration of the natural history of disease in children, which guides TB prevention, diagnosis and treatment strategies. It will also review recent advances in TB prevention, diagnosis and treatment.

SYMPOSIUM 4

S4A - COPD 1

GOLD 2019: WHAT'S NEW?

Pang Yong Kek
Department of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Since its first report in 2001, the GOLD committee has been actively reviewing and revising the management of COPD on a regular basis. Some were minor revisions whereby newly published data on the preceding year were added to the report. There were 2 major revisions made over the years - one in 2011 and another one in 2017.
In the 2019 report, new sections have been added into the existing chapters of 1 to 6. In this lecture, discussions will be focused mainly on the newly defined role of blood eosinophil in selecting inhalational agent, re-organised pharmacological treatment algorithms for stable COPD, recommendation on COPD management cycle, as well as the role of nebulised corticosteroids, doxycycline and high-flow nasal oxygen therapy in reducing COPD exacerbations.
A quick update will also be made on some non-pharmacological therapies, e.g. pulmonary rehabilitation, vaccination, etc.

SYMPOSIUM 4

S4A - COPD 1

HOW USEFUL IS BLOOD EOSINOPHIL AS A BIOMARKER IN COPD?

Rhee Chin Kook
Seoul St. Mary's Hospital, The Catholic University of Korea, Seoul, South Korea

Blood eosinophil can predict inhaled corticosteroid (ICS) response in patients with chronic obstructive pulmonary disease (COPD). ICS response is better in patients with high blood eosinophil. Recent clinical trial showed that ICS + long-acting beta agonist (LABA) is better than LABA + long-acting muscarinic antagonist (LAMA) in patients with high blood eosinophil.
Eosinophil level in sputum and bronchoalveolar lavage is higher in patients with high blood eosinophil. On the other hand, bacterial load in airway is higher in patients with low blood eosinophil. Inappropriate use of ICS in patients with low blood eosinophil can develop pneumonia. Moreover, when patients with low blood eosinophil exacerbate, the percentage of bacterial present is higher during the exacerbation. When patients with high blood eosinophil exacerbate, the percentage was lower. Recent clinical trial showed that eosinophil-guided therapy was non-inferior compared with standard care during the exacerbation.
There are several mechanisms involved in eosinophilic COPD. Eosinophil-derived interleukin (IL)-13 promotes emphysema via matrix metalloproteinase 12 pathway. Blood IL-33 level was correlated with blood eosinophil count in COPD. IL-33 induces production of autoantibody against autologous respiratory epithelial cells.
Blood eosinophil is correlated with sputum eosinophil, however, there is discordant. Variability of blood eosinophil level is also a limitation to use as a biomarker. Future biomarker candidate to complement blood eosinophil is fractional exhaled nitric oxide.

SYMPOSIUM 4

S4A - COPD 1

ARE WE READY FOR PHENOTYPING IN COPD?

Aileen David-Wang

Section of Pulmonary Medicine, University of the Philippines College of Medicine and Philippine General Hospital, Manila, Philippines

The diagnosis and management of COPD has traditionally been anchored on a "one-size-fits-all" approach. At best, we made a distinction between the "blue bloater/ chronic bronchitis" and the "pink puffer/emphysema" phenotypes. Nonetheless, our management has been largely centered on symptomatic relief, with limited effect on overall prognosis. Evidence from large scale trials such as TORCH led us to use inhaled steroids with or without LABA as a mainstay therapy. However, contrary to prior GOLD recommendations and irrespective of patients` differing clinical characteristics, severity or exacerbation risks, real world data revealed that even patients in Group A or B were prescribed inhaled steroids.[1] Such a commonality of approach led to concerns about the increased adverse effects of inhaled steroids, e.g., pneumonia, with little to questionable clinical benefits. The availability of LABA/LAMA, and soon, triple therapy with ICS/LABA/LAMA, behooves us to better characterize our patients and determine defining criteria that can help predict response to a specific therapy.

Recent studies now confirm that COPD is a heterogeneous disease with patients having distinct features that determine very different evolutions of the disease. We now recognize distinct subgroups of COPD patients characterized by unique pathophysiologic derangements, response to treatment, and disease progression, such as subsets of patients with frequent exacerbations, asthma-COPD overlap, emphysema-hyperinflation, chronic bronchitis, comorbidomes or the prototypical α-1 antitrypsin deficiency. The identification of these varying COPD phenotypes can hopefully lead to the discovery of much needed disease-modifying therapeutic approaches. The new GOLD treatment recommendations are now based on targeted treatable traits. A precision approach that integrates multiple dimensions (clinical, physiologic, imaging, and endotyping) is needed to move the field forward in the treatment of this disease.[2]

[1]Vestbo J, et al. Respir Med 2014 ;108:729–36.

[2] Segal L, Martinez F. J Allergy Clin Immunol 2018;141:1961-71.

SYMPOSIUM 4

S4B - Interventional Pulmonology

PULMONOLOGIST LED RIGID BRONCHOSCOPY, THE STORY SO FAR…

K. Kannan Sivaraman Kannan

Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia

Rigid bronchoscopy was the primary mode of exploring the airways during the era prior to the introduction of the flexible bronchoscopy. At that time it was a life saving intervention especially for Foreign body aspirations. Over the years after the introduction of flexible bronchoscopy , the art of rigid bronchoscopy seems to have been forgotten by the majority of pulmonologists with it being used mainly by the ENT and CTS teams.

With the current emergence and surge of popularity of Interventional Pulmonology worldwide , with rigid bronchoscopy being the core procedure involved, the question again is being asked on what is the role of pulmonogists with regards to Rigid Bronchoscopy.

This lecture will be more of a discussion on the role and advances of rigid bronchoscopy with relation to it's practice in Malaysia. Is it mandatory that all pulmonologist must know how to perform the rigid bronchoscopy procedure? What are the requirements to set up a rigid bronchoscopy service ? Is having a CTS backup mandatory ?

There may be more questions than answers during this discussion but hopefully it would be able to enlighten about the role of rigid bronchoscopy among pulmonologists in different setups and expertise around Malaysia. It is also hoped that this would highlight the pros and cons of having a rigid bronchoscopy expertise in your place and more practical approaches to problems with consumables and cooperations with anaesthetists , CTS Surgeons and other pulmonologists.

S4B - Interventional Pulmonology

BRONCHOSCOPIC THERMAL VAPOUR ABLATION THERAPY

Anantham Devanand
Singapore General Hospital, Singapore

Static and dynamic hyperinflation have important functional and prognostic consequences for patients with emphysema. The Inspiratory Capacity divided by Total Lung Capacity (i.e. IC/TLC ≤ 25%) is an accurate predictor of all-cause and respiratory mortality. In addition, inspiratory muscles stretched in the hyperinflated state operate in an unfavourable position on their length-tension curve. These physiological factors have fuelled the development of lung volume reduction surgery. The NETT study has shown that patients with upper-lobe emphysema and low exercise capacity can get a survival benefit from lung volume reduction surgery. However, the widespread use of the procedure has been limited by narrow inclusion criteria and significant post-operative morbidity such as air-leaks.

Bronchoscopic lung volume reduction aims to get functional benefits of surgery while minimizing procedure-related risks. The GOLD guidelines state that these interventions can be considered in selected patients with severe emphysema. Radiological advancements allow detailed emphysema assessment based on Hounsfield unit analysis. Collateral ventilation can also be evaluated by studying fissure integrity. In the COPDGene study, 97% of the patients with emphysema were found to have intra-lobar heterogeneity of disease. Currently, thermal vapour ablation is the only technology with which lung volume reduction at the segmental level is possible.

In the STEP-UP trial, vapour ablation was performed on 1 bronchopulmonary segment of an upper lobe. After a 12-week interval, an additional 1-2 segments in the contralateral upper lobe were treated. This therapy resulted in a 12-point reduction in St George's Respiratory Questionnaire at 1 year. Across the two vapour treatment sessions, COPD exacerbations and pneumonia occurred in over 30% of patients. For this reason, patients are given prophylactic antibiotics and there is a low threshold to start systemic steroids.

Selection criteria includes physiological evidence of air-trapping i.e. RV ≥ 175%. Patients should also have a DLCO ≥ 20% and have no hypercapnia. Only patients who are stable with ≤ 3 COPD-related exacerbations in the previous year are suitable candidates. Medical therapy with bronchodilators, smoking cessation and pulmonary rehabilitation should be optimised. Non-contrast CT with slice thickness of 0.5 – 1.25 mm thickness is used and patients with upper-lobe predominant heterogenous emphysema are chosen. There are no restrictions based on the presence or absence of collateral ventilation. Based on the planning software, bronchopulmonary segments with the highest disease severity, heterogeneity index and segmental volume are the best targets.

The target segment is then identified endoscopically and occluded with balloon-catheter before steam is delivered for 3-10 seconds according to the following energy dose: 8.5 cal/g lung tissue. The entire procedure typically lasts for < 15 minutes. A localized inflammatory reaction occurs over the first 4 weeks. Although patients are typically discharged shortly after the procedure, they are intensively monitored in an ambulatory setting at 7, 14 and 28 days. Volume reduction following thermal vapour ablation is a natural process that occurs gradually over 6 weeks and patients can have another procedure after 12 weeks.

SYMPOSIUM 4

S4B - Interventional Pulmonology

RADIAL EBUS AND NAVIGATIONAL BRONCHOSCOPY FOR PERIPHERAL LUNG NODULE DIAGNOSIS

Tie Siew Teck
Department of Medicine, Sarawak General Hospital, Malaysia

Lung cancer, when diagnosed early, is curable with surgical resection. Current available treatments for advanced-stage lung cancer include chemotherapy, targeted therapy and immunotherapy. These treatments do not promise complete cure.

Therefore, early diagnosis of lung cancer is crucial. However, dealing with small lung nodule is a complex task. Current clinical and imaging techniques, that are used to diagnose lung cancer, have yet to achieve high accuracy in patients with small lung nodule. Tissue sampling is undoubtedly an important aspect in lung nodule management pathway. Conventional bronchoscopy has a very low yield in peripheral lung nodule because the nodule is located at a site where conventional bronchoscopy technique cannot reach. Even with fluoroscopy guided transbronchial lung biopsy, the diagnostic yield of a peripheral lung nodule is as low as 30%. Many of these nodules required CT guided transthoracic needle aspiration which carries up to 40% risk of pneumothorax.

Fortunately, in the past decade, newer bronchoscopic techniques have developed. These techniques allow bronchoscopists to perform lung nodule tissue sampling with high level of accuracy and minimal risks. These techniques include Radial Endo-Bronchial Ultrasound (Radial-EBUS), Navigational Bronchoscopy, Bronchoscopic Trans-Parenchymal Nodule Access and Robotic Bronchoscopy.

In this lecture, the speaker will talk about two of the most established techniques: Radial EBUS and Navigational Bronchoscopy. The speaker will give a thorough review of current literature and discuss on procedural techniques. The speaker will also present his centre's data and discuss limitations of current techniques.

SYMPOSIUM 4

S4C - Community Acquired Pneumonia

MORBIDITIES AND MORTALITY IN VIRAL PNEUMONIA

Peter Le Souëf
Division of Paediatrics, Faculty of Health and Medical Sciences, University of Western Australia, Australia

Understanding of the role of viruses in pneumonia has increased greatly over recent years with the advent of improved detection techniques. However, problems remain in diagnosing pneumonia, which may be better described as 'acute lower respiratory infection' (ALRI), and identifying causative viruses. Early viral culture studies substantially underestimated the prevalence of viruses in ALRI. By 1990, studies using immunofluorescence and serology showed that viruses were more commonly identified than bacteria in children with ALRI. Later with PCR, even higher detection rates were achieved and new viral species discovered. Currently virome studies are finding further new viruses, although several problems preclude the technique's clinical utility. Present data on viral ALRI shows that the type of virus involved depends on age, geographic region and vaccine use. Respiratory syncytial virus (RSV) is the most common virus causing ALRI in children <1 year, and a major cause of death in young children and the elderly globally. Recent PCR data shows that rhinovirus (RV), particularly rhinovirus species C (RV-C) is the most common virus causing ALRI between 2 and 5 years, with RSV infections falling to almost zero by 5 years of age. Indeed, for paediatric ICU ALRI admissions, RV is the most common virus detected and RV-C by itself is as common as RSV. Primary influenza pneumonia can have high mortality in epidemics, particularly in the elderly, and can also lead to serious bacterial co-infection. Projections based on climate change suggest that morbidity and mortality from respiratory viruses will increase in the near future.

SYMPOSIUM 4

S4C - Community Acquired Pneumonia

CHALLENGES IN MANAGING CAP IN CHILDREN

Aina Mariana Abdul Manaf
Hospital Port Dickson, Port Dickson, Negeri Sembilan, Malaysia

Community Acquired Pneumonia (CAP) is a common cause of admission especially for young children all over the world. In Malaysia, 6% of the mortality for children under five years of age in the year 2015 was due to acute respiratory infection. Further analysis of preventable deaths in 2016 for this age group showed that 82% of all preventable deaths in the acute respiratory cause was due to pneumonia.

CAP remain a leading cause of admission in the acute respiratory cause and may require a more intensive management. The aetiology of CAP may not be easily identified in smaller centres. Children with severe pneumonia may require non-invasive or invasive ventilatory support preferably in a PICU set up.

Challenges in managing CAP can be found from identifying signs and symptoms of severe pneumonia, in its investigation and in the appropriate management of pneumonia. Preventive measures such as the introduction of pneumococcal vaccination into the National Immunisation Programme also has its challenges.

Overcoming these challenges require further training and guidance especially for the healthcare workers in the front lines. The use of appropriate antibiotics should be in accordance to the National Antibiotic Guidelines. Efforts has been made to include pneumococcal vaccination into the National Immunisation Programme.

SYMPOSIUM 4

S4C - Community Acquired Pneumonia

RATIONALIZATION OF HOSPITAL ADMISSION AND ANTIBIOTIC USED IN CHILDREN WITH PNEUMONIA

Ben J Marais
The Children's Hospital at Westmead, Sydney, Australia

Pneumonia is the leading cause of antibiotic use and hospitalisation in Vietnam and other Southeast Asian countries. There is a need for better prediction of 1) 'unlikely bacterial pneumonia' to improve rational antibiotic use and 2) 'adverse pneumonia outcome' to guide hospital admission. This talk will present findings from literature reviews, as well as retrospective and prospective studies done in Vietnam to assess and improve the management of children under-5 admitted to hospital with 'pneumonia'. An algorithm that screens for predictors of 'likely bacterial pneumonia' and 'adverse pneumonia outcome' could potentially reduce unnecessary antibiotic use and hospital admission, but its clinical utility requires validation in prospective studies.

SYMPOSIUM 4

S4D – Pleural Diseases

ROLE OF EARLY PLEURODESIS IN PRIMARY PNEUMOTHORAX/ NON SURGICAL TREATMENT IN PERSISTANT PNEUMOTHORAX

Muhammad Redzwan S Rashid Ali
KPJ Johor Specialist Hospital, Malaysia

Spontaneous pneumothorax(SP) has been traditionally categorised as primary or secondary spontaneous pneumothorax (PSP and SSP, respectively). PSP is defined as a spontaneous pneumothorax occurring in patients without a prior known underlying lung disease and SSP is associated with known underlying lung disease most commonly COPD. SP is associated with low rates of morbidity and mortality, typically affects a young population and has a recurrence rate of between 17% and 54% . The mortality of SP can be high, especially in older subjects and those with SSP. This high recurrence rate stimulated the development of many different therapeutic approaches for recurrence prevention including medical thoracoscopy, thoracotomy and video-assisted thoracoscopic surgery (VATS). There are two aims when treating pneumothorax: 1) to evacuate air, and 2) to prevent recurrence. The role of early pleurodesis in in first episode of PSP is unclear at the present moment but it is increasingly being advocated as the first line therapy especially at the presumed high recurrence rate and the relatively low risk option offered via VATS/surgery.
The management of persistent or recurrent PSP/SSP continues to be debated partly because of the lack of well-conducted randomised controlled studies in this area.

Persistent pneumothorax ie Persistent air leak (PAL) is a cause of significant morbidity in patients who have undergone lung surgery and those with significant parenchymal lung disease suffering from a pneumothorax, most commonly SSP. Its management can be complex and challenging. Surgical management and medical pleurodesis have long been the usual treatments for PAL. More recently numerous nonsurgical; procedure ie bronchoscopic procedures have been introduced to treat PAL in those patients who are poor candidates for surgery or who decline surgery.

SYMPOSIUM 4

S4D – Pleural Diseases

INDWELLING PLEURAL CATHETERS - MANAGEMENT OF COMPLICATIONS

Mohd Arif Mohd Zim
UiTM, Malaysia

Malignant pleural effusion cause disabling dyspnea in patient with a short life expectancy. Palliation is achieved by fluid drainage or pleurodesis. However pleurodesis in patient with trapped lung is impossible. Indwelling pleural catheter (IPC) is a fenestrated silicone catheter tunneled into subcutaneous tissue and then inserted into the pleural space. Complications associated with IPC are symptomatic loculation, asymptomatic loculation, displaced insertion,tumour seeding and infection.

SYMPOSIUM 4

S4D – Pleural Diseases

MANAGEMENT OF EMPYEMA THORACIS

Narasimman Sathiamurthy
Thoracic Unit, Department of Surgery, Kuala Lumpur Hospital, Malaysia

Empyema thoracis is a condition with pus collection in the thoracic cavity and has been recognised since the time of Hippocrates. It carries high risk of morbidity and mortality. Traditionally, a tube thoracostomy for pus drainage or thoracotomy is performed to decorticate the cavity with significant post operative movement restriction and pain. Minimally invasive surgical approach to treat empyema thoracis is now the way to go for selected group of patients. Video Assisted Thoracic Surgery (VATS) is used to decorticate the empyema cavity without compromising the surgical outcome as compared to open thoracotomy, but with minimal post operative pain and maximal mobility to perform chest physiotherapy en-route to quicker recovery.

SYMPOSIUM 5

S5A - Lung Cancer 1

CHALLENGES OF LUNG CANCER SCREENING IN MALAYSIA

Nor Zuliana Dzul-kifli
National Cancer Institute, Putrajaya, Malaysia

Lung cancer is the third most common cancer in Malaysia, and was the leading cause of cancer deaths in Malaysia for year 2018 (Globocan 2018). It was often diagnosed during the advanced stage of the disease, when treatment is non-curative.

In Malaysia, public awareness on early symptoms and stages of lung cancer is still low. There is increasing number of lung cancer cases in younger and non-smoker patient, which makes screening even more difficult. Screening programme with low dose CT for general population at risk may face challenges in terms of feasibility, availability and accessibility of the programme. Interpretation of CT thorax is challenging due to higher incidence of pulmonary tuberculosis in this region, which contributes to false positive findings and unnecessary invasive investigations.

A pilot study looking at lung cancer screening programme using low dose CT conducted by Radiology Department, Institut Kanser Negara, Putrajaya has shown that public response to screening programme is very poor. This programme includes volunteers who are current or former smoker age 50 to 70 years old with ≥ 30 pack-year history or ≥ 20 pack-year history and one additional risk factor (prior diagnosis of pneumonia or cancer, family history of lung cancer, occupational exposure to asbestos). Only 40% of volunteers who have agreed to participate in the screening programme turned up for the actual assessment. Many subjects also failed to come for follow-up CT scan. Only 2 cases showed suspicious nodules which confirmed to be benign on histopathological examination.

In conclusion, lung cancer screening programme in Malaysia is still far from success. More efforts are needed in many aspects, especially to increase public response towards the programme. Low dose CT has been accepted worldwide as an effective screening tool and Malaysia need to follow suit if we are to reduce mortality and morbidity from lung cancer.

SYMPOSIUM 5

S5A - Lung Cancer 1

PREPARING EARLY LUNG CANCER PARTIENT FOR SURGERY: WHAT SHOULD I DO?

Narasimman Sathiamurthy
Thoracic Unit, Department of Surgery, Kuala Lumpur Hospital, Malaysia

Lung cancer is the commonest cause of cancer related death. Majority of lung cancers detected in Malaysia and worldwide are in Stage III & IV. In the absence of a lung screening programme, early lung cancers are usually detected incidentally during routine medical examination or investigations for other unrelated conditions. Pulmonary and cardiac assessments are necessary prior to surgical intervention to determine better operative outcome. There are various guidelines used for these assessments and the options are discussed.

SYMPOSIUM 5

S5A - Lung Cancer 1

SMOKING CESSATION PROGRAMME INTO LUNG CANCER SCREENING

Nurhayati Mohd Marzuki
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia

Lung cancer is one of the leading causes of death due to its silence nature in early stage. Screening among high risk individual (smokers of 30 packed years older than 65) with low dose CT scan has been shown to reduce the mortality by 20%. It is known that smoking cessation is the only cost-effective intervention. Thus, lung cancer screening is a 'teachable moment' for smoking cessation.
Several studies have looked at integration of smoking cessation to lung cancer screening. Although currently no best approach has been identified. Intensive intervention with counselling and pharmacotherapy is the most promising approach thus far.

SYMPOSIUM 5

S5B - Interstitial Lung Disease

PULMONARY VASCULITIS / ANCA ASSOCIATED VASCULITIS ILD

Antonella Arcadu
GB Morgagni Hospital, Via C. Forlanini 34, 47100 Forli (FC), Italy

Pulmonary vasculitis are a spectrum of clinical conditions in which inflammatory cell infiltration of the walls of small and medium-sized blood vessels causes vascular destruction and tissue necrosis within the lungs. There are no diagnostic guidelines or firm classifications criteria, and the clinical presentation may overlap among different vasculitis. Pulmonary manifestations include pulmonary arterial aneurysms, pulmonary hypertension, diffuse alveolar hemorrhage, pulmonary nodules, and parenchymal infiltrates.
Main vasculitides associated with pulmonary involvement include antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis, immune complex small vessel vasculitis, and antiglomerular basement membrane disease.
ANCA- associated vasculitis (microscopic polyangiitis - MPA, granulomatosis with polyangiitis – GPA, and eosino¬philic granulomatosis with polyangiitis – EGPA) are the most common encountered vasculitis by pulmonologist. GPA and MPA are more common than EGPA, which repre¬sents only 10–20% of patients diagnosed with one of the AAV.
Patient characteristics, the underling specific vasculitis, and the involvement of other organs should be considered in the treatment strategy. Alveolar hemorrhage frequently requires urgent treatment to control the underlying disease and provide supportive care. Treatment for remission induction is usually based on a combination of glucocorticoids and immunosuppressive agents, especially cyclophosphamide and rituximab. The role of plasma exchanges, commonly used in patients with severe vasculitis, is controversial.
Methotrexate, azathioprine, mycophenolate mofetil plus low dose of steroids are the most frequently used as maintenance therapy.

SYMPOSIUM 5

S5B - Interstitial Lung Disease

RADIOLOGICAL DIAGNOSIS OF ILD - CURRENT AND FUTURE IMAGING

Mohammad Hanafiah
Faculty of Medicine, University Technology MARA Sungai Buloh Campus, Selangor, Malaysia

Interstitial lung diseases (ILD) consist of disorders of known causes (collagen vascular disease, environmental or drug related) as well as disorders of unknown cause. The latter include idiopathic interstitial pneumonias, granulomatous lung disorders (e.g. sarcoidosis), and other forms of interstitial lung disease including lymphangioleiomyomatosis, pulmonary Langerhans' cell histiocytosis, eosinophilic pneumonia etc. Imaging patterns of some of these diseases will be reviewed. It is important to note that some of the imaging features carry prognostic information. The updated categories of computed tomography classification in relation to UIP pattern (Flesichner Society & ATS guidelines) have resolved some of the important issues previously being encountered. Imaging in ILD has evolved greatly over the past decade and is continuing to evolve. Quantitative assessment, Computer-assisted/aided detection and artificial intelligence are being explored to improve imaging interpretation of ILD.

SYMPOSIUM 5

S5B - Interstitial Lung Disease

OCCUPATIONAL AND DRUG INDUCED INTERSTITIAL LUNG DISEASE

Antonella Arcadu
GB Morgagni Hospital, Via C. Forlanini 34, 47100 Forli (FC), Italy

Environmental and occupational exposures, infections, drugs, radiation, and genetic predisposition have been reported in the interstitial lung disease (ILD) pathogenesis.
Asbestosis and other pneumoconiosis, hypersensitivity pneumonitis (HP), chronic beryllium disease, and smoking-related ILD are specifically related to inhalational exposure of environmental agents. Moreover, numerous evidence suggests that occupational and environmental exposures may play a role also in the development of Idiopathic pulmonary fibrosis (IPF).
Nitrofurantoin, amiodarone, and chemotherapeutic agents such as bleomycin and methotrexate have been described as commonly associated with lung toxicity. More recently, immune modulating agents including rituximab and immune checkpoint inhibitors, such as anti-CTLA4, anti-PD-1 and anti-PD-L1 agents, have been associated with adverse effects in the lung. Radiation therapy to the chest can trigger acute or chronic lung toxicity. There is no specific HRCT or histological features for drug-induced ILD. Most common histopathologic findings include nonspecific interstitial pneumonia, organizing pneumonia, bronchiolitis, eosinophilic pneumonia, pulmonary edema, diffuse alveolar damage, hypersensitivity pneumonitis, granulomatous interstitial lung disease, and pulmonary hemorrhage. Glucocorticoids (GCs) were commonly used to treat drug-induced ILD and mortality has been linked with severity at presentation.

SYMPOSIUM 5

S5C - Infant with Noisy Breathing

INFANT WITH NOISY BREATHING – WHAT IS OK AND WHAT IS NOT

N. Fafwati Faridatul Akmar Mohammad
Paediatric Department, Women and Children Hospital Kuala Lumpur, Malaysia

The paediatric airway differs from the adults in term of the anatomy and physiology. Even when normal anatomy is present, the relatively small size of the paediatric airway puts children at a distinct disadvantage. Noisy breathing is not uncommon in children and can be sign of either very benign condition or requires urgent medical attention.

Noisy breathing results from partial blockage or narrowing at any point of the respiratory tract. It is created by turbulent airflow caused by the narrowed airway. Stertor is a low-pitched sound which results from vibration of the pharyngeal tissues namely nasopharynx, oropharynx and palate. Stridor is a higher-pitched sound that occurs with obstruction at the level of supraglottis, glottis, subglottis or trachea. Wheezing is a high-pitch whistling sound made while breathing and heard usually during exhalation. It is important for a clinician to recognize types of noisy breathing in infant and the possible differential diagnosis and appropriate management for each sound.

SYMPOSIUM 5

S5C - Infant with Noisy Breathing

A-Z OF LARYNGOMALACIA

Saraiza Abu Bakar
ORL Department, Hospital Serdang, Malaysia

Commonest cause of Stridor Intermittent inspiratory stridor started in first 2 weeks of life. Worsened with feeding, agitation excitement or supine positioning. Recurrent resp infection, feeding difficulty , GERD and FTT. Classifications: will be discussed Larynx with omega shape epiglottis, cuneiform prolapse and short AE fold. Tracheobronchial tree may be examine additional anomalies.
Prolapse in supraglottic, Posterior redundant mucosa or accessory cartilage , lateral due to tight ae fold and anterior due to posterior displacement of epiglottis in glottic inlet.
Treatment: Supraglottoplasty, laser debrider or cold instruments

SYMPOSIUM 6

S6A - Lung Cancer 2

REFINING THE FOCUS IN LUNG CANCER: NEW DATA AND EMERGING BIOMARKERS

Liam Chong Kin
Department of Medicine, Faculty of Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

The management of advanced non-small cell lung cancer (NSCLC) patients has become more complex with the identification of many oncogenic drivers and the availability of therapies specifically targeting these molecular alterations resulting in improved treatment outcomes. Molecular testing of lung adenocarcinoma for alterations in the EGFR, ALK and ROS1 genes is considered standard of care while emerging predictive biomarkers such as mutations in BRAF, HER2, MET exon 14, RET and NTRK1 may be included in an expanded panel testing. The extent of therapy-predictive biomarker testing is dependent on the availability and ability to afford the recommended therapy. Programmed death ligand-1 (PD-L1) expression of the tumour should be assessed in patients without known oncogenic alterations, regardless of the NSCLC histology. Nivolumab (a PD-1 inhibitor) and atezolizumab (a PD-L1 inhibitor) are approved for previously treated patients regardless of PD-L1 expression, while pembrolizumab (a PD-1 inhibitor) is approved as monotherapy for treatment naïve patients with PD-L1 levels >50%, previously treated patients with PD-L1 levels >1%, and regardless of PD-L1 expression in treatment naïve patients when combined with platinum and pemetrexed in nonsquamous NSCLC. Emerging evidence suggests that tumour mutation burden is a

potential alternate and/or complementary biomarker to PD-L1 for the selection of patients for immune checkpoint inhibitor (ICI) therapy. The choice of first-line treatment, based on the initial molecular profiling, includes molecular targeted therapies, chemotherapies and ICIs. Subsequent treatment options include chemotherapy combinations and immunotherapies in patients without oncogenic alterations, as well as targeted therapies with next-generation tyrosine kinase inhibitors for patients with refractory, oncogene-driven tumours. Tissue or liquid biopsy obtained at the time of disease progression is crucial for determining the specific resistance mechanism.

SYMPOSIUM 6

S6A - Lung Cancer 2

SMALL CELL LUNG CANCER: ANYTHING NEW?

Matin Mellor Abdullah
Subang Jaya Medical Centre, Selangor, Malaysia

Small cell lung cancer (SCLC) comprises 15% of all lung cancers and one of the most aggressive of cancers. 35% present as limited stage whilst 65% present at an extensive stage. The reported 5 years survival is a dismal 5%. Typically, median survival of 2-4 months is quoted for extensive disease with a slightly longer survival for limited stage disease without treatment. Primary chemotherapy with or without thoracic radiation is the treatment of choice for limited stage disease. One may consider prophylactic cranial irradiation in those achieving complete response. For extensive stage disease primary chemotherapy with cisplatin/carboplatin and etoposide remains the mainstay of treatment yielding good initial response in a significant proportion of patients with a median survival of about 10 months. They, however relapse very quickly after stopping chemotherapy. There are a number of active second line chemotherapy agents namely topotecan and others with modest efficacy and short duration of response. The outlook of patients with SCLC remains grim. More recently, a phase 3 study reported an improvement of median overall survival with the immunotherapy in excess of 10 months. Newer modalities and targets are being explored to be tested in clinical trials aiming to improve the outcome of SCLC.

SYMPOSIUM 6

S6B - Research for Dummies

HOW TO DO CLINICAL RESEARCH IN MALAYSIA

Amar-Singh HSS
Hospital Raja Permaisuri Bainun, Ipoh, Perak, Malaysia

Clinical Research in Malaysia lags behind many other countries and our neighbours. Part of this is due to the 'fear' some have in doing research but more due to a lack of critical support within the system to conduct research. Some conduct research purely for their training requirements. The key in conducting clinical research is first identifying a meaningful area to study. Good research is not about volume of papers but applicability of the work in the real work, impact on patients. As Doug Altman said so aptly "*We need less research, better research, and research done for the right reasons*". Secondly, work as a team, preferably with a mentor who has research experience to guide you. Ethics review and approval is an important third component and required to protect the subjects we study. Fourthly, the heart of the research is the quality and details of the methodology. Most proposals have an extensive literature review but a weak methodology. Developing research methodology requires us to be imaginative and open to many ways to collect data in this electronically connected world. A good, quality data collection tool is vital. Analysis and presentation of data in a creative way allows for the results to be shared, and dissemination of the findings is a vital fifth step. In our busy world infographics, plain-language summaries and sharing data via the media is a useful mechanism to gain impact and create health change. Remember that you need to personally advocate for the transformation of heath care at each step and not expect others to use your research findings. Finally always remember that what is required today is applied research – research that impacts the health of the individual and the community, resulting in meaningful improvement in health status.

SYMPOSIUM 6

S6B - Research for Dummies

ROLE OF CRC IN ENHANCING CLINICAL RESEARCH AMONG CLINICIANS

Sheamini Sivasampu
Institutes Clinical Research, Selangor, Malaysia

Clinical research is a systematic investigation to test hypotheses that permits conclusion to be drawn and develop generalizable knowledge and best if it is also new knowledge. The ultimate aim of clinical research is to find better ways to prevent, screen, diagnose, or treat a disease so as to improve people's health. Thus, clinical research is the essence of medical progress as healthcare can only advance with new knowledge to tackle new and emerging diseases Clinical Research Centre is one of the 6 National Institutes of Health .It is the clinical research arm of the Ministry of health. It has a head quarter based at National Institute of Health Campus at Setia Alam and a network of 33 CRC hospitals located at various hospitals in the 14 states. Its vision is to be the leading research institute in Asia and its mission is improve patients' health outcomes through ethical and quality clinical research CRC's tagline is Research that Matters to Patients and Nation.

Its main function is to build research capacity at MOH, to develop data recourses like patient registry and to promote, conduct and monitor research and to publish and help MOH staff to publish research findings. It works closely with other institutions both in MOH and academic institutions like universities to form collaborative research group by clinicians.

SYMPOSIUM 6

S6B - Research for Dummies

ROLE OF MREC AS FACILITATOR TO ENCOURAGE CLINICAL RESEARCH CULTURE

Salina Abdul Aziz
Institutes Clinical Research, Selangor, Malaysia

The Medical Research and Ethics Committee (MREC) of the Ministry of Health (MOH) is established on 2002 to provide independent guidance, advice and decision on ethical issues of health research involving human subjects conducted by staff of the MOH or conducted by non-MOH researchers using facilities/datasets/funding of the MOH. In addition, MREC may act as an 'Independent Ethics Committee' for non-MOH institutions who do not have their own ethics committee. Since its establishment, MREC have processed more than ten thousand ethical applications.

MREC aims to safeguard the rights, safety and well-being of all trial subjects. It is independent in its reflection, advice and decision. MREC is constituted according to the 'Malaysian Guidelines for Good Clinical Practice' and operates under the authority of the Director-General (DG) of Health Malaysia.

MREC complies with ethical principles as outlined in the Declaration of Helsinki, the International Ethical Guidelines for Biomedical Research Involving Human Subjects (CIOMS), the Belmont Report, Operational Guidelines for Ethics Committees That Review Biomedical Research (WHO), and ICH Guideline of Good Clinical Practice. MREC provides ethical approval for research, as well as continuing monitoring its conduct through the review of amendment, renewal, protocol deviation and Serious Adverse Events (SAEs) and Suspected Unexpected Serious Adverse Reactions (SUSARs), study termination/closure. MREC conducts GCP compliance reviews to ensure the right, safety and well being of research participants are always protected.

SYMPOSIUM 8

S8A - COPD 2

NON-PHARMACOLOGICAL TREATMENT IN COPD

Azlina Samsudin
Hospital Sultanah Nur Zahirah, Kuala Terengganu

The optimal care of patients with chronic obstructive pulmonary disease (COPD) generally requires the combination of pharmacologic and non-pharmacologic therapies, especially in severe diseased patients.

The latter include smoking cessation, the encouragement of physical activity and exercise, vaccinations, education on adherence to medical therapy, self- management strategies on managing exacerbations or long term directives. All of these is a component of good clinical practice and can be delivered in the form of comprehensive outpatient pulmonary rehabilitation program (PRP.

Apart from the PRP components, long term supplementary oxygen, lung volume reduction strategies (surgical and non surgical approach), non invasive ventilation and supportive nutrition are useful with their evidence-based.

All of these interventions are used to promote self-efficacy, improve symptoms and prevent faster deterioration.

SYMPOSIUM 8

S8A - COPD 2

APPROACH IN PREVENTING COPD EXACERBATIONS

Fauzi M. Anshar
Prince Court Medical Centre, 39, Jalan Kia Peng, 50450 Kuala Lumpur

Chronic obstructive pulmonary disease (COPD) is a progressive disease and is associated with exacerbations. COPD exacerbations carry a heavy burden of reduced quality of life, morbidity and mortality and is expensive to treat. It leads to hospitalisations and consumes a tremendous amount of healthcare resources. It is in the patients' and society's best interest to prevent or reduce COPD exacerbations episodes in patients. A practical approach to prevent COPD exacerbations can be done at all levels of healthcare in Malaysia. It starts with getting an accurate diagnosis and severity of COPD and identifying its associate co-morbidities and unmasking of its complications. Pharmacological and non-pharmacological treatment starts hand in hand. There has been significant development in drugs and inhaler devices aimed to reduce symptoms and reduce exacerbations. A side effect of this is the creation of confusion among doctors on which drugs combination and inhaler(s) to use. Newer drugs tend to cost more compared to old ones. The advent of triple drug inhaled therapy promises better care for patients and the evidence for its use will be discussed. Healthcare professionals need to identify what they can do at their level with the resources at their disposal to manage COPD appropriately, keeping in mind which interventions have evidence to help to reduce and hopefully prevent exacerbations.

SYMPOSIUM 8

S8A - COPD 2

NOVEL THERAPIES IN COPD

Rhee Chin Kook

Department of Internal Medicine, Seoul St. Mary's Hospital, The Catholic University of Korea, Seoul, South Korea

Main treatment in COPD is long acting bronchodilator and inhaled corticosteroid. However, there are several novel therapies in COPD.

Bifunctional compounds combining LAMA and LABA pharmacological actions, known as MABAs, are currently in clinical development. Once-daily doses of the MABA AZD8871 in patients with COPD delivered significant bronchodilation and clinically meaningful improvement of symptoms.

Bronchoscopic interventions are available in COPD patients. Endobronchial valve, coil, vapor, targeted lung denervation, and bronchial rheoplasty are new treatment modalities for COPD.

Anti-IL-5 treatment showed marginal effect in COPD patients. Mepolizumab at a dose of 100 mg was associated with a lower annual rate of moderate or severe exacerbations than placebo among patients with eosinophilic COPD. However, add-on benralizumab was not associated with a lower annualized rate of COPD exacerbations than placebo among patients with blood eosinophil counts of 220 or greater.

Roflumilast is oral phosphodiesterase (PDE) 4 inhibitor. However, inhaled form of PDE inhibitor is developed. RPL554 is an inhaled dual PDE 3 and 4 inhibitor. RPL554 combined with standard bronchodilators caused additional bronchodilation and hyperinflation reduction.

The CFTR potentiator ivacaftor is approved for the treatment of patients with cystic fibrosis with specific CFTR mutations. In clinical trial of COPD patients, ivacaftor showed a trend of improvement of CFTR activity and respiratory symptoms in patients with chronic bronchitis.

Acumapimod is an oral p38 inhibitor. In phase II trial, acumapimod over 5 days of an acute exacerbation was well tolerated and demonstrated significant effects on need for re-hospitalization for acute exacerbation of COPD

YMPOSIUM 8

S8B - Pulmonary Tuberculosis in Children

MAKING THE DIAGNOSIS OF PULMONARY TUBERCULOSIS IN CHILDREN

Noor Ain Noor Affendi

Hospital Sultanah Nur Zahirah Kuala Trengganu, Terengganu, Malaysia

The accurate diagnosis of pulmonary tuberculosis (PTB) in children remains challenging. The difficulty of making a definitive diagnosis as a result of non-specific clinical and radiological signs, paucibacillary disease, difficulty in specimen collection and lack of capacity for microbiologic diagnosis. Differentiating between exposure, infection and disease can be problematic.

Definitive microbiologic diagnosis and antimicrobial susceptibility has become increasingly important in children to accurately define the pediatric burden, to lessen pill burden and promote compliance in the era of drug resistance. There have been several recent advances and improvements in strengthen microbiologic diagnosis in children. Improved specimen collection particularly sputum induced has been found feasible and effective even in infants. Mycobacterium detection include acid-fast staining and smear, culture and nucleic acid amplification test (NAAT). Immune based testing comprises tuberculin skin test and interferon-gamma release assay.

Tuberculosis represents a dynamic continuum from latent infection to non-severe and eventually severe disease. A systematic diagnostic approach to the child with recent exposure to TB, or with clinical infection, or disease is important to facilitate timely and appropriate management.

S8B - Pulmonary Tuberculosis in Children

ENDOBRONCHIAL TB IN CHILDREN

Asiah Kassim
Paediatric Department, Women and Children Hospital Kuala Lumpur, Malaysia

Tuberculosis (TB) is a major health problem affecting millions of children and adults in the world. Endobronchial tuberculosis (EBTB) or tracheobronchial TB is a type of TB defined as tuberculous infection of the tracheobronchial tree. Making the right diagnosis is challenging because clinically it may present like other Pulmonary Tuberculosis and chest radiograph changes are not specific for EBTB only. Therefore, it leads to delayed diagnosis and management. The prognosis and complications of EBTB is variable from complete recovery to bronchial stenosis, collapse lung, bronchiectasis and mortality.

S8B - Pulmonary Tuberculosis in Children

MDR TUBERCULOSIS IN CHILDREN

Ben J Marais
The Children's Hospital at Westmead, Sydney, Australia

WHO estimates that 600,000 new cases with rifampicin or multidrug-resistant (RR/MDR) tuberculosis (TB) occurred in 2017. For children, the best available estimates are that 32,000 new cases of MDR TB occur every year, but unfortunately only a fraction of these cases (adults and children) are correctly diagnosed and treated. Accurate TB diagnosis remains a major challenge in children who usually have paucibacillary disease, especially the diagnosis of drug resistant TB which requires bacteriological confirmation. The talk will present an overview of the underappreciated RR/MDR TB burden in children and what this tells us about TB transmission within communities. It will then focus on the management of children with RR/MDR TB, covering the latest WHO recommendations and up-to-date information on the pediatric use of new and repurposed TB drugs.

ORAL PRESENTATIONS

OP 1 SUBCARINAL LYMPH NODE; IS IT BETTER EVALUATED BY EBUS OR EUS?

Dalia ElSharawy, Mohamed Hantera, Ayman ElSaqa, Yomna Zamzam
Department of Chest diseases, Faculty of Medicine, Tanta University, ElGharbeya, Egypt
Department of Histopathology, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

OP 2 ASSESSMENT OF ASTHMA CONTROL LEVEL IN PRIMARY CARE SETTING IN MALAYSIA: ASCOPE

Nor Azila Binti Mohd Isa
Klinik Kesihatan Nilai, Negeri Sembilan, Malaysia

OP 3 PREDICTIVE FACTORS ON MOTIVATION TO STOP VAPING AMONGST ELECTRONIC CIGARETTE USERS IN MALAYSIA: AN ONLINE SURVEY

Mohamad Afiq Syukri Bin A. Rashid, Masro Mohamad, **Nurdiana Jamil**
Cyberjaya University College of Medical Sciences, Cyberjaya, Malaysia

OP 4 PILOT STUDY FOR EARLY LUNG CANCER SCREENING (PEARLS)

PILOT STUDY FOR EARLY LUNG CANCER SCREENING (PEARLS)

NM Marzuki[1], AR Muttalif[1], JAA Rahaman[2], AH Zuhanis[3], CK Ong[4], L Pereirasamy[5], RMNM Kassim[6], A Ibrahim[7], A Samsudin[8], ST Tie[9], MZM Jaeb[10], U Muthukumaru[11], SDHG Chand[12], A Ibrahim[13], JKM Chan[14], HH Mydin[15], RAR Mokhtar[15]
1. Institut Perubatan Respiratori, Kuala Lumpur, Malaysia
2. Hospital Serdang, Selangor, Malaysia
3. Institut Kanser Negara, Putrajaya, Malaysia
4. Hospital Pulau Pinang, Pulau Pinang, Malaysia
5. Hospital Seberang Jaya, Pulau Pinang, Malaysia
6. Hospital Sultanah Bahiyah, Kedah, Malaysia'
7. Hospital Tuanku Ampuan Afzan, Pahang, Malaysia
8. Hospital Tuanku Jaafar, Negeri Sembilan, Malaysia
9. Hospital Umum Sarawak, Sarawak, Malaysia
10. Hospital Raja Perempuan Zainab II, Kelantan, Malaysia
11. Hospital Taiping, Perak, Malaysia
12. Hospital Sultan Abdul Halim, Kedah, Malaysia
13. Hospital Tawau, Sabah, Malaysia
14. Sarawak General Hospital Heart Center, Sarawak, Malaysia
15. University Malaya Medical Centre, Kuala Lumpur, Malaysia

OP 5 AETIOLOGY OF PNEUMONIA IN MALAYSIAN CHILDREN: A PROSPECTIVE STUDY

Hui Chean E[1], Anna Marie Nathan[1,2], Cindy Shuan Ju Teh[3], Kartini Abdul Jabar[3], Caroline Westerhout[4], Anitha Tangaperumal[4], Rafdzah Zaki[5], Surendran Thavagnanam[1,2], Eg Kah Peng[1,2], Jessie Anne de Bruyne[1,2]
1Department of Paediatrics, University Malaya, 50603 Kuala Lumpur, Malaysia.
2Child Health Research Group, University Malaya, 50603 Kuala Lumpur, Malaysia.
3Department of Microbiology, University Malaya, 50603 Kuala Lumpur, Malaysia.
4Department of Biomedical Imaging, University Malaya Medical Centre, 50603 Kuala Lumpur, Malaysia.
5Julius Centre University of Malaya, Department of Social & Preventive Medicine, Faculty of Medicine, 50603 Kuala Lumpur, Malaysia.

OP 1

SUBCARINAL LYMPH NODE; IS IT BETTER EVALUATED BY EBUS OR EUS?

Dalia ElSharawy, Mohamed Hantera, Ayman ElSaqa, Yomna Zamzam
Department of Chest diseases, Faculty of Medicine, Tanta University, ElGharbeya, Egypt
Department of Histopathology, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

Introduction: Mediastinal endosonography (endobronchial and tranesophageal) guided aspiration has replaced surgical staging as the initial test of choice for mediastinal tissue evaluation.
Objectives: it aims to evaluate the diagnostic efficacy and safety of either endobronchial ultrasound combined with trans-bronchial needle aspiration (EBUS-TBNA) or transesophageal bronchoscopic ultrasound-guided fine needle aspiration (EUS-FNA-B/E) in evaluating and biopsying subcarinal lymph node (station 7).
Methodology: 77 patients with enlarged subcarinal lymph nodes "short axis ≥1cm" as a preliminary station were divided randomly into 2 groups; group I: patients evaluated by EBUS-TBNA & group II: patients evaluated by EUS-FNA-B/E. The specimens were examined by Rapid On Site Evaluation Technique (ROSE) then confirmed by the final histopathological and immunohistochemical evaluation.
Results: 51 males & 26 females with mean age (±SD) (51.12 ± 10.15 years) were divided into the 2 groups. In group I (EBUS-TBNA): The mean time spent during the procedure (±SD) was 32.49 ± 9.48 min (range, 18-50 min), the mean number of aspirations (±SD) was 3.07 ± 0.72 (range,2-4), the mean O2 saturation (±SD) was recorded to be 83.59 ± 4.34% (range, 76-91%) so the mean supplementary oxygen (±SD) was 3.78 ± 1.04 L/min (range, 2-6 L/min); while in group II (EUS-FNA-B/E) they were: 22.05 ± 6.39 min (range, 12-35 min), 2.00 ± 0.67 (range, 1-3), 91.66 ± 3.09% (range, 87-96%)& 1.71 ± 1.19 L/min (range, 0-3 L/min) respectively with significant difference. The sensitivity, NPV & diagnostic accuracy of EBUS-TBNA in diagnosing malignant lesions were 88%, 67% & 90% that were significantly less than those of EUS-FNA-B/E 93%, 86%& 95% respectively. No serious complications were encountered during both techniques.
Conclusions: the study recommends usage of EUS-FNA-B/E than EBUS-TBNA in evaluating and biopsying the subcarinal region due to its better tolerability, higher diagnostic yield and lower complication rate.

OP 2

ASSESSMENT OF ASTHMA CONTROL LEVEL IN PRIMARY CARE SETTING IN MALAYSIA: ASCOPE

Nor Azila Binti Mohd Isa
Klinik Kesihatan Nilai, Negeri Sembilan, Malaysia

Introduction

The goal of asthma management is to achieve overall control including current asthma control and risk reduction. Asthma control among patients is often overestimated, while symptoms are underestimated, leading to increased morbidity and mortality. As the first point of contact during symptom presentation, primary healthcare plays a crucial role in asthma management and control.

Objectives

To assess, in real-life clinical practice in Malaysia, the level of asthma control and the potential risk factors for uncontrolled disease in asthma patients treated at government health clinics. Secondary objectives include reviewing medications as compared to recommendations, reviewing current practices of symptom control assessment, and assessment of adherence levels in patients.

Methodology

Prospective, observational multicenter study, with data collection based on medical records and interviews with patients on current pharmacotherapy. The level of asthma control was based on GINA Control Questionnaire and Asthma Control Test (ACT). Compliance to treatment was assessed using the Malaysian Medication Adherence Scale (MALMAS).

Results

Among the 1011 patients recruited, 416 (41.1%) were well controlled, 388 (38.4%) were partly controlled and 207 (20.5%) were uncontrolled asthma, as per GINA guidelines. 81.5% of all patients were diagnosed with mild asthma (mild-intermittent or mild-persistent). Among mild asthma patients, well controlled asthma stands at only 49.6%.
Compliance was found to be a risk factor in poor outcomes for asthma patients – among the 207 patients with uncontrolled asthma, 60% of them had poor adherence to medication.

Conclusions

Only 41% of patients seen in primary care had good control of asthma. Low adherence to treatment contributes to poor health outcomes in patients with asthma. More effort is needed to improve asthma control among asthmatics, including those in the mild group.

OP 3

PREDICTIVE FACTORS ON MOTIVATION TO STOP VAPING AMONGST ELECTRONIC CIGARETTE USERS IN MALAYSIA: AN ONLINE SURVEY

Mohamad Afiq Syukri Bin A. Rashid, Masro Mohamad, **Nurdiana Jamil**
Cyberjaya University College of Medical Sciences, Cyberjaya, Malaysia

Introduction: The use of electronic cigarette (e-cigarette) among public has increased exponentially locally and worldwide. Majority of cigarette smokers who use e-cigarette perceived e-cigarette as a 'positive alternative' to tobacco products and considered e-cigarette as a healthier alternative to quit smoking. This positive perception has not only led the smokers to have a higher tendency to quit smoking, but also reduces their tendency to quit e-cigarette. **Objective:** The aim of this study was to identify predictive factors related to motivation to stop vaping in a defined time frame amongst e-cigarette users who were former cigarette smokers in Malaysia via an online survey. **Methodology:** This was a cross-sectional study using online questionnaire distributed through targeted Facebook pages and Instagram accounts. The relationship between sociodemographic, behavioural and environmental characteristics, comorbid medical conditions, and quitting methods used were examined in two sample populations (having motivation to stop vaping in a defined time frame or otherwise, based on Motivation to Stop Scale (MTSS)). **Results:** A total of 391 e-cigarette users were recruited (n = 76; have motivation to stop vaping in a defined time frame and n = 315; otherwise). Using multivariate logistic regression, the following predictive factors were found to be significant: having chronic obstructive pulmonary disease, good self-rated health status, high nicotine dependence level based on Fagerström Test for Nicotine Dependence score, higher frequency of 3 days or more of moderate physical activity per week, absence of other smokers or e-cigarette users at workplace, have tried nicotine substitute and have attended stop-vaping education. **Conclusion:** This study suggests healthcare providers to consider these factors in targeting the public when conducting vaping cessation programs.

OP 4

PILOT STUDY FOR EARLY LUNG CANCER SCREENING (PEARLS)

NM Marzuki[1], AR Muttalif[1], JAA Rahaman[2], AH Zuhanis[3], CK Ong[4], L Pereirasamy[5], RMNM Kassim[6], A Ibrahim[7], A Samsudin[8], ST Tie[9], MZM Jaeb[10], U Muthukumaru[11], SDHG Chand[12], A Ibrahim[13], JKM Chan[14], HH Mydin[15], RAR Mokhtar[15]

1. Institut Perubatan Respiratori, Kuala Lumpur, Malaysia
2. Hospital Serdang, Selangor, Malaysia
3. Institut Kanser Negara, Putrajaya, Malaysia
4. Hospital Pulau Pinang, Pulau Pinang, Malaysia
5. Hospital Seberang Jaya, Pulau Pinang, Malaysia
6. Hospital Sultanah Bahiyah, Kedah, Malaysia'
7. Hospital Tuanku Ampuan Afzan, Pahang, Malaysia
8. Hospital Tuanku Jaafar, Negeri Sembilan, Malaysia
9. Hospital Umum Sarawak, Sarawak, Malaysia
10. Hospital Raja Perempuan Zainab II, Kelantan, Malaysia
11. Hospital Taiping, Perak, Malaysia
12. Hospital Sultan Abdul Halim, Kedah, Malaysia
13. Hospital Tawau, Sabah, Malaysia
14. Sarawak General Hospital Heart Center, Sarawak, Malaysia
15. University Malaya Medical Centre, Kuala Lumpur, Malaysia

Background: Lung cancer is a leading cause of death in Malaysia. The disease is usually detected late due to its silent nature at early stage. A study in the United State, showed a reduction of 20% mortality from lung cancer in those high-risk individuals who were screened with low dose computed tomography (LDCT). The rational of lung cancer screening is to detect lung cancer at early stage that would allow for curative intent. However, the local data on prevalence of false-negatives and false-positives were lacking. Thus, The PEARLS investigators embarked on a pilot study to determine the feasibility of lung cancer screening in Malaysia using LDCT.

Method: A cross-sectional study was conducted in twelve ministry of health facilities from November 2015 until March 2018. High risk individuals were enrolled into the study. All participants were planned for LDCT. The LDCT of the lung were read by radiologists based on Lung-RADS Version 1.0 Assessment Categories Release date: April 28, 2014. Based on the criteria of the nodules, selected participants were planned for lung biopsy to determine the nature of the nodule.
The study received partial sponsor"hip 'rom Johnson&Johnson.

Result: 332 high risk individuals were enrolled into the study. 302 (91%) participants completed LDCT. 174 lung nodules were identified in 127 (42%) participants. 83 (27%) participants had solitary nodule while 44 (15%) had multiple nodules ranging from two to eight nodules. Based on Lung-RADS criteria, two (0.6%) participants had nodules category 4b. They were planned for lung biopsy. Unfortunately, no biopsies were performed as one participant withdrew consent and the other died of unrelated cause.

Conclusion: As the number of subjects in this study is small, and none of them underwent biopsy, the incidence of lung cancer in this cohort cannot be determined. Thus, feasibility of lung cancer screening in Malaysia using LDCT cannot be determined from this study.

OP 5

AETIOLOGY OF PNEUMONIA IN MALAYSIAN CHILDREN: A PROSPECTIVE STUDY

Hui Chean E[1], Anna Marie Nathan[1,2], Cindy Shuan Ju Teh[3], Kartini Abdul Jabar[3], Caroline Westerhout[4], Anitha Tangaperumal[4], Rafdzah Zaki[5], Surendran Thavagnanam[1,2], Eg Kah Peng[1,2], Jessie Anne de Bruyne[1,2]

1Department of Paediatrics, University Malaya, 50603 Kuala Lumpur, Malaysia.
2Child Health Research Group, University Malaya, 50603 Kuala Lumpur, Malaysia.
3Department of Microbiology, University Malaya, 50603 Kuala Lumpur, Malaysia.
4Department of Biomedical Imaging, University Malaya Medical Centre, 50603 Kuala Lumpur, Malaysia.
5Julius Centre University of Malaya, Department of Social & Preventive Medicine, Faculty of Medicine, 50603 Kuala Lumpur, Malaysia.

Introduction. Pneumonia is a common disease across all economic strata, especially in children less than 5-years-old. **Objectives.**The aim of this study was to a) detect pathogenic organisms in children admitted with lower respiratory tract infection (LRTI), b) determine factors associated with pathogenic bacterial detection and c) the association between mixed infections and severity of disease. **Methods.**A single center, prospective cohort study involving children aged 1-month till 5-years-old admitted to the Paediatrics ward in University Malaya Medical Center (UMMC) from 1st October 2014 -31st October 2016 with very severe pneumonia as per WHO definition. Induced nasopharyngeal aspirate and blood for 8 bacteria and 15 viruses via PCR were taken. **Results:**Three hundred patients with a mean (SD) age of 14 (±15) months old with male predominance (61%) were recruited. Pathogens were detected in two-thirds of patients (67.3%). Bacteria (n=139,46.3%) was detected in nearly half of the patients however only 128(42.7%) children had pathogenic bacteria. The commonest bacteria were Haemophilus influenzae (37.4%, n=52), Staphylococcus aureus (31.7%, n=44) and Streptococcus pneumoniae (18.7%, n=26). More than a third of patients (37.0%) had viruses detected in their NPA with rhinovirus (29.7%), RSV (24.3%) and human metapneumovirus (HMP)[19.8%] being the commonest. Mixed infections (virus + bacteria) were seen in 15% of all patients. Male gender(AdjOR 1.84[95%CI 1.12, 3.04]), symptom of vomiting(AdjOR 1.70 [95%CI 1.05,2.77]), signs of crepitation(AdjOR 2.45[95%CI 1.22,4.91]) and use of oxygen(AdjOR1.81[95%CI 1.07,3.05]) were independently associated with detection of significant bacterial infection. The CRP (p=0.003) and initial heart rate(p=0.01) were significantly higher in mixed infections. **Conclusions:** Pathogens were detected in two thirds of children with LRTI, with one in four children having a bacteria alone, one in five children having a virus alone and 15% having a mixed infection. Male sex, sign of crepitation, symptom of vomiting and need for oxygen were significantly associated with bacterial infection. Mixed infection was associated with a higher CRP and heart rate. Determining the aetiology of pneumonia is crucial for timely treatment and outcome.

POSTER PRESENTATIONS

PP 1 **COMPARISON BETWEEN HOLD- RELAX PECTORAL STRETCH AND INSPIRATORY MUSCLE TRAINING ON PULMONARY FUNCTION AMONG FRAIL ELDERLY**

Imtiyaz Ali Mir[1], Toh Poh Lee[1], Mohammed Abdulrazzaq Jabbar[2]

1. *Department of Physiotherapy, Faculty of Medicine & Health Sciences, Universiti Tunku Abdul Rahman, Sungai Long, Selangor, Malaysia*
2. *Department of Population Medicine, Faculty of Medicine & Health Sciences, Universiti Tunku Abdul Rahman, Sungai Long, Selangor, Malaysia*

PP 2 **CLINICAL AND POLYSOMNOGRAPHIC FEATURES OF RAPID EYE MOVEMENT RELATED OBSTRUCTIVE SLEEP APNEA IN SARAWAK GENERAL HOSPITAL**

TT Tee[1], SK Chan[1], SS Kho[1], ST Tie[1]

[1]Respiratory Unit, Hospital Umum Sarawak, Kuching, Malaysia

PP 3 **ASSOCIATED FACTORS FOR POSITIVE CXR AMONG TB HIGH RISK GROUP IN KEDAH**

Ahmad Hanis Bin Ahmad Shushami, Wan Muhammad Zahiruddin

Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan

PP 4 **TRANSBRONCHIAL FORCEP AND CRYOBIOPSY OF PERIPHERAL CAVITARY LUNG LESION UNDER R-EBUS GUIDANCE IN TUBERCULOUS ENDEMIC SETTING**

Kho Sze Shyang, Chai Chan Sin, Tee Teng Teng, Chan Swee Kim, Tie Siew Teck

Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Ministry of Health Malaysia, Kuching, Sarawak, Malaysia

PP 5 **NONINVASIVE VENTILATION WITH ADD-ON FIBEROPTIC BRONCHOSCOPY IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

Ahmed Mohamed, Dalia ElSharawy

Department of Chest Diseases, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

PP 6 **THE ROLE OF ENDOBRONCHIAL ULTRASOUND ELASTOGRAPHY IN THE DIAGNOSIS OF MEDIASTINAL LYMPH NODES**

Adel Bediwy, Mohamed Hantira, **Dalia ElSharawy**, Ayman ElSaqa

Department of Chest diseases, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

Department of Histopathology, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

PP 7 **EFFECTIVENESS OF EXERCISES WITH WEIGHT LOADED EQUIPMENTS IN PULMONARY REHABILITATION - A NEW APPROACH TOWARDS BETTER REHABILITATION**

Ramesh Babu Manivannan, Anil T John, Saravanan Govindasamy, Kohila Letchumanan, Anees Sabiya

Lincoln University College, Selangor, Malaysia, documentation based care, Ipoh, Malaysia, GetWell Physiotherapy Centre, Selangor, Malaysia

PP 8 **COMBINED ACLIDINIUM BROMIDE AND LONG-ACTING BETA2-AGONIST FOR TREATMENT OF MODERATE TO SEVERE STABLE COPD PATIENTS**

Han Ni[1], Soe Moe[2], Zay Soe[3], Kaythi Myint[1], K Neelakantan Viswanathan[4]

1. *Faculty of Medicine, SEGi University, Sibu, Malaysia*
2. *Melaka Manipal Medical College, Melaka, Malaysia*
3. *UCSI University, Terengganu, Malaysia*

P K Das Institute of Medical Sciences, Vaniamkulam, Ottapalam, India

PP 9 **COMPARISON BETWEEN FIXED PRESSURE CPAP AND AUTO-ADJUSTING PRESSURE CPAP IN SYMPTOMATIC OBSTRUCTIVE SLEEP APNOEA**

Wee Leng Gan, Mohamed Faisal, Andrea Ban

4. *Respiratory Unit, UKMMC, Kuala Lumpur, Malaysia*

PP 10 **PREVALENCE OF POST TUBERCULOSIS-CHRONIC OBSTRUCTIVE PULMONARY DISEASE- UKMMC EXPERIENCE**

Chong Guang Yong[1] , Mohamed Faisal Abdul Hamid[1], Syed Zukifli Syed Zakaria[2], Andrea Ban Yu-Lin[1]

1.Respiratory Unit, University Kebangsaan Malaysia Medical Centre. Kuala Lumpur, Malaysia.

2.Department of Paediatrics and Epidemiology, University Kebangsaan Malaysia Medical Centre. Kuala Lumpur, Malaysia

PP 11 **DETERMINING THE PERCEPTION OF LUNG CANCER SCREENING PROGRAM AMONGST HIGH RISK PATIENTS IN A TERTIARY HOSPITAL REFERRAL CENTRE, KUALA LUMPUR**

Kok Wei Hao[1], Faisal Abdul Hamid[1], Andrea Ban[1], Shamsul Azhar Shah[2]

[1]Department of Internal Medicine UKMMC

[2]Department of Community Health UKMMC

PP 12 **CONCURRENT DIAGNOSTIC AND STAGING EBUS FOR SOLITARY PULMONARY NODULE WITH HIGH MALIGNANCY RISK UNDER TOTAL INTRAVENOUS ANAESTHESIA: AN EARLY EXPERIENCE**

Larry Ellee Ak Nyanti, Sze Shyang Kho, Chan Sin Chai, Teng Teng Tee, Swee Kim Chan, Siew Teck Tie

Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Kuching, Sarawak, Malaysia

PP 13 **FACTORS ASSOCIATED WITH INCREASED NUMBER OF CHRONIC OBSTRUCTIVE**

PULMONARY DISEASE HOSPITALISATION AT AN URBAN TERTIARY HOSPITAL IN MALAYSIA

Kader Muhammad Kader Ridzwan[1], **Nurdiana Jamil[2]**, Zainol Akbar Zainal[2]
[1]MAHSAUniversity, Bandar Saujana Putra, Malaysia
[2]Cyberjaya University College of Medical Sciences, Cyberjaya, Malaysia

PP 14 COMPARISON OF GENEXPERT® MTB/RIF AND CONVENTIONAL METHODS PERFORMED ON BRONCHOALVEOLAR LAVAGE FOR THE DIAGNOSIS OF MYCOBACTERIUM TUBERCULOSIS IN UKM MEDICAL CENTER.

K.Y Lim[1], R. Rajah[1], B.H. Ng[1], Faisal AH[1], A.Y.L. Ban[1], C.I. Soo[1]
1. Pulmonology Unit, Department of Internal Medicine, National University of Malaysia (UKM) medical center, Kuala Lumpur, Malaysia.

PP 15 UPPER AIRWAY MUSCLE EXERCISES OUTCOME IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

Ragia S. Sharshar
Chest Department, Faculty of Medicine, Tanta University, Tanta, Egypt

PP 16 CHARACTERISTIC, PREDICTOR AND OUTCOME OF ASTHMA ADMISSIONS TO ADULT CRITICAL CARE UNIT TO TEACHING UNIVERSITY HOSPITAL

BH Ng, CI Soo, Faisal AH, Andrea YL Ban
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

PP 17 ENDOBRONCHIAL TB (EBTB) PHENOTYPING: A MALAYSIAN COHORT

Affida Ahmad, Nurul Yaqeen Esa, Mohd Arif M Zin, MF Rani, A Ismail
Faculty of Medicine, Universiti Teknology Mara, Selayang Campus, Batu Caves, Selangor, Malaysia

PP 18 THE ROLE OF BLIND ABRAMS PLEURAL BIOPSY IN INVESTIGATION OF PLEURAL EFFUSIONS

Dr Nur Laily Md Yatim, Dr Rozanah Abd Rahman, Dr Noor Aliza Md Tarekh
Respiratory Department, Hospital Sultanah Aminah, Johor Bahru, Malaysia

PP 19 SMEAR NEGATIVE PULMONARY TUBERCULOSIS IN SIBU HOSPITAL: ARE WE UNDER – DIAGNOSE OR OVER-TREATING?

Nga Hung Ngu, Lay Peng Lee, Jia Miao Tan, Wen Jet Choong, Teng Joo Lok
Department of Internal Medicine, Sibu Hospital, Sibu, Sarawak, Malaysia

PP 20 A DISTRICT HOSPITAL'S RETROSPECTIVE AUDIT ON UTILITY OF CLINICAL SCORING SYSTEMS IN ORDERING CT PULMONARY ANGIOGRAM TO CONFIRM PULMONARY EMBOLISM

Qin Jian Low[1], Nadzri Misni[1], Mohd Fauzan Salleh[1], Kuo Zhau Teo[1], Shu Ann Hon[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4]
[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

PP 21 TUBERCULOSIS IN BATU PAHAT: FIVE YEARS ANNUAL REPORT

Qin Jian Low[1], Rafedah Basir[2], Mohd Fauzan Salleh[1], Shu Ann Hon[1], Kee Nam Tan[3], Eng Kian Ng[4], Seng Wee Cheo[5]
[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

PP 22 THE UTILITY OF B-NATRIURETIC PEPTIDE ASSAY IN DIFFERENTIATING HEART FAILURE FROM PNEUMONIA IN PATIENTS PRESENTING WITH ACUTE DYSPNEA

R Rajah, BH Ng, KY Lim, Faisal AH, Andrea YL Ban, CI Soo
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

PP 23 MISDIAGNOSIS AMONG PATIENTS ADMITTED TO CHEST WARDS AS COMMUNITY ACQUIRED PNEUMONIA (CAP): DEMOGRAPHICS, CLINICAL PROFILES AND OUTCOMES.

Ang Choon Seong, Yeang Li Jing, Chin Yuen Quan, Khor Inn Shih, Irfhan Ali bin Hyder Ali
Respiratory Department, Hospital Pulau Pinang, Penang, Malaysia.

PP 24 ASTHMA CONTROL TEST (ACT), FRACTIONAL EXHALED NITRIC OXIDE (FeNO) AND FORCED EXPIRATORY VOLUME IN 1 SECOND (FEV1) CORRELATION IN ASTHMA CONTROL

Fatimah Azmah, WJ Tan, LK Lem, Irfhan Ali, Syamimi, YH Chan, S Shobaa
Pulau Pinang Hospital, Seberang Jaya Hospital, Penang, Malaysia

PP 25 THE PREVALENCE OF LIMITED HEALTH LITERACY AND ITS ASSOCIATIONS AMONG ADULT ASTHMA PATIENTS IN MALAYSIAN PRIMARY CARE SETTINGS.

Hani Syahida Salim
Universiti Putra Malaysia

PP 26 CT PULMONARY ANGIOGRAM ANNUAL REPORT 2018

Qin Jian Low[1], Nadzri Misni[1], Mohd Fauzan Salleh[1], Shu Ann Hon[1], Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3],

Seng Wee Cheo[4]
[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

PP 27 SINGLE CENTRE FOUR YEARS AUDIT ON ACID FAST BACILLI (AFB) DETECTION METHOD

Shu Ann Hon[1], Qin Jian Low
[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia

PP 28 CORRELATION BETWEEN AHI IN POLYSOMNOGRAPHY (PSG) AND ODI IN OVERNIGHT PULSE OXIMETRY (OPO)

Siti Hajar Tubirin[1], Anna Marie Nathan[1,2], Surendran Thavagnanam[1,2], Eg Kah Peng[1,2], Jessie Anne de Bruyne[1,2]
[1]Department of Paediatrics, University Malaya, 50603 Kuala Lumpur, Malaysia.
[2]Child Health Research Group, University Malaya, 50603 Kuala Lumpur, Malaysia.

PP 29 OUTCOMES IN LUNG CANCER: 2 YEAR EXPERIENCE FROM A TERTIARY HOSPITAL IN KELANTAN

[1]Grace Chu, **[1]Joel WY Gan**, [2]Azza Omar
Hospital Kuala Krai, Kelantan, Malaysia
Hospital Raja Perempuan Zainab II, Kelantan, Malaysia

PP 30 CHARACTERISTICS AND OUTCOME OF PATIENTS DIAGNOSED WITH PNEUMONIA FOLLOWING HAJI AND UMRAH PILGRIMAGE: A 5-YEAR REVIEW.

Amran IM, Malek NA, Jamaludin MA, Rasli MH, Sufian E, Arba'ie NH, Syed Mansor SZ, Shahril NS
Internal Medicine Department, Hospital Putrajaya

PP 31 PULMONARY TUBERCULOSIS AND OSTEOPENIA : ARE WE MISSING POSSIBLE FUTURE FRACTURES?

Amer Hayat Khan *, Zohra Bhatti*, Syed Azhar Syed Sulaiman*, Irfhan Ali Bin Hyder Ali**, **Nor Syamimi Mohd Isa****
**Department of Clinical Pharmacy, School of Pharmaceutical Sciences Universiti Sains Malaysia, Penang, Malaysia,*
***Respiratory Department, Hospital Palau Pinang, Penang, Malaysia.*

PP 32 MICROBIAL ETIOLOGY OF HOSPITALIZED COMMUNITY-ACQUIRED PNEUMONIA PATIENTS IN CHEST DEPARTMENT, HOSPITAL PULAU PINANG.

Choon Seong Ang, Li Jing Yeang, Yuen Quan Chin, Inn Shih Khor, Irfhan Ali bin Hyder Ali
Respiratory Department, Hospital Pulau Pinang, Penang, Malaysia

PP 33 AUDIT ON PULMONARY TUBERCULOSIS IN A DISTRICT TUBERCULOSIS CLINIC

SW Cheo[1], AA Kamarudin[1], MH Saadon[2], EK Ng[3], QJ Low[4]
[1]Hospital Lahad Datu, Sabah.
[2]Klinik Kesihatan Lahad Datu, Sabah.
[3]Hospital Tawau, Sabah.
[4]Hospital Sultanah Nora Ismail, Johor.

PP 34 ILLNESS PERCEPTION, EMOTIONAL DISTRESS AND HEALTH RELATED QUALITY OF LIFE AMONG PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Wan Ling, Lee; Nur Razanah Razli; Chong Kin, Liam
University of Malaya, Kuala Lumpur, Malaysia

PP 35 SINGLE CENTRE ANNUAL AUDIT ON PULMONARY EMBOLISM CASES

Qin Jian Low[1], Mohd Fauzan Salleh[1], Shu Ann Hon[1], Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4]
[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

PP 36 MULTIDRUG RESISTANT TUBERCULOSIS IN JOHOR: SOUTHERN EXPERIENCE

Soo Fen W, RA Rahman, NA Tarekh
Hospital Sultanah Aminah Johor Bahru (HSAJB)

PP 37 HEALTH RELATED QUALITY OF LIFE AND DEVELOPMENTAL OUTCOMES OF CHILDREN ON HOME RESPIRATORY SUPPORT (abstract34)

Tan Lay Teng
University of Malaya, Kuala Lumpur, Malaysia

PP 38 A FIVE-YEAR REVIEW OF FLEXIBLE BRONCHOSCOPY IN CHILDREN IN UNIVERSITY MALAYA MEDICAL CENTRE: A RETROSPECTIVE REVIEW

Noorintan Liana Bt Mohamed Sharif, Eg Kah Peng, Anna Marie Nathan
University of Malaya, Kuala Lumpur, Malaysia

PP 39 THE EFFECT OF KETAMINE ON EMERGENCE AGITATION IN CHILDREN: A SYSTEMATIC REVIEW WITH META-ANALYSIS AND TRIAL SEQUENTIAL ANALYSIS

Ka Ting Ng[1], Deep Sadore[2], Yuen Sin Lai[1], Wan Yi Teoh[3], Chew Yin Wang[1]
1 University of Malaya, Kuala Lumpur, Malaysia
2 University of Glasgow, Glasgow, Scotland
3 University of Liverpool, United Kingdom

PP 40 MANAGEMENT OF PLEURAL EFFUSION IN PEDIATRIC POPULATION IN DISTRICT HOSPITAL: CHALLENGES AND REMEDIES

Sharanya Giridharan
Miri General Hospital, Miri, Sarawak, Malaysia

PP 41 WHOLE EXOME SEQUENCING IN CHIDLREN WITH CHRONIC LUNG DISEASE

Asiah Kassim[1], N.Fafwati Akmar Mohamad[1], Noor Ain Noor Affendi[1], Hafizah Zainudin[1], Mohd Farid Baharin[2], Munirah Hishamshah[2], Chear Chai Teng[2], Hamidah Ghani[3], Saharuddin Bin Mohamad[3,4], Adiratna Mat Ripen[2]
1. Institute of Paediatrics, Kuala Lumpur Hospital, Malaysia.
2. Primary Immunodeficiency Unit, Allergy and Immunology Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia.
3. Institute of Biological Sciences, Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia.
4. Centre of Research for Computational Sciences and Informatics for Biology, Bioindustry, Environment, Agriculture and Healthcare (CRYSTAL), Institute of Biological Sciences, Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia.

PP 42 PERTUSSIS AMONG INFANTS IN HOSPITAL BINTULU: A THREE-YEAR RETROSPECTIVE REVIEW

Yee Yen Tan, Mas Qistina binti Saharudin, Yee Chin Tee, Yi Wen Wong, Anand Mohan
Department of Paediatrics, Hospital Bintulu, Sarawak, Malaysia

PP 43 A SILENT KILLER: EPIDEMIOLOGY OF SEVERE ADENOVIRUS LOWER RESPIRATORY TRACT INFECTION (LRTI) IN CHILDREN AND CLINICAL OUTCOME FOLLOWING INTRAVENOUS HUMAN IMMUNOGLOBULIN

Rachel Huimin Chong, Puong Sing Lau, Narenderan Karthikesu
Hospital Miri, Sarawak, Malaysia

PP 44 CHARACTERISTICS OF THREE INFANT DEATHS FROM CRITICAL PERTUSSIS

[1]Kavetha Ramalingam, [1]Rus Anida Awang, [2]Saiful Rijal Muhammad
[1]Paediatric Respiratory Unit, Paediatric Department, Hospital Pulau Pinang
[2]Paediatric Department, Hospital Taiping

PP 45 ONE-YEAR FOLLOW UP OF CHILDREN ADMITTED WITH SEVERE LOWER RESPIRATORY TRACT INFECTION : A PROSPECTIVE COHORT STUDY IN DEVELOPING COUNTRY

H'ng Shih Ying[1], Anna M Nathan[1,2], Cindy Shuan Ju Teh[3], Kartini Abdul Jabar[3], Caroline Westerhout[4], Eg Kah Peng(MMed)[1,2], Rafdzah Zaki[5], Surendran Thavagnanam (FRCPCH)[6], Jessie Anne deBruyne[1,2]
[1]Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia
[2]University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia
[3]Department of Microbiology, University Malaya, 50603 Kuala Lumpur, Malaysia.
[4]Department of Biomedical Imaging, University Malaya Medical Centre, 50603 Kuala Lumpur, Malaysia.
[5]Julius Centre University of Malaya, Department of Social & Preventive Medicine, Faculty of Medicine, 50603 Kuala Lumpur, Malaysia.
[6]Department of Paediatrica, Royal London Hospital, Whitechapel,London, United Kingdom.

PP 46 RECURRENT PNEUMONIA IN CHILDREN

Lee Chian YEONG[1], Hafizah ZAINUDDIN[2], N. Fafwati Faridatul Akmar MOHAMAD[1], Farizah Mohd HAIRI[3], Asiah KASSIM[1]
[1] Respiratory Unit, Women and Children Hospital, Kuala Lumpur, Malaysia
[2] Faculty of Medicine, Universiti Teknologi Mara, Selangor Darul Ehsan, Malaysia
[3] Faculty of Medicine, University of Malaya, Malaysia

PP 47 ENDOBRONCHIAL TUBERCULOSIS IN CHILDREN

Fairuz ABDUL RANI, Fatin Farihah NASIR, N Fafwati Faridatul Akmar MOHAMAD, Nor Khailawati SHARIBUDIN, Asiah KASSIM
Women and Children Hospital, Kuala Lumpur

PP 48 CLINICAL PROFILE AND OUTCOME OF PAEDIATRIC HOME VENTILATION:10 YEARS' SINGLE-CENTRE EXPERIENCE

Mariana D[1]
[1] Paediatric Respiratory Unit, Hospital Raja Perempuan Zainab(HPRZ) II, Kota Bharu, Malaysia

PP 49 SECONDARY OSTEOPOROSIS IN CHILDHOOD OBSTRUCTIVE SLEEP APNOEA SYNDROME.

Nur Syazwin Sies[1], Anne Marie Nathan[1,2], Jessie Ann de Bruyne[1,2], Mohd Yazid Jalaluddin[1,2], Azriyanti Anuar Zaini[1,2], Karuthan Chinna[3], Surendran Thavagnanam[4]
[1]Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia
[2]University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia
[3]School of Medicine, Faculty of Health and Medical Sciences, Taylor's University, Malaysia
[4]Department of Paediatrics, Royal London Hospital, London, United Kingdom

PP 50 SPIROMETRY REPEATABILITY AND ACCEPTABILITY TECHNIQUE AMONG CHILDREN AGED 7 TO 18 YEARS

Asmah A, **Junitarayani M**, Fazila MA, Mariana D
Paediatric Respiratory Unit, Hospital Raja Perempuan Zainab(HRPZ) II, Kota Bharu, Malaysia

PP 51 RESPIRATORY TRACT INFECTIONS IN CHILDREN ADMITTED TO A TERTIARY HOSPITAL IN MALAYSIA

Chen Shu Ming , Fazliana AR, Nurul Shahida H, Jasminder K, Wong HL,Wong YM, Asiah Kassim

Women and Children Hospital, Kuala Lumpur

PP 52 CLINICAL CHARACTERISTICS AND OUTCOME OF PAEDIATRIC INFECTIVE PLEURAL EFFUSION

Fazila MA, Mariana D
Paediatric Respiratory Unit, Hospital Raja Perempuan Zainab(HRPZ) II, Kota Bharu, Malaysia

PP 1

COMPARISON BETWEEN HOLD- RELAX PECTORAL STRETCH AND INSPIRATORY MUSCLE TRAINING ON PULMONARY FUNCTION AMONG FRAIL ELDERLY

Imtiyaz Ali Mir[1], Toh Poh Lee[1], Mohammed Abdulrazzaq Jabbar[2]

1. Department of Physiotherapy, Faculty of Medicine & Health Sciences, Universiti Tunku Abdul Rahman, Sungai Long, Selangor, Malaysia

2. Department of Population Medicine, Faculty of Medicine & Health Sciences, Universiti Tunku Abdul Rahman, Sungai Long, Selangor, Malaysia

Introduction:
Frailty is a clinical syndrome that alters the structure and function of respiratory system which can lead to stiffness of thoracic cage, reduce the chest wall compliance and cause weakness of the respiratory muscles resulting in reduction of pulmonary function.

Objective:
The aim of this study was to compare the effect of inspiratory muscle training (IMT) and hold-relax pectoral stretch (HRPS) on pulmonary function (FVC, FEV1 and FEV1/FVC) among frail elderly.

Methodology:
34 frail elderly were recruited from 2 nursing homes and randomly divided into experimental (IMT) group (n=17) and control (HRPS) group (n=17). For HRPS group, participants adopted sitting position with hands clasped behind the neck. They were instructed to contract the agonist muscles while manual resistance was applied to the contraction. Each stretch was maintained for 10 seconds with a rest period of 30 seconds between the sets and a total of 3 sets of were carried out for each session. In IMT, participants sat in semi-fowler's position with nose clipped and were instructed to inhale through threshold inspiratory muscle trainer at a resistance of 30 cmH2O. Three sets of ten breaths with resting period of one minute between sets was carried out in each session. Both control and experimental group performed 3 sessions each week on alternate days for 4 weeks consecutively. Data was analysed only for 30 participants as there were 4 drop outs.

Results:
Mean age of HRPS was 81.13±6.22 and IMT was 77.20±9.33. For both groups, pulmonary function scores were less than predicted score. HRPS showed significant improvement only in FVC (mean difference±SD -0.48±0.65, p=0.013) compared to IMT which exhibited significant improvement in FVC, FEV1 and FEV1/FVC (mean difference±SD -0.28±0.45, p=0.031, -0.30±0.51, p=0.037, -14.18±9.22 p=0.001 respectively). Between groups analysis showed significant difference in FEVI/FVC scores (HRPS mean 38.00±18.43, IMT mean 51.53±13.19, p=0.003) after intervention.

Conclusion:
Inspiratory muscle training (IMT) seems to have beneficial effects on pulmonary function than pectoral stretch in frail elderly. Thus, inspiratory muscle training shall be incorporated into the exercise regimen particularly when focusing on improving the pulmonary function in this population.

PP 2

CLINICAL AND POLYSOMNOGRAPHIC FEATURES OF RAPID EYE MOVEMENT RELATED OBSTRUCTIVE SLEEP APNEA IN SARAWAK GENERAL HOSPITAL

TT Tee[1], SK Chan[1], SS Kho[1], ST Tie[1]

1. *Respiratory Unit, Hospital Umum Sarawak, Kuching, Malaysia*

Introduction

Rapid eye movement related obstructive sleep apnea (REM-related OSA) can be categorized as REM-predominant and REM-isolated OSA, both which requires doubling of apnea hypopnea index (AHI) in REM sleep versus the NREM sleep (AHIREM:AHINREM > 2). For REM-isolated OSA, AHINREM is less than 5/h. Its clinical significance remains controversial.

Methods

Retrospectively, data was collected from level I polysomnography from 2017-2019 with diagnosis of REM-related OSA.

Results

There were total 17 patients (male:female= 1:16) with 24% REM-isolated OSA and 76% REM-predominant OSA. The mean BMI was 38 kg/m2 with mean age was 44 years old. They all presented with snoring. Only 24% had excessive daytime somnolence with Epworth Sleepiness scale > 10. 47% had STOP-BANG score of <3. 35% had hypertension or diabetes. REM-isolated OSA had mean AHI of 8/hr while REM-predominant OSA had mean of 18/hr. Overall 58% (n=10) had mild OSA. All lowest desaturation occurred during REM sleep with mean nadir SpO2 of 79%. The average REM sleep was 14.5% from total sleep time (TST). Hypopnea was major component in all cases with average of 79%.

Discussion

The data suggested females with BMI > 30 is a risk factor for REM-related OSA. They tend to have an overall lower AHI by virtue of the disproportionately lower percent of REM sleep in TST. Hypopnea as major AHI component could explain lesser degree of oxygen desaturation. This data was consistent with some studies suggesting only obstructive events during NREM are associated with excessive daytime sleepiness. Treatment of REM-related OSA is controversial especially when overall AHI is low. However, it was found to be associated with hypertension. Thus, they should be offered treatment if they have medical comorbidities or symptoms.

Conclusion

REM-related OSA occurs more commonly in younger individuals, women, and in patients with mild to moderate OSA.

PP 3

ASSOCIATED FACTORS FOR POSITIVE CXR AMONG TB HIGH RISK GROUP IN KEDAH

Ahmad Hanis Bin Ahmad Shushami, Wan Muhammad Zahiruddin

1. *Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan*

Screening for Tuberculosis (TB) using Chest X-Rays (CXR) among high-risk individuals is essential to help reach the End TB Strategy goal in reduction of 90% in TB Incidence by 2035. Even though Ministry of Health Malaysia has made screening compulsory, the number of cases detected is not encouraging. Therefore, it is essential to identify factors contributing to positive screening that would improve case detection. High-risk groups are a group of individuals that are compulsory to be screened using chest x-ray, regardless of presence symptoms of TB. A cross sectional study involving individuals belonging to TB high-risk groups who underwent screening in Kedah, Malaysia in 2016 was done. Data was obtained from the TB information system (TBIS) 104 A, an information system used for TB screening monitoring. It involved 1417 individuals who were randomly selected from various health facilities in six districts of Kedah. Among all 1417 study samples, 1036 (73.1%) individuals were asymptomatic. Among the asymptomatic individuals, only 91 (8.8%) had positive CXR findings. Smokers were found to have almost 3 times odds of having positive CXR findings compared to non-smokers [Adjusted OR (95% CI): 2.71 (1.03, 7.15), p-value<0.05] when gender and age are controlled. The elderly age group had almost three times odds of having positive CXR findings compared to the younger age group [adjusted OR (95% CI): 2.85 (1.83, 4.43), p-value <0.05]. Males had almost twice the odds of having positive chest x-ray compared to females [adjusted OR (95%CI): 1.7 (1.08, 2.09), p-value <0.05]. As conclusion, smokers were important group of individuals that must be prioritised during high risk group TB screening, especially among males and elderly smoker.

PP 4

TRANSBRONCHIAL FORCEP AND CRYOBIOPSY OF PERIPHERAL CAVITARY LUNG LESION UNDER R-EBUS GUIDANCE IN TUBERCULOUS ENDEMIC SETTING

Kho Sze Shyang, Chai Chan Sin, Tee Teng Teng, Chan Swee Kim, Tie Siew Teck

Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Ministry of Health Malaysia, Kuching, Sarawak, Malaysia

Introduction

Malignancy can present as peripheral cavitary lung lesion (PCLL). However, concern over tuberculosis frequently delayed the diagnostic procedure.

Objective

We aim to review the diagnostic yield of R-EBUS guided transbronchial biopsy of PCLL and assess the cavity characteristic in malignant and tuberculous causes.

Methodology

Retrospective review of all PCLL biopsied with R-EBUS from October 2016 to December 2018.

Result

20 R-EBUS were performed for PCLL in the study period. 16 were male with median age of 61.5 years. Procedure was performed without advanced airway in 14 and with fluoroscopy guidance in 15 cases. Transbronchial biopsy was performed with forcep in 15 cases and cryobiopsy in 5 with a overall diagnostic yield of 90%. Cryobiopsy achieved a 100% yield. Median PCLL size was 2.96cm with distance to pleural of 2.44cm. 9 cases were malignant, 10 were tuberculous and 1 was malignant and tuberculous co-infection. 90% of lesion demonstrated within orientation to R-EBUS. Median cavity wall thickness was 12.3mm and did not differ among malignant and tuberculous group. Malignant PCLL was associated with cheerio sign in 11% and distant metastasis in 22.2%. Tuberculous PCLL was associated with adjacent tree-in-bud changes in 40%. Direct smear for AFB was negative in all tuberculous cases, 10% positive for Xpert MTB/RIF, and 20% grew Mycobacterium Tuberculosis on culture. No life threatening complication in our current cohort, 3 patients experienced mild post-biopsy bleeding.

Conclusion

Significant amount of PCLL were malignant in nature even in high tuberculous setting with low smear positive rate in tuberculous PCLL. R-EBUS guided transbronchial biopsy has high diagnostic yield for PCLL with good safety profile.

PP 5

NONINVASIVE VENTILATION WITH ADD-ON FIBEROPTIC BRONCHOSCOPY IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Ahmed Mohamed, Dalia ElSharawy
Department of Chest Diseases, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

Introduction: Noninvasive ventilation (NIV) is a valuable treatment for acute respiratory failure, which has many advantages and lessens the risk of tracheal intubation with its associated complications. Retained bronchial secretions are one of the most common causes of NIV failure and even can contraindicate its use.

Objectives: the aim was to assess the therapeutic utility of fiberoptic bronchoscopy as an add-on therapy in patients with acute respiratory failure on NIV, in a trial to decrease the possibility of invasive ventilation.

Methodology: Patients with COPD were divided randomly into two groups: group I (20 patients) was subjected to NIV and medical therapy, and group II (20 patients) was subjected to NIV, medical therapy, and fiberoptic bronchoscopy for suctioning the retained secretions while on NIV. The cardiorespiratory parameters and complications were recorded during and after the procedure. Results: A total of 26 (65%) male and 14 (35%) female patients were enrolled in the study, with mean age of 47.55±11.56 years (range: 27–68 years). The mean duration of bronchoscopy was 3.5–7 min (range: 5.2±1.2 min) with no major complications. The amount of the aspirated secretions was 17.55±5.96 ml (range: 9–29 ml). There was significant difference on follow-up between the two groups regarding mean pH, PaO2/FiO2, and PaCO2, with more obvious improvement in group II than group I and with better outcome.

Conclusion: Bronchoscopy on NIV in patients with COPD with acute respiratory failure and copious bronchial secretions can be an alternative to intubation with all its associated risks.

PP 6

THE ROLE OF ENDOBRONCHIAL ULTRASOUND ELASTOGRAPHY IN THE DIAGNOSIS OF MEDIASTINAL LYMPH NODES

Adel Bediwy, Mohamed Hantira, **Dalia ElSharawy**, Ayman ElSaqa
Department of Chest diseases, Faculty of Medicine, Tanta University, ElGharbeya, Egypt
Department of Histopathology, Faculty of Medicine, Tanta University, ElGharbeya, Egypt

Introduction: Endobronchial ultrasound (EBUS) has become a powerful tool for the diagnosis of mediastinal and hilar lymph nodes (LNs). Elastography has been introduced recently to provide more accurate data about the lesions seen during EBUS.

Objective: The aim of this study was to evaluate the role of elastography during EBUS for the diagnosis of hilar and mediastinal LN.

Methodology: We carried out a prospective, crosssectional study. Patients with hilar/mediastinal LN enlargement on computed tomography examination were included. Convex probe EBUS was performed using conventional B-mode and elastography with transbronchial needle aspiration from the examined LN. All data are presented as mean±SD. Receiver operating characteristic analysis was carried out to find the relative sensitivity and specificity of EBUS elastography and to compare the results with other B-mode findings such as mediastinal LNs.

Results: A total of 147 LNs from 56 patients were examined. Malignancy was found in 111 of them. The strain ratio was found to be more accurate when compared with other findings of B-mode when comparing malignant and benign LNs with a cut-off value of 7.5, giving a sensitivity of 95.5% and a specificity of 91.67%. About 63% of malignant LNs were diagnosed from the first pass with the help of elastography.

Conclusions: Elastography is a very helpful tool for diagnosing mediastinal LNs with a strain ratio above 7.5, having a strong suggestion of malignancy. Elastography can help in directing the needle during EBUS-transbronchial needle aspiration to reach the final diagnosis with the least possible number of passes and avoiding unnecessary punctures.

PP 7

EFFECTIVENESS OF EXERCISES WITH WEIGHT LOADED EQUIPMENTS IN PULMONARY REHABILITATION - A NEW APPROACH TOWARDS BETTER REHABILITATION

Ramesh Babu Manivannan, Anil T John, Saravanan Govindasamy, Kohila Letchumanan, Anees Sabiya

Lincoln University College, Selangor, Malaysia, documentation based care, Ipoh, Malaysia, GetWell Physiotherapy Centre, Selangor, Malaysia

Introduction: Studies published on exercises in pulmonary rehabilitation are focusing mainly on aerobic exercises. Exercises using Weight Loaded Equipments (WLE) are not discussed much on studies.

Objectives: This study is focusing on exercises with WLE along with conventional pulmonary rehabilitation.

Methodology: 40 patients prescribed for pulmonary rehabilitation were selected. Control group is applied with Conventional Pulmonary Rehabilitation (CPR) techniques. Interventional group is applied with exercises using WLE with Conventional Pulmonary Rehabilitation (EWLE). The CPR protocol is applied for 30-45 minutes per session for 12 weeks and EWLE for 45-60 minutes of sessions with weight loaded equipment with weights from 5 kg to 20 kg with progressive 60 repetitions for 12 weeks. MRC breathless scale and 6 Minute walk test have been used as Measuring tools pre and post-exercise sessions. All the 30 patients completed the activity for 12 weeks as a study group.

Results and Conclusion: Both groups have shown significant improvement with 6 Minute walk test ($p < 0.05$), but EWLE group has shown better improvement p ($30 \pm 10\%$ versus $12 \pm 10\%$ [mean ± SD] in the CPR group, $p < 0.005$). Strengthening of upper and lower limb muscles has been noted as a factor increases the endurance in MRC breathless scale as $20 \pm 10\%$ ($p < 0.001$) in EWLE, but CPR group has shown very lower level of improvement in endurance ($5 \pm 8\%$ $p > 0.05$). The difference between SCPR and CPR in terms of functional improvement has been noted significantly ($p < 0.01$). Addition of Exercises using WLE increases endurance and shown better result in interventional group compared to control group in MRC breathless scale and 6 Minute walk test. Thus the study has concluded that adding exercises with WLE increases the endurance thereby breathless is reduced significantly in pulmonary rehabilitation.

PP 8

COMBINED ACLIDINIUM BROMIDE AND LONG-ACTING BETA2-AGONIST FOR TREATMENT OF MODERATE TO SEVERE STABLE COPD PATIENTS

Han Ni[1], Soe Moe[2], Zay Soe[3], Kaythi Myint[1], K Neelakantan Viswanathan[4]

1. Faculty of Medicine, SEGi University, Sibu, Malaysia

2. Melaka Manipal Medical College, Melaka, Malaysia

3. UCSI University, Terengganu, Malaysia

4. *P K Das Institute of Medical Sciences, Vaniamkulam, Ottapalam, India*

Background

The current GOLD recommendations suggest the use of LABA/LAMA combinations in people with group B COPD with persistent symptoms, group C COPD with further exacerbations on LAMA therapy alone and group D COPD with or without ICS.

Objectives

To assess the efficacy and safety of combined aclidinium bromide and long-acting beta2-agonists in stable COPD.

Methods

We searched the Cochrane Airways Group Specialised Register (CAGR), ClinicalTrials.gov, WHO trials portal, United States FDA, manufacturers' websites and the references of published trials up to 12 October 2018. We included parallel-group randomised controlled trials (RCTs) assessing combined aclidinium bromide and LABAs in people with stable COPD. We used standard methodological procedures set by Cochrane for data collection and analysis.

Results

We identified seven multicentre trials comparing aclidinium/formoterol FDC versus aclidinium, formoterol or placebo of four to 52 weeks' duration conducted in outpatient settings. There were 5921 participants, mean age from 60.7 to 64.7 years, mostly men with mean smoking pack-years of 46.4 to 61.3 of which 43.9% to 63.4% were current smokers. They had moderate-to-severe COPD with a mean postbronchodilator FEV1 between 50.5% and 61% of predicted normal and baseline mean FEV1 of 1.23 L to 1.43 L.

FDC improved symptoms with more participants attaining minimal clinically important difference (MCID) of at least one unit improvement in Transitional Dyspnoea Index (TDI) focal score compared with aclidinium (OR 1.34, 95% CI 1.11 to 1.62, NNTB: 14), formoterol (OR 1.30, 95% CI 1.07 to 1.56, NNTB: 16) or placebo (OR 2.51, 95% CI 2.02 to 3.11, NNTB: 4). Compared to placebo, FDC demonstrated better quality of life with increase in SGRQ responders who achieved at least four units decrease in SGRQ total score (OR 1.72, 95% CI 1.39 to 2.13, NNTB: 7). FDC also improved lung function compared to aclidinium, formoterol or placebo. However, there was no difference between FDC and monotherapy or placebo for exacerbations, hospital admissions, mortality, non-fatal SAEs or adverse events.

Conclusions

Combined aclidinium and formoterol FDC is effective for symptomatic relief and a relatively safe treatment option for moderate to severe stable COPD patients.

PP 9

COMPARISON BETWEEN FIXED PRESSURE CPAP AND AUTO-ADJUSTING PRESSURE CPAP IN SYMPTOMATIC OBSTRUCTIVE SLEEP APNOEA

Wee Leng Gan, Mohamed Faisal, Andrea Ban
Respiratory Unit, UKMMC, Kuala Lumpur, Malaysia

Introduction:
Fixed pressure CPAP is cheaper compared to auto-adjusting pressure CPAP (APAP) which save the treatment cost in symptomatic obstructive sleep apnoea (OSA).

Objectives:
To compare the efficacy between fixed pressure CPAP and APAP based on Apnoea Hypopnoea Index (AHI), Epworth Sleepiness Score (ESS) changes and CPAP mode preference among symptomatic OSA subjects.

Methodology:
Prospective, randomised, crossover, single-blinded study involving newly diagnosed symptomatic OSA subjects aged 18 to 70 year old with AHI more than 5/hour and ESS more than 10. Subjects randomised into the respective CPAP mode trial for 2 weeks with 1 week washout period in between before crossover. AHI and ESS changes of the respective CPAP mode were compared with baseline. Device preference was determined at completion of study. Symptomatic heart failure, COPD with FEV1 less than 50%, stroke, Parkinson disorder, neuromuscular disorders, central sleep apnoea, craniofacial abnormalities, Pickwickian syndrome and psychiatry disorders were excluded.

Results:
Forty-six subjects recruited with 27 males (58.7%). Mean age 54 (+11) year old. Baseline median BMI 34.2 kg/m2 (IQR: 30.8 kg/m2 -41.7 kg/m2). Baseline median AHI 28.8 /hour (IQR 21.2/hour-54.0/hour). Baseline median ESS 15 (IQR 13-16).
After intervention, the median AHI was 5.0 / hour (IQR 4.2/hour-6.0/hour) at fixed pressure CPAP arm; APAP arm 5.5/ hour (IQR 4.2/hour-6.3/hour); $p<0.01$. The median ESS at fixed pressure CPAP arm was 2 (IQR 0-3); APAP arm was 2 (IQR 1-3); $p < 0.01$. Those preferred APAP, 22 subjects (47.8%) had median optimal CPAP pressure 13.0 cmH2O (IQR 12.0 cmH2O -13.5 cmH2O) and 24 subjects (52.2%) who preferred fix pressure CPAP had median optimal CPAP pressure 8.0 cmH2O (IQR 6.3 cmH2O -8.7 cmH2O); $p<0.01$. Median baseline BMI was 37.6 kg/m2 (IQR 30.8 kg/m2 -43.0 kg/m2) for those preferred APAP and 32.3 kg/m2 (IQR 30.8 kg/m2 -38.4 kg/m2) for subjects preferred fixed pressure CPAP; $p=0.03$.

Conclusion:
If the optimal CPAP pressure is less than 8 cmH2O and BMI less than 32.3 kg/m2, fixed pressure CPAP may consider as first line treatment for symptomatic moderate to severe OSA.

PP 10

PREVALENCE OF POST TUBERCULOSIS-CHRONIC OBSTRUCTIVE PULMONARY DISEASE- UKMMC EXPERIENCE

Chong Guang Yong[1] , Mohamed Faisal Abdul Hamid[1], Syed Zukifli Syed Zakaria[2], Andrea Ban Yu-Lin[1]

1.Respiratory Unit, University Kebangsaan Malaysia Medical Centre. Kuala Lumpur, Malaysia.

2.Department of Paediatrics and Epidemiology, University Kebangsaan Malaysia Medical Centre. Kuala Lumpur, Malaysia

Background: Pulmonary tuberculosis (PTB) and chronic obstructive pulmonary disease (COPD) are two important causes of mortality and morbidity. The number of TB cases in Malaysia appears to be rising and a substantial number go on to develop post tubular airway disease.

Aims: To determine the prevalence of post-tuberculosis airflow obstruction in subjects who have completed PTB treatment.

Methods: This was a cross-sectional study conducted in adult subjects with a history of pulmonary tuberculosis treated in the 3 years prior to the study and attending the medical clinic in UKMMC. We excluded patients with bronchial asthma, COPD, interstitial lung disease and bronchiectasis. Airflow obstruction was confirmed by spirometry and defined as FEV1: FVC ratio <0.70. Subjects with positive airflow obstruction proceeded to answer COPD Assessment Test (CAT) questionnaire.

Results: A total of 82 subjects were recruited. The median age was 52.5years (IQR 36-62) with male predominance (56.1%). 29 subjects (35.4%) were smokers and 53 (64.6%) were non-smokers. Eighteen subjects (22%) had airflow obstruction, 14 (17%) had restrictive pattern and 50 (61%) had normal spirometry result. Five (22.22%) had mild obstruction, 7 (44.44%) moderate obstruction, and 6 (33.33%) had severe obstruction. Six (33%) out of the 18 subjects with airflow obstruction were smokers. There was a positive correlation between chest x-ray abnormalities and age with airflow obstruction ($P<0.05$).

Conclusion: Abnormal spirometry pattern was found in 39% of subjects. Post TB-COPD prevalence was 22% in those who completed TB treatment. There appears to be an association between abnormal chest radiograph with airflow obstruction in subjects with history of PTB.

PP 11

DETERMINING THE PERCEPTION OF LUNG CANCER SCREENING PROGRAM AMONGST HIGH RISK PATIENTS IN A TERTIARY HOSPITAL REFERRAL CENTRE, KUALA LUMPUR

Kok Wei Hao[1], Faisal Abdul Hamid[1], Andrea Ban[1], Shamsul Azhar Shah[2]
[1]*Department of Internal Medicine UKMMC*
[2]*Department of Community Health UKMMC*

Background: Lung cancer is the second most common cause of cancer related death and the third most common cancer in Malaysia. The rising prevalence of lung cancer suggests the need to consider disease screening for early detection especially in the high-risk population as it offers the best chance of cure. Lung cancer screening programme in Malaysia has yet to be established.

Objectives: To determine the willingness of high-risk respondents to participate in lung cancer screening programme if made available to them and to determine the attitude towards lung cancer screening and explore the factors that might affect participation in a screening program.

Method: This is a cross-sectional, descriptive study over six months conducted in adult patients attending medical clinics in Universiti Kebangsaan Malaysia Medical Centre (UKMMC) using face to face administered questionnaires.

Results: A total of 180 respondents were analysed. There were 177 (98.3%) males. Mean age of 59.8 ± 9.1 years. One hundred and thirty-eight (76.7%) respondents had poor knowledge towards cancer screening. Former smokers comprised 119 (66.1%) of the subjects, 61 (33.9%) were current smokers. 141(78.3%) respondents indicate willingness to participate in a lung cancer screening programme. Out of this group, 68 (48.2%) respondents were unwilling to pay for the procedure. Only 18 (12.8%) were unwilling to undergo lung cancer treatment if detected early.

Conclusions: The awareness toward general cancer screening is low. Our study showed that when informed of their high-risk status, respondents were willing to participate in lung cancer screening. There should be more health programmes to promote and raise awareness on lung cancer. National cancer screening programme should be subsidised.

KEYWORDS: lung, cancer, awareness, screening, smoking, willingness.

PP 12

CONCURRENT DIAGNOSTIC AND STAGING EBUS FOR SOLITARY PULMONARY NODULE WITH HIGH MALIGNANCY RISK UNDER TOTAL INTRAVENOUS ANAESTHESIA: AN EARLY EXPERIENCE

Larry Ellee Ak Nyanti, Sze Shyang Kho, Chan Sin Chai, Teng Teng Tee, Swee Kim Chan, Siew Teck Tie
Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Kuching, Sarawak, Malaysia

Introduction:
Lung cancer is a devastating diagnosis with an overall 5-year survival rate of 25%; however, if detected at an early stage, may carry a threefold survival rate. The quest for rapid and effective diagnosis and staging of lung cancer has seen the rise of advanced bronchoscopic techniques like endobrochial ultrasound (EBUS). Currently, diagnostic and staging EBUS is often carried out separately in our local setting; the merits of concurrent diagnostic and staging have yet to be fully explored.

Objective:
To explore whether concurrent diagnostic and staging EBUS leads to earlier intervention in lung cancer patients compared to a conventional two-staged diagnostic and staging procedure.

Methodology:
Retrospective review of all consecutive patients who underwent diagnostic and staging EBUS for high risk solitary pulmonary nodule between November 2017 to March 2019. Patients were divided into two groups: concurrent and non-concurrent, depending on whether the diagnostic and staging EBUS was done in the same setting. All procedures were performed under total intravenous anaesthesia (TIVA) in the concurrent group.

Results:
Our cohort comprised of 8 patients with mean age of 58.8 years ±10.9. There were 5 (62.5%) in the concurrent and 3 (37.5%) in the non-concurrent group. All of our patients were proven malignant with non small cell lung cancer; and no complications were reported from both groups. All of the non-concurrent group were staged at IIIB, while the concurrent group were more diverse with IB (n=1), IIIA (n=2) and IIIB (n=3). The prevalence of N2 and N3 disease were 75% and 25% respectively in our cohort. Mean duration from diagnostic EBUS to cardiothoracic or oncology clinic review in the concurrent group was shorter compared to non-concurrent group (29 days vs. 65 days, p=0.14). Mean duration from diagnosis EBUS to intervention (curative resection or chemoradiation) was 40.6 days in the concurrent group, compared to 73.3 days in the non-concurrent group (p=0.342).

Conclusions:
Concurrent staging and diagnostic procedures expedite earlier lung cancer intervention with minimal complication. Our center anticipates further experiences with this procedure.

PP 13

FACTORS ASSOCIATED WITH INCREASED NUMBER OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE HOSPITALISATION AT AN URBAN TERTIARY HOSPITAL IN MALAYSIA

Kader Muhammad Kader Ridzwan[1], **Nurdiana Jamil[2]**, Zainol Akbar Zainal[2]
[1]MAHSAUniversity, Bandar Saujana Putra, Malaysia
[2]Cyberjaya University College of Medical Sciences, Cyberjaya, Malaysia

Introduction: Chronic obstructive pulmonary disease (COPD) is the 6th cause of death in Malaysia. Patients with frequent exacerbations have faster progressive decline in lung function, limited daily functionality and an increased risk of dying.
Objectives: Risk factors associated with frequent exacerbations and COPD-related hospital readmissions should be identified.
Methods: A retrospective analysis of 130 patients with chronic obstructive pulmonary disease and repeated admissions to a Malaysian tertiary hospital was conducted. Patient demographics, length of stay, interval days between hospitalisations, comorbidities, maintenance medications, smoking status and medication nonadherence were documented at index admission.
Results: The study population had a mean age of 66.84 years (±11.10) and were mostly Malay, male and had normal body mass index. Approximately two-thirds of the patients have a history of chronic smoking (73.1%) and had at least one other medical co-morbidity. Majority of the study population (57.7%) had infective exacerbations and had a duration of admission of < 7 days, an interval period of 1-6 months from previous admission and at least one readmission within the past 12 months. 54.6% had 2 COPD hospitalisations in 12 months whereas, 45.4% had > 2 COPD hospitalisations. There were significant differences in body mass index ($p = 0.042$) and number of days since previous hospital admission ($p < 0.001$) between patients with 2 or > 2 COPD hospitalisations. There were also significant associations in smoking history ($p = 0.019$) and medication adherence ($p = 0.04$) on the number of COPD hospitalisations.
Conclusions: Allied healthcare providers should focus on reducing exacerbations by controlling modifiable risk factors such as smoking and nonadherence to medications that contribute to increased hospitalisations.

PP 14

COMPARISON OF GENEXPERT® MTB/RIF AND CONVENTIONAL METHODS PERFORMED ON BRONCHOALVEOLAR LAVAGE FOR THE DIAGNOSIS OF MYCOBACTERIUM TUBERCULOSIS IN UKM MEDICAL CENTER.

K.Y Lim[1], R. Rajah[1], B.H. Ng[1], Faisal AH[1], A.Y.L. Ban[1], C.I. Soo[1]

1. Pulmonology Unit, Department of Internal Medicine, National University of Malaysia (UKM) medical center, Kuala Lumpur, Malaysia.

Introduction:

GeneXpert MTB/RIF testing is not widely available in Malaysia. Limited number of centre with respiratory services utilizes GeneXpert MTB/RIF on bronchoalveolar lavage to aid in the diagnosis of Mycobacterium tuberculosis.

Objectives:

This study is to evaluate the performance of GeneXpert MTB/RIF assay versus Real-time PCR MTBC/NTM (Lytestar) and other conventional methods used on bronchoalveolar lavage (BAL) samples in diagnosing Mycobacterium tuberculosis.

Methodology:

Retrospective cross-sectional analysis of patients investigated for Mycobacterium tuberculosis that underwent bronchoalveolar lavage between March to December 2018 in a single tertiary center in Malaysia. Results of GeneXpert MTB/RIF (GXP) were analyzed base on the patient's demographic characteristics and compared with other diagnostic methods.

Results:

Thirty-three of total 72 patients who underwent bronchoalveolar lavage were diagnosed pulmonary tuberculosis either through rapid DNA testing via GXP or Mycobacterial PCR real-time test kit, positive culture, histopathology or positive treatment response consistent with Mycobacterium tuberculosis. Overall sensitivity, specificity, positive predictive value (PPV) & negative predictive value (NPV) for GXP were 84.8%, 100%, 100%, and 88.6% has an overall sensitivity of 78.8% and specificity of 97.9% with a (P value =1.00) compared to GXP. Conventional methods such as acid-fast bacilli smear and culture demonstrated low sensitivity of 18.2 & 36.4%. Higher proportion of relapse cases were found GXP positive (OR: 0.15, 95% CI: 0.02-1.11; P = 0.04). One case (3%) was found positive for Rifampicin resistant and was immediately referred for multidrug-resistant (MDR) management.

Conclusions:

GXP testing provides rapid results, has overall high sensitivity and specificity compared to other diagnostic methods and with the added advantage of early detection of rifampicin resistance and should be performed routinely on BAL to aid in the diagnosis of Mycobacterium tuberculosis. Further studies are warranted to determine its impact on the overall cost of treatment for cases of drug-susceptible Mycobacterium tuberculosis.

PP 15

UPPER AIRWAY MUSCLE EXERCISES OUTCOME IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

Ragia S. Sharshar

Chest Department, Faculty of Medicine, Tanta University, Tanta, Egypt

Background: Obstructive sleep apnea syndrome (OSAS) is an important disease that represent a challenge for both patients and physicians to reach optimum choice for treatment mostly because genesis of OSAS is multifactorial. Upper airway muscle function plays a major role in maintenance of the upper airway patency especially during sleep. Oropharyngeal exercises may be an effective treatment option for OSAS.

Objective: Aim of this study was to evaluate upper airway muscle exercise as method to treat OSAS.

Patients and methods: 30 patients divided into 2 groups; Group I moderate OSAS and Group II: severe OSAS patients. Follow up, as regard ESS, AHI, oxygen saturation and snoring was done after 3 months of oropharyngeal exercises.

Results: After end of study, daytime sleepiness and AHI improved significantly in group I (moderate OSA) 13 out of 15 patients shifted from moderate to mild OSAS. There was significant decrease in oxygen desaturation and snoring index. As for group II, there was decrease but not significant change in same parameters. Only for moderate OSAS, there was, significant decrease in neck circumference, which inversely correlated with changes in AHI ($r = 0.582$; $P < 0.001$).

Conclusion: Upper airways exercises can be a novel easy non invasive technique to improve AHI, O2 saturation and snoring thus used in treatment of OSAS patients mainly moderate type.

PP 16

CHARACTERISTIC, PREDICTOR AND OUTCOME OF ASTHMA ADMISSIONS TO ADULT CRITICAL CARE UNIT TO TEACHING UNIVERSITY HOSPITAL

BH Ng, CI Soo, Faisal AH, Andrea YL Ban

Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Background:
Asthma is a preventable and treatable reversible airways disease but unacceptably account for 0.91 per cent of total death in Malaysia. Knowledge of characteristic, predictor and outcome of the acute exacerbation of asthma admitted to intensive care is essential for better management.

Objectives:
The purpose of the present study was to determine characteristic, predictors and outcome of acute asthma exacerbation that requires intensive care admission.

Methods:
The patients with a primary diagnosis of severe asthma that admitted to the intensive care unit from January 2017 to April 2019 were recruited.

Results:
A total of 26 asthma patients were recruited with a mean age (+SD) of 49.12+19.97 years for the intubated group and 47.67+25.7 years for the NIV group. The female patient accounts for 61.54% (16 patients) of the total recruited patients. Duration of ventilation for intubated and NIV were 6.06+7.16 days and 3.67+2.24 days, respectively. The median length of stay in ICU for the intubated group was 2.71 days longer as compared to the NIV group. Poor adherence to inhaler therapy was present in 63.58% and out of which 34.62% have no proper follow-up. Higher pCO2 (intubated: 56.95+19.21; NIV: 40.96+12.06) and higher non-ventilated respiratory rate on admission (intubated: 30.94+5.72; NIV: 26.89+3.98) were associated with ICU admission. On multivariate analysis, increased pCO2 (OR: 1.09; 95% CI: 1.00-1.21; p: 0.02] was significantly associated with risk of required ventilator support and ICU admission. Intensive care unit asthmatic deaths were 15.38% (4 patients), in which 50% of asthmatic death had CPR before ICU admission, and the death was direct in relation to an asthma attack.

Conclusion:
Hypercapnic respiratory failure is a strong predictor for the need of ventilator support and ICU care. Risk factors for severe asthma are preventable factors of asthma deaths. The identification of characteristic which defines a more severe disease and proper education on asthma awareness can improve the outcome of patients.

PP 17

ENDOBRONCHIAL TB (EBTB) PHENOTYPING: A MALAYSIAN COHORT

Affida Ahmad, Nurul Yaqeen Esa, Mohd Arif M Zin, MF Rani, A Ismail
Faculty of Medicine, Universiti Teknology Mara, Selayang Campus, Batu Caves, Selangor, Malaysia

Purpose:
Endobronchial tuberculosis (EBTB) is defined as a tuberculous infection of the tracheobronchial tree with microbial and histopathological evidence, with or without parenchymal involvement.
Further investigations are often needed to diagnose EBTB due to its complexity.
We sought to profile our EBTB patients in term of clinical, radiological, microbial, pathological and bronchoscopic features in Hospital Selayang (HS).

Method/ Design:
This is a retrospective analysis of 17 patients with EBTB diagnosed in Hospital Selayang from 2015 until 2017.
Demographic data, clinical, radiological, microbiological, histopathological and bronchoscopic findings were obtained from HS online system.
Endobronchial lesions were classified according to Chung classification.
Diagnosis were made based on histopathological examination (HPE) of endobronchial biopsy, and/or positive AFB stain/ Mycobacterium Tuberculosis (MTB) culture of bronchial alveolar lavage (BAL) and/or endobronchial biopsy.

Results:
Symptoms: Cough (88%), Fever (65%), LOW (59%), Hemoptysis (18%), Dyspnea (6%), Hypoglycaemia (6%)
CXR findings: Consolidation (88%), Cavitary (18%), Pleural effusion (12%), Lung mass (12%), Widened mediastinum (6%)
Histopathology findings: Caseating granulomatous inflammation (47%), Granulomatous inflammation (41%), Chronic inflammation (12%)
Bronchoscopy findings: Caseous (53%), Edematous, hyperemic (18%), Tumourous (12%), Granular (12%), Ulcerative (6%)

Conclusion:
Profiles of EBTB patients in our cohort are young female with cough, caseating HPE and good response to antiTB. Future research is required to validate this profiling in order to form a universal prediction model.

Clinical implication:
Clinical prediction via patient profiling will aid in early and accurate diagnosis of EBTB, hence expediting treatment and prevent complications.

PP 18

THE ROLE OF BLIND ABRAMS PLEURAL BIOPSY IN INVESTIGATION OF PLEURAL EFFUSIONS

Dr Nur Laily Md Yatim, Dr Rozanah Abd Rahman, Dr Noor Aliza Md Tarekh
Respiratory Department, Hospital Sultanah Aminah, Johor Bahru, Malaysia

Introduction: Pleural effusion is a common manifestation of several medical conditions. A few methods are available to investigate its aetiology, including blind pleural biopsy using Abram's needle. Despite the increasing popularity of image-guided and thoracoscopic biopsy modalities, blind pleural biopsy remains popular in some centers for investigating cases of pleural effusion.

Objective: To determine the role and diagnostic yield of blind pleural biopsy using Abram's needle in obtaining specific diagnoses for cases of pleural effusion.

Methodology: This study was performed during January 2018 until December 2018 in the Department of Respiratory Medicine, Hospital Sultanah Aminah Johor Bahru. All patients with pleural effusion who were referred to Respiratory team and underwent blind Abrams pleural biopsy are included in this study. The procedure was performed by six medical officers from respiratory team and each operator performed a single site biopsy with at least two pleural tissue samples taken. All samples retrieved were sent to the hospital's laboratory for histopathological analysis.

Results: A total of 71 patients were included in this study with a male to female ratio of 3:1. The average patient age was 52.5 years. Out of all 71 patients, the presence of pleural tissue was confirmed in 63 biopsies (89%). The diagnostic yield of blind Abram's pleural biopsy was 39 (54%) with specific diagnosis of tuberculosis pleuritis in 17 (23.9%) cases and malignancy in 22 (31%) cases. In cases of malignancy, 16 (22.5%) cases were accurately diagnosed with adenocarcinoma, one (1.4%) case each for of mesothelioma, squamous cell carcinoma and small cell carcinoma and 3 (4.2%) for metastatic pleural diseases. No specific diagnoses were found in 8 (11.3%) cases in which further investigation was required to establish the diagnosis.

Conclusion: Due to availability of newer techniques and image guided biopsy, blind needle biopsy procedures are becoming less popular especially in developed countries. However, blind pleural biopsy still plays a major role as the main diagnostic tool in hospitals with limited image-guided and thoracoscopic facilities.

PP 19

SMEAR NEGATIVE PULMONARY TUBERCULOSIS IN SIBU HOSPITAL: ARE WE UNDER – DIAGNOSE OR OVER-TREATING?

Nga Hung Ngu, Lay Peng Lee, Jia Miao Tan, Wen Jet Choong, Teng Joo Lok
Department of Internal Medicine, Sibu Hospital, Sibu, Sarawak, Malaysia

Introduction: Smear negative pulmonary Tuberculosis (TB) remains a diagnostic challenge and has been associated with poor treatment outcomes.

Objectives: To describe the prevalence of smear negative culture positive TB in Sibu Hospital, and the treatment outcomes.

Methodology: This is a retrospective analysis for patients who were diagnosed with smear negative pulmonary TB from 2015 till 2017. A total of 218 patients were included and relevant data were extracted and analyzed by using SPSS version 22.0.

Results: The mean age of the patients was 52.9 (17.66 SD). Majority was men (71.1%) and Iban ethnicity (57.8%). 107 (49%) patients were given presumptive diagnosis of smear negative TB based on clinical and radiology findings only. 38 (17.4%) patients had their diagnosis supported by positive gene Xpert test, 61 (27.9%) were supported by tissue histopathology or cytology results, while the remaining were based on sputum culture results. Sputum culture for Mycobacterium tuberculosis was done for 95% of the patients, and 28.5% of them had positive TB culture. Among patients with positive gene Xpert test, 52.6% were associated with positive TB culture ($P<0.05$). Positive cultures were also detected in 15.9% of patients with presumptive diagnosis, and 31% of those with positive histopathology or cytology. For treatment outcome, 163 (74.8%) completed treatment successfully. 72.9% patients with positive culture showed clinical improvement after TB treatment ($p<0.05$). The defaulter rate was 12.4%. 5 (2.3%) patients had their TB treatment terminated before completion as their diagnosis was revised.

Conclusions: Sputum culture for Mycobacterium tuberculosis detection should be done for all patients with smear negative TB. The results should be traced and reviewed to ensure diagnostic confirmation. Other investigation modalities such as bronchoalveolar lavage should be considered to improve the diagnostic yield of TB culture.

PP 20

A DISTRICT HOSPITAL'S RETROSPECTIVE AUDIT ON UTILITY OF CLINICAL SCORING SYSTEMS IN ORDERING CT PULMONARY ANGIOGRAM TO CONFIRM PULMONARY EMBOLISM

Qin Jian Low[1], Nadzri Misni[1], Mohd Fauzan Salleh[1], Kuo Zhau Teo[1], Shu Ann Hon[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4]

[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

Introduction

Pulmonary thromboembolism (PE) is a major disease in respiratory emergency. Evidence based literature supports the practice of applying clinical pretest probability of pulmonary embolism before proceeding with diagnostic testing. Clinical scoring modalities can assist clinician in determining the need for ordering computed tomography pulmonary angiogram (CTPA).

Objective

The study aim was to perform a retrospective analysis of ordering practices of CTPA at Hospital Sultanah Nora Ismail (HSNI). We are interested to know how well we used proven clinical scoring systems in our daily practice and the rationale for ordering the CTPA. We specifically would look at Well's score and the use of The Pulmonary Embolism Rule Out Criteria (PERC).

Methodology

A retrospective study was conducted to audit all the CTPA's ordered between 1st January to 31st December, 2018. We then analyzed each patient's chart and calculated their Well's and PERC scores. We counted those with a Well's score <2 and a PERC of 0 and used this number as the number of CTPA's that in theory could have been avoided.

Results

There were a total of 60 CTPA's that were ordered and performed in the entire year of 2018. There were 16 positive scans, all of which had a well's score of over 2 and/or PERC of over 0. There were 44 negative scans, 4 (9%) of which had a Well's score of less than 2 and a PERC score of 0.

Conclusions

By better using suggested clinical scoring modalities to determine the need for imaging we could lower the cost of hospitalization, reduce unnecessary radiation, prevent potential contrast induced nephropathy and allergies.

PP 21

TUBERCULOSIS IN BATU PAHAT: FIVE YEARS ANNUAL REPORT

Qin Jian Low[1], Rafedah Basir[2], Mohd Fauzan Salleh[1], Shu Ann Hon[1], Kee Nam Tan[3], Eng Kian Ng[4], Seng Wee Cheo[5]

[1]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*
[2]*Hospital Queen Elizaberth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Lahad Datu, Sabah, Malaysia*

Introduction
Tuberculosis (TB) occurs in every part of the world. Delayed or inaccurate diagnosis, inappropriate empirical treatment, high default rate and immigrants with TB are reasons why TB is still endemic locally.

Objective
This 5 years audit report aims to review our performance and reaffirm strategies to eliminate TB.

Methodology
A 5 years local tuberculosis annual report in Batu Pahat from year 2014 till 2018 involving both hospitals and health clinics. Data analysis is done via SPSS version 25.

Results
From year 2014 till 2018, the notified cases of tuberculosis had reduced from 258 cases (2014), 265 cases (2015), 232 cases (2016), 254 cases (2017) to 173 cases (2018). Smear positive pulmonary tuberculosis remains the highest type of TB notified with 148 cases (2014), 142 cases (2015), 136 cases (2016), 135 cases (2017) to 98 cases (2018). Smear negative tuberculosis was reported to be 84 cases (2014), 90 cases (2015), 68 cases (2016), 84 cases (2017) and 46 cases (2018). Extra-pulmonary tuberculosis cases are the least notified with 26 cases (2014), 33 cases (2015), 28 cases (2016), 35 cases (2017) and 29 cases (2018). Among the TB cases notified from year 2014 till 2018, the male gender consists of an average of 64% while the female gender 36%; the population age breakdown are children (0-14 years old) 3%, adults (15-59 years old) 71% and elderly (>60 years old) 26%. Among the TB cases notified during this 5 years' period, 22% were smokers, 20% had diabetes and 5% are known HIV positive. The numbers of direct TB death had reduced from 6 cases in 2014 to 1 case in 2018.

Conclusions
With the dramatic decline in TB deaths and cases locally, more affirmative actions should be taken with the aim of eliminating TB.

PP 22

THE UTILITY OF B-NATRIURETIC PEPTIDE ASSAY IN DIFFERENTIATING HEART FAILURE FROM PNEUMONIA IN PATIENTS PRESENTING WITH ACUTE DYSPNEA

R Rajah, BH Ng, KY Lim, Faisal AH, Andrea YL Ban, CI Soo
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Background:
B-type natriuretic peptide (BNP) is released from the cardiac ventricles in response to increased wall tension. It is not routinely available in Malaysian government hospitals. Differentiating acute heart failure from pneumonia aided by BNP is crucial as it affects the treatment direction.

Objective
The objective of this study is to illustrate the importance of BNP in achieving an accurate diagnosis, therefore providing an early appropriate treatment.

Methods:
We conducted a retrospective study on 30 patients who presented with acute dyspnea, and respective BNP levels. Elevated BNP levels were analyzed with clinical diagnosis, imaging and biochemical parameters.

Results:
Thirty patients were recruited. 76.67% (23 patients) of patients recorded a raised BNP. BNP demonstrated sensitivity 95%, specificity 85.7%, PPV 82.6% and NPV 85.7%. The diagnostic odds ratio for BNP was 9.5 (95% confidence interval, 0.7-132) compare to 0.9 (95% confidence interval, 0.1-12.1) for impaired ejection fraction (<40%) on echocardiography. Five patients were correctly treated for acute heart failure. Fifteen patients were initially treated for pneumonia and required revision of the diagnosis based on elevated BNP levels. The mean (+SD) duration needed for revision of the diagnosis was 4.5 (±3.6) days. The remaining 3 cases with extremely elevated BNP were sepsis-related (septic cardiomyopathy) as supported by the presence of fever, raised inflammatory markers, and normal echocardiogram findings. In patients with heart failure, the median elevation of BNP level was 8919 (IQR 1874-33254). The clinical findings of elevated jugular venous pressure and presence of bilateral pedal edema were present in 35% (7 patients) and 70% (14 patients) respectively. Only 30% (6 patients) presented with congestion features or effusions on chest radiograph. The remaining 70% (24 patients) had consolidation.

Conclusion:
BNP enables clinicians to practice precision medicine in managing patients with acute dyspnea. With BNP's highly sensitive and rapid diagnostic properties, it helps to reduce shortfalls demonstrated by conventional methods.

PP 23

MISDIAGNOSIS AMONG PATIENTS ADMITTED TO CHEST WARDS AS COMMUNITY ACQUIRED PNEUMONIA (CAP): DEMOGRAPHICS, CLINICAL PROFILES AND OUTCOMES.

Ang Choon Seong, Yeang Li Jing, Chin Yuen Quan, Khor Inn Shih, Irfhan Ali bin Hyder Ali
Respiratory Department, Hospital Pulau Pinang, Penang, Malaysia.

Background: Despite the advancements in prevention, diagnosis and treatment of CAP in recent years, we continue to see increasing rates of hospitalizations and mortality due to CAP. Some had suggested rampant misdiagnosis of CAP as a possible explanation but this had not been investigated locally.

Objective: We aim to determine the prevalence of misdiagnosis of CAP among hospitalized adult CAP patients and its association with demographic and clinical presentation factors.

Methods: We retrospectively reviewed the medical notes and chest radiographs of CAP patients admitted to Chest wards over 6 months (June to November 2018). Relevant data were collected and chest radiographs on admission were reviewed. Cases with missing data or chest radiographs were excluded. We defined misdiagnosis as cases without suggestive clinical symptoms or chest radiograph changes at presentation.

Results: We included a total of 188 patients with a mean age of 65.5 +/- 16.89 years old. Majority were Chinese (51.1%), male (60.6%) and non smokers (42.0%). One third (32.2%) had underlying lung diseases and 16% had underlying cardiac diseases. Most presented with cough (79.8%) and dyspnoea (72.3%). At presentation, 42.0% had documented fever, 68.7% had leukocytosis and 38.8% were hypoxemic. We found an alarming 38.8% (n=73) of the CAP were misdiagnosed and the most common final diagnosis were Upper Respiratory Tract Infection (32.8%) and Heart Failure (13.7%). Patient's age, gender, ethnicity and clinical profiles (co-morbidities, symptoms and blood investigations) were all not predictive of misdiagnosis ($p>0.05$). However, the misdiagnosed cases were more likely to be discharged earlier (length of stay, 3.5 +/- 3.28 days vs 7.73 +/- 15.29 days, $p<0.05$) but there was no difference in mortality.

Conclusion: We found a third of CAP patients were misdiagnosed as reported by others. Diagnosis of CAP may not be straightforward as it is a clinical diagnosis; radiographic changes may be delayed and subjective. A larger prospective study would be indicated.

PP 24

ASTHMA CONTROL TEST (ACT), FRACTIONAL EXHALED NITRIC OXIDE (FeNO) AND FORCED EXPIRATORY VOLUME IN 1 SECOND (FEV1) CORRELATION IN ASTHMA CONTROL

Fatimah Azmah, WJ Tan, LK Lem, Irfhan Ali, Syamimi, YH Chan, S Shobaa
Pulau Pinang Hospital, Seberang Jaya Hospital, Penang, Malaysia

INTRODUCTION
Monitoring asthma control and preventing exacerbations are important components for asthma management. Subjective measures usually involve a series of questions used for clinical assessment, diary cards, and quality of life questionnaires. Traditional objective methods include peak flow monitoring and spirometry, and. Newer methods measurement of airway inflammation such as fractional exhaled nitric oxide may play important role in assessing asthma control.

OBJECTIVE
This study aimed to evaluate the association between ACT, FEV1 and FeNO in asthmatic patients attended respiratory clinic Penang Hospital.

METHODS
This a retrospective analysis with a review of medical records. 43 patients who were followed up for asthma and performed FeNO test in our clinic since 2018 to April 2019 were reviewed. Factors such as measurements of FeNO, FEV1, and ACT score during clinic review were looked into.

RESULTS
There were 16 males (37.2%) and 27 females (62.8%) patients. The median ACT score was 17.5±5.04. Good control of asthma (ACT ≥ 20) was found in 11 patients. The median levels of FeNO was 34.2 ppb ± 25.6 in our study population. There was no significant association between FEV1 and FeNO (p=0.416), and between FEV1 and ACT (p= 0.935). On the contrary, negative correlation was found between ACT score and FeNO (r= -0.35) with near statistical significance (p=0.058). Confounding factors for this might be due to small sample size.

CONCLUSION
We can postulate that the degree of airway inflammation is more sensitively detected by FeNO than by FEV1. FeNO correlates better with ACT which is a traditionally gold standard to assess asthma control. FeNO may be a useful adjunctive tool for monitoring asthma. It has the advantage of ease of performance even in patients with severe airflow obstruction.

PP 25

THE PREVALENCE OF LIMITED HEALTH LITERACY AND ITS ASSOCIATIONS AMONG ADULT ASTHMA PATIENTS IN MALAYSIAN PRIMARY CARE SETTINGS.

Hani Syahida Salim
Universiti Putra Malaysia

Introduction: More than 90 % of general Malaysian population falls under marginal to limited health literacy level. Among patients with asthma, low literacy is associated with poor adherence to self-management activities thus poor clinical outcomes.
Objectives: To determine the level of limited health level and its associated factors among patients with asthma in Malaysia.
Methodology: This cross-sectional study takes place in five primary health clinics in Malaysia. It involves adult asthma patients aged > 18 years attending the centers for any treatment. Ethical approval from the Ministry of Health, Malaysia was obtained prior to the study. Patients are sampled using a systematic random sampling method. Participation are voluntarily. The sample size is 540. The questionnaires include two validated tools, asthma control questionnaire (ACQ) and health literacy scale (HLS-Asia-Q47). The statistical analysis was done using SPSS 21. For this analysis, Chi square tests were used to associate categorical variables with the primary outcome. Multivariate logistic regressions were used to adjust for confounders.
Results: The mean age of the patients was 48 (SD 15.44) years old. There were more women (64%) and most were Malays (51%). Majority (45.8%) had secondary or primary school level of education. Almost two-third (62.5%) had a family history of asthma. More than half had uncontrolled asthma (51%) using ACQ with 96% self-rated themselves with controlled asthma. Less than a third (29%) own an action plan and within this, majority (76%) were verbal plans delivered mostly (71%) by the doctors. The prevalence of limited health literacy among people with asthma is 60.7%. Education, income level and ownership of asthma action ($p<0.01$) were factors associated with health literacy level.
Conclusion: The prevalence of limited of health literacy among patients with asthma is high. Asthma control is still suboptimal the primary care setting and ownership of AAP is still low, as compared to standard recommendation. Future interventions to enable self-management among patients with asthma should consider health literacy need to ensure success.

PP 26

CT PULMONARY ANGIOGRAM ANNUAL REPORT 2018

Qin Jian Low[1], Nadzri Misni[1], Mohd Fauzan Salleh[1], Shu Ann Hon[1], Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4]

[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

Background: Obstructive sleep apnea syndrome (OSAS) is an important disease that represent a challenge for both patients and physicians to reach optimum choice for treatment mostly because genesis of OSAS is multifactorial. Upper airway muscle function plays a major role in maintenance of the upper airway patency especially during sleep. Oropharyngeal exercises may be an effective treatment option for OSAS.
Objective: Aim of this study was to evaluate upper airway muscle exercise as method to treat OSAS.
Patients and methods: 30 patients divided into 2 groups; Group I moderate OSAS and Group II: severe OSAS patients. Follow up, as regard ESS, AHI, oxygen saturation and snoring was done after 3 months of oropharyngeal exercises.
Results: After end of study, daytime sleepiness and AHI improved significantly in group I (moderate OSA) 13 out of 15 patients shifted from moderate to mild OSAS. There was significant decrease in oxygen desaturation and snoring index. As for group II, there was decrease but not significant change in same parameters. Only for moderate OSAS, there was, significant decrease in neck circumference, which inversely correlated with changes in AHI ($r = 0.582$; $P < 0.001$).
Conclusion: Upper airways exercises can be a novel easy non invasive technique to improve AHI, O2 saturation and snoring thus used in treatment of OSAS patients mainly moderate type.

PP 27

SINGLE CENTRE FOUR YEARS AUDIT ON ACID FAST BACILLI (AFB) DETECTION METHOD

Shu Ann Hon[1], Qin Jian Low

[1]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*

Introduction

All patients with suspected tuberculosis should have specimen collected for acid fast bacilli (AFB) smear and culture. Among the method commonly used to detect AFB are sputum, gastric lavage, BAL, pleural fluid, pericardial fluid, peritoneal fluid, cerebrospinal fluid, urine and others.

Objective

This 4 years audit report aims to review our performance in diagnosing tuberculosis early and economically.

Methodology

A 4 years tuberculosis audit among adult patients at Hospital Sultanah Nora Ismail (HSNI), Batu Pahat, Johor from year 2015 till 2018. Data analysis is done via SPSS version 25.

Results

The number of smear positive AFB detected in HSNI are as follows, 83 cases (2015), 82 cases (2016), 76 cases (2017) and 78 cases (2018). The number of intubated patients with newly diagnosed pulmonary tuberculosis via tracheal aspirate are 3 cases (2015), 10 cases (2016), 7 cases (2017) and 7 cases (2018). Gastric lavage method of detecting acid fast bacilli (AFB) were positive in 3 cases (2015), 2 cases (2016), 7 cases (2017) and 5 cases (2018). We also detected AFB in pus sent, 2 cases (2015), 2 cases (2016), 2 cases (2017) and 3 cases (2018). There was one case of positive AFB from lymph node FNAC detected in 2015 and 2016 each. In year 2016, we have 1 case of stool AFB positive. One case of pericardial fluid AFB was positive in 2017 and 2018 each. There is one case of pleural fluid AFB positive in year 2017. The number of Mycobacterium tuberculosis (MTB) culture sent are 269 (2015), 418 (2016), 563 (2017) and 437 (2018). Among the MTB cultures sent, it was positive in 37 cases (2015), 65 cases (2016), 49 cases (2017) and 32 cases (2018).

Conclusions

This 4 years' single center audit report showed that smear AFB detection rate is the highest. In smear negative cases, early morning gastric lavage AFB detection method may sometimes be helpful in centers with limited resources.

PP 28

CORRELATION BETWEEN AHI IN POLYSOMNOGRAPHY (PSG) AND ODI IN OVERNIGHT PULSE OXIMETRY (OPO)

Siti Hajar Tubirin[1], Anna Marie Nathan[1,2], Surendran Thavagnanam[1,2], Eg Kah Peng[1,2], Jessie Anne de Bruyne[1,2]

[1]*Department of Paediatrics, University Malaya, 50603 Kuala Lumpur, Malaysia.*

[2]*Child Health Research Group, University Malaya, 50603 Kuala Lumpur, Malaysia.*

Introduction: Overnight polysomnography (PSG) is considered the gold-standard for the diagnosis of obstructive sleep apnoea (OSA). Overnight pulse oximetry is a simple test that can be easily to be done. In the PSG, measurement of the number of apnea and hypopnea events per hour, which is called apnea-hypopnea index (AHI) is used to diagnose severity of SRBD. However, in pulse oximetry, the oxygen desaturation index (ODI) is the number of times per hour of sleep that the blood's oxygen level drop by 3% or more. ***Objectives.*** We aimed to evaluate the correlation of the overnight oximetry ODI with PSG parameters. ***Methods.*** We included patients who were aged less than 18 years old, who were referred to the Paediatric Respiratory team to confirm the diagnosis of sleep-related disordered breathing, from April 2017 to April 2019. These patients were included if they had both overnight oximetry and PSG. Patients who had titration studies were excluded. Demographic data of the patients are recorded. PSG and overnight oximetry results were analyzed. ***Results:*** Twenty-five patients were included in this study. Mean (SD) age of the patients was 85 (± 52) months old and majority were male (64%). Majority (88%) had obstructive sleep apnoea (OSA) and 24% had underlying co-morbidities: Down syndrome (n=2), neuromuscular disease (n=2), Prader Willi (n=1) and Crouzon (n=1). Mean saturation in PSG differed from that in overnight oximetry (p=0.04) but there was no significant difference in the oxygen nadir, between the PSG and oximetry (p=0.09). Similarly, there was no significant correlation between the mean saturation in the PSG and oximetry (r=0.30, p=0.146) but a significant correlation between the oxygen nadir in PSG and oximetry (r=0.482, p=0.015). PSG AHI had a poor correlation with the ODI in oximetry (r=0.35, p=0.08). There was no correlation between BMI index and AHI (p=0.51) and BMI with ODI (p=0.06)***. Conclusions:*** ODI in oximetry did not correlate with AHI in PSG. However, the oxygen nadir in both PSG and overnight oximetry were similar and correlated with each other. PSG remains the gold-standard in diagnosing OSA.

PP 29

OUTCOMES IN LUNG CANCER: 2 YEAR EXPERIENCE FROM A TERTIARY HOSPITAL IN KELANTAN

[1]Grace Chu, [1]**Joel WY Gan**, [2]Azza Omar
Hospital Kuala Krai, Kelantan, Malaysia
Hospital Raja Perempuan Zainab II, Kelantan, Malaysia

Background
There has been a global paradigm shift in lung cancer histology distribution, whereby relative incidence of adenocarcinoma has increased, with corresponding decrease in squamous cell carcinoma as the commonest lung cancer subtype. The last review on lung cancer in Kelantan (single center experience) - one of the states in Malaysia with highest smoker rate (30%), was in 1990; while Malaysian National Cancer Registry Report was last updated for 2007-2011. Therefore, we seek to describe and compare the changing trends for lung cancer in the recent years.

Methodology
This is a retrospective descriptive study involving newly diagnosed primary lung cancer at a tertiary hospital in Kelantan, Hospital Raja Perempuan Zainab II over 2015-2016. Patient list was provided by the pathology department and clinical notes were reviewed for data collection. Statistical analysis was performed using SPSS to measure associations and outcomes of lung cancer patients.

Results
The male:female incidence ratio is 1.78:1. The mean age of the patients was 59. Adenocarcinoma was the commonest histology type (68.7%), followed by squamous cell (15%), small cell (2.5%). Only 51.2% of patients were treated for lung cancer. Treatment modalities included targeted therapy, chemotherapy and radiotherapy. Defaulter rate was 33%, and was higher among those who refused therapy (51.3%). Survival curves showed better prognosis for patients who received therapy regardless of disease staging.

Conclusion
Appropriate treatment even in stage IV lung cancer, may improve morbidity and survival rate. Clinicians need to address the reasons patients default in order to improve treatment success rate.

PP 30

CHARACTERISTICS AND OUTCOME OF PATIENTS DIAGNOSED WITH PNEUMONIA FOLLOWING HAJI AND UMRAH PILGRIMAGE: A 5-YEAR REVIEW.

Amran IM, Malek NA, Jamaludin MA, Rasli MH, Sufian E, Arba'ie NH, Syed Mansor SZ, Shahril NS
Internal Medicine Department, Hospital Putrajaya

Introduction
International mass gatherings during Hajj and Umrah pilgrimage pose a risk of communicable disease outbreaks for respiratory illnesses due to crowding. Pneumonia has been reported to be the leading cause of hospitalization among pilgrims.

Objective
To illustrate the characteristics and outcome of patients diagnosed with pneumonia upon returning from Umrah and Hajj pilgrimage in Hospital Putrajaya.

Methodology
This is a retrospective review of pneumonia cases from 2014 until 2018. Patient demographics, clinical history, cultures and serology results were extracted from the electronic medical records and analyzed using SPSS 22.

Results
There were 208 cases with almost equal numbers of female (n: 106) and male (n: 102) patients, with Malay predominance (n: 194, 93%). Mean age at diagnosis is 62.7 years (SD + 62.721). The majority was non-smokers (n: 182, 87.5%), and only 25.2% had underlying respiratory disorders (n: 38). 84.1% of cases had stayed in Mecca for duration of 1-2 weeks (n: 175). Three quarter patients had respiratory symptoms less than one week (n: 157, 75.5%), with 39.9% presented with coryza (n: 85). Only 36% of patients had fever (n: 75). 68.8% of patients (n:143) had respiratory failure on admission. Almost one-fifth of patients required assisted ventilation (n: 36, 17.3%). Sputum culture were only positive in 51% of cases: Staphylococcus aureus (n:8, 3.8%), Klebsiella pneumoniae (n:6, 2.9%), Candida albicans (n:6, 2.9%) and Pseudomonas sp. (n:4,1.9%). Blood cultures were positive in 8.6% of cases (n:18): Staphylococcus aureus (n:5, 2.4%) streptococcus pneumonia (n:4, 1.9%), and Staphylococcus coagulase negative were 1.4% (n:3) respectively. Only one patient had positive smear for Mycobacterium tuberculosis. Coronavirus polymerase chain reaction was tested in majority of cases (n: 202, 97.1%) and all were negative. There were 22 deaths (10.6%).

Conclusion
There was no coronarvirus-related pneumonia in this cohort. Staphylococcus aureus was the commonest bacteria cultured.

PP 31

PULMONARY TUBERCULOSIS AND OSTEOPENIA : ARE WE MISSING POSSIBLE FUTURE FRACTURES?

Amer Hayat Khan *, Zohra Bhatti*, Syed Azhar Syed Sulaiman*, Irfhan Ali Bin Hyder Ali**, **Nor Syamimi Mohd Isa****

**Department of Clinical Pharmacy, School of Pharmaceutical Sciences Universiti Sains Malaysia, Penang, Malaysia,*
***Respiratory Department, Hospital Palau Pinang, Penang, Malaysia.*

Introduction: Tuberculosis is an infectious disease characterized by systemic inflammatory cytokines responses that may be associated with osteopenia or osteoporosis. TB with osteoporosis is a potentially burgeoning epidemic in developing countries which is under recognized and thus severely underdiagnosed. Literature search indicates few clinical trials for outcomes of Tuberculosis with osteoporosis but extremely limited data with respect to osteopenia.

Objective: The aim of current study was to evaluate the incidence rate of osteopenia in TB patients and investigate the association between such co-morbid conditions.

Methodology: A prospective, observational study was designed in newly diagnosed TB patients in a tertiary level referral hospital. Confirmed TB cases were examined for occurrence of low bone mineral density (BMD) and associated risk factors by using quantitative ultrasound bone densitometer in Respiratory department of Hospital Pulau Penang.

Results: 69% of all TB (pulmonary and extrapulmonary) patients were found with osteopenia after screening. This is higher than osteopenia rates in a normal population which ranges between 30% to 50%. Of those with osteopenia, almost 57% were extrapulmonary TB. The risk factors observed were old age (OR: 1.919, $p < 0.001$), female gender (OR: 2.119, $p < 0.001$), occupation (OR: OR: 1.262, $p = 0.028$), hypertension (OR: 2.361, $p < 0.001$), hyperparathyroidism (OR: 1.342, $p = 0.008$), chronic obstructive pulmonary disease (OR: 5.919, $p < 0.001$) and low income.

Conclusion: The preliminary findings of this study indicate that TB is significantly associated with osteopenia. As TB is related to vitamin D deficiency which may lead to osteopenia with future risk of osteoporosis and fractures, future research looking into Vitamin D supplementation as part of a TB treatment regime is warranted.

PP 32

MICROBIAL ETIOLOGY OF HOSPITALIZED COMMUNITY-ACQUIRED PNEUMONIA PATIENTS IN CHEST DEPARTMENT, HOSPITAL PULAU PINANG.

Choon Seong Ang, Li Jing Yeang, Yuen Quan Chin, Inn Shih Khor, Irfhan Ali bin Hyder Ali
Respiratory Department, Hospital Pulau Pinang, Penang, Malaysia

Introduction: Despite being one of the leading causes of hospitalization in the country, community-acquired pneumonia (CAP) continues to be neglected in terms of research priorities. There is a pressing need for more local data especially on the microbiology of CAP as data abroad may not be applicable.
Objectives: We aim to determine the prevalence of culture positive among hospitalized CAP adult patients and compare their demographics, clinical profile, length of stay and mortality outcomes with culture negative CAP.
Methods: We reviewed the medical notes and chest radiographs of adult CAP patients admitted over a period of 6 months (June to November 2018) and relevant data were recorded. We defined CAP as cases with compatible clinical symptoms and/or chest radiographic changes. We excluded the misdiagnosis cases from the analysis.
Results: There were a total of 188 patients admitted as CAP during the study period with 73 patients (38.8%) excluded as misdiagnosis. The cohort of 115 CAP patients had a mean age of 65.3 +/- 17.82 years old, mostly male (60.0%), Chinese (51.3%) and non smokers (42.6%). On admission, almost all (97.4%) had at least one specimen sent for bacterial culture, either blood (95.7%) or sputum (63.5%). We found 40 patients (34.8%) were culture positive CAP with more Gram-negative bacteria (77.2%) than Gram positive bacteria (22.8%) isolated. The most common Gram-negative bacteria were Klebsiella pneumonia (32.4%) and Escherichia coli (14.7%). Staphylococcus aureus was the most common Gram positive pathogen (50%) followed by Streptococcus pneumonia (30%). We found only 12.7% of the blood cultures yielded positive growth compared to 39.7% of sputum cultures. There were no differences in terms of demographics, clinical profiles, length of stay and mortality between culture positive and negative CAP.
Conclusion: We agree with most data elsewhere that majority of CAP found no bacterial microbial etiology. Among the culture positive cases, Klebsiella pneumonia was the most common bacteria encountered in our centre.

PP 33

AUDIT ON PULMONARY TUBERCULOSIS IN A DISTRICT TUBERCULOSIS CLINIC

SW Cheo[1], AA Kamarudin[1], MH Saadon[2], EK Ng[3], QJ Low[4]

[1]*Hospital Lahad Datu, Sabah.*
[2]*Klinik Kesihatan Lahad Datu, Sabah.*
[3]*Hospital Tawau, Sabah.*
[4]*Hospital Sultanah Nora Ismail, Johor.*

Introduction :
Pulmonary tuberculosis is an important public health problem especially in a developing country like Malaysia. Tuberculosis is a chronic disease caused by Mycobacterium tuberculosis. It can infect lung and other parts of body. It is primarily transmitted by aerosols droplets.

Objective : To illustrate the demographics data of patients with tuberculosis and the outcome.

Methods :
This is a retrospective study conducted in TB clinic, Klinik Kesihatan Lahad Datu. Patients diagnosed to have tuberculosis from Jan 2014 till December 2018 were included. Data were retrieved from TB notification and analyzed via SPSS version 25.

Results :
There were total of 1704 cases of tuberculosis reported from 2014-2018, with an average of 341 cases per year. The average incidence rate is 144.8 per 100,000 population. Majority of the cases (80%) were adults age between 15-54 years old. In term of gender, 57.6% of the patients were male. Of the 1704 cases, 804 cases were Malaysians and the rest were from Indonesia and Philippines. In term of education level, majority of the patients (46%) were not formally educated and only small amount of patients were educated till university. On risk factors, 92% of the patients were non-diabetic, 71% were non-smokers. 80% of patients were smear positive and 91% were pulmonary tuberculosis. Only 141 cases extra-pulmonary tuberculosis been reported. Apart from these, we noted low number of drug resistant tuberculosis, with only 4cases in 5years. There were also low number (12cases) of HIV patients with tuberculosis. In term of outcome, we reported 107cases of TB death in 5 years, which correspond to mortality rate of 6%.

Conclusion :
In conclusion, our audit highlighted that tuberculosis remained an important public health problem in our country. We hope that through this audit, we can provide some insight into this public health problem. Essentially, control and prevention of TB are important in reducing transmission of the disease.

References :
K. Zaman, 2010

PP 34

ILLNESS PERCEPTION, EMOTIONAL DISTRESS AND HEALTH RELATED QUALITY OF LIFE AMONG PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Wan Ling, Lee; Nur Razanah Razli; Chong Kin, Liam
University of Malaya, Kuala Lumpur, Malaysia

The successful management of chronic diseases such as COPD is dependent on how patients self-managed their symptoms and the required lifestyle change. The health-related quality of life (HRQoL), illness perception and emotional distress of patients with COPD was examined in a cross-sectional study conducted in 2018. Outpatients who were physically and cognitively fit (N=120) had completed a battery of questionnaires (BIPQ-R, DASS 21 and CCQ) in two major medical facilities of Klang valley. Findings shows that the emotional distress of moderate-to-severe level was sizeable at 27.5% (depression), 44.9% (anxiety) and 21.9% (stress); meanwhile, 80.8% of patients had a moderate level of illness perception and 40.8% had moderate HRQoL. There were some statistically significant differences observed in the outcome measures across the gender, ethnicity, marital status and educational level among the patients. There were statistically significant correlations observed between emotional distress, illness perception and HRQoL ($p<0.05$). Therefore, effective nursing strategies in helping patients to manage the impact of their chronic diseases need to take into consideration the patients' state of emotion and how they make sense or respond to their illness.

PP 35

SINGLE CENTRE ANNUAL AUDIT ON PULMONARY EMBOLISM CASES

Qin Jian Low[1], Mohd Fauzan Salleh[1], Shu Ann Hon[1], Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4]

[1]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*
[2]*Hospital Queen Elizaberth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Lahad Datu, Sabah, Malaysia*

Introduction : Pulmonary embolism (PE) is a common and sometimes fatal disease. It is due to an obstruction of a pulmonary artery or one of its branches by material (eg. Thrombus, tumor, air or fat) that originated elsewhere in the body. The overall incidence of PE is approximately 112 cases per 100,000 populations. PE is slightly more common in males than females and incidence increases with age.

Objective : To look at the demographics, risk factors and outcome of CTPA confirmed PE cases.

Methodology : A retrospective audit of all computed tomography pulmonary angiogram (CTPA) confirmed PE cases at Hospital Sultanah Nora Ismail (HSNI) between 1st January to 31st December, 2018. Data analysis was done via SPSS version 25.

Results : 60 CTPA scans were performed during this period where 16 were positive for pulmonary embolism (27%). Among the 16 positive scans, 9 were female and 6 were male. The youngest PE patient was 33 and the oldest was 87 years old. Their ethnicity was 14(88%) Malay, 2(12%) Chinese. The pre-test wells score was 7 (score >6), 6 (score 2-6) and 3 (score <2). 6 patients had pre-test d-dimer sent with positive d dimer in 5 patients and 1 patient with negative d dimer result. 4 patients had underlying malignancy, 1 had anti-phospholipid syndrome and 3 had history of thrombosis in the past. The 16 PE patients were from 5(medical), 5(surgical), 1(orthopedic), 1 (obstetric), 2 (gynecology) and 2(ICU). All 16 cases had sinus tachycardia seen in their ECG prior to CTPA and 3 had S1Q3T3 seen. All 16 cases had type 1 respiratory failure seen in their arterial blood gas (ABG). 4 patients passed away during the same admission.

Conclusion

This single center PE audit report will enlighten clinicians on the patients' risk profiles and outcomes.

PP 36

MULTIDRUG RESISTANT TUBERCULOSIS IN JOHOR: SOUTHERN EXPERIENCE

Soo Fen W, RA Rahman, NA Tarekh
Hospital Sultanah Aminah Johor Bahru (HSAJB)

Introduction: Multidrug resistant Tuberculosis (MDRTB) incidence is on the rise in Malaysia. It is difficult to treat, longer duration of treatment, and more complications.
Objectives: The objectives are to determine the outcome and complications of second line antituberculosis treatment.
Methodology: All MDRTB cases notified from 2014 to 2018 in HSAJB were identified. Data were collected from the case notes.
Results: A total of 35 patients were diagnosed as MDRTB, 6 were rifampicin monoresistant. Mean age was 40. 20 were male. 34 were Malaysian, 1 were foreigner. 60% were Malay. All patients received second line therapy. Out of 35 cases, 8 (22.8%) death, 9 (25.7%) ongoing treatment, 11 (31.4%) cured, 5(14.3%) defaulted, 1 (2.9%) developed XDR, 1 (2.9%) transferred out. Major complication was ototoxicity (20%) followed by hypothyroidism (14%), and depression (9%).
Conclusions: About 1/3 of our cases were successfully treated with second line antituberculosis drugs. The rate is low compared to World Health Organization target.

PP 37

HEALTH RELATED QUALITY OF LIFE AND DEVELOPMENTAL OUTCOMES OF CHILDREN ON HOME RESPIRATORY SUPPORT

Tan Lay Teng
University of Malaya, Kuala Lumpur, Malaysia

Introduction: Provision of home respiratory ventilation to young children allows them to return home and achieve independence in their own home and communities.

Objective: The aim of this study was to determine the health related quality of life (HRQOL) and developmental outcomes of children on home respiratory support compared to controls and factors associated with its outcome.

Methodology: This is case control study which involved children less than 18 years of age, currently or previously on home respiratory support, attending the paediatric respiratory clinic in University Malaya Medical Centre (UMMC). The study period was from 11th May 2017 to 13th December 2018. Controls were age and sex-matched with patients. To assess HRQOL, the TNO-AZL Preschool children's quality of life (TAPQOL) was used in children less than 5 years old while the health utilities index (HUI) 2/3 questionnaire was for children 5 years and above. The Schedule of growing skill-II (SGS-II) was utilized to assess developmental outcomes of patients and controls, whose developmental age was 5 years or less.

Results: A total of 65 patients and 130 controls were recruited. Patients' median (IQR) age was 3.12 (1.65, 5.81) years. Compared to controls, patients had significantly lower heath related quality of life in the domains of lung, liveliness, positive mood, social functioning, motor functioning and communication using the TAPQOL and attributes of hearing, sensation, pain, speech, mobility, ambulatory, dexterity, self-care in the HUI2/3, were found. Developmental outcomes of patients were significantly poorer compared to controls in all domains. Patients with respiratory tract disease and without comorbidities had a better quality of life and developmental milestones compared to those with non-respiratory tract disease. Having a parent as the main caregiver was associated with better developmental outcomes, especially in speech and language skills.

Conclusion: Health related quality of life of children on home respiratory support was low with poor developmental outcomes. Children with respiratory tract disease and without comorbidities had better quality of life and development than those with non-respiratory disease. Having a parent as the main caregiver was associated with better developmental outcomes.

PP 38

A FIVE-YEAR REVIEW OF FLEXIBLE BRONCHOSCOPY IN CHILDREN IN UNIVERSITY MALAYA MEDICAL CENTRE: A RETROSPECTIVE REVIEW

Noorintan Liana Bt Mohamed Sharif, Eg Kah Peng, Anna Marie Nathan
University of Malaya, Kuala Lumpur, Malaysia

Introduction: Flexible bronchoscopy (FB) is increasingly being used as a valuable diagnostic tool in children with respiratory problems.

Objectives: This study aimed to determine the diagnostic yield, clinical contribution, usefulness of bronchoalveolar lavage (BAL) and complications in paediatric flexible bronchoscopy.

Design: Retrospective study.

Setting: Pediatric Respiratory Unit, University of Malaya Medical Centre, Kuala Lumpur.

Sample population: Children underwent FB over a five-year period from year 2014 to 2018.

Methods: Demographic data, patient characteristics, indications and bronchoscopy findings were obtained from the bronchoscopy reports. Data on BAL results, sedation usage, antibiotic exposure and complications were retrieved from medical record for analysis.

Results: A hundred and forty-four records were reviewed. The median (IQR) age of patients was 10 (3, 41) months old. Males consisted of 58.3%. The commonest indication for FB was stridor in 27.1% of patients. Abnormal bronchoscopy findings were detected in 72% of patients and positive BAL bacterial culture was encountered in 25% of total patients. The median (IQR) WBC count was 250 (58,1370) /uL and median (IQR) neutrophil percentage was 92 (56,98.5) % in patients who had a positive pathogenic bacterial infection. In total, flexible bronchoscopy gave a diagnostic yield of 80% and clinical contribution in 41% of patients who underwent FB. Incidence of major complication was rare in 2% of cases. The usage of single sedative agent, presence of subglottic stenosis and patient admitted to PICU were independent risk factors associated with complications.

Conclusions: Flexible bronchoscopy had a high diagnostic yield and when used in combination with bronchoalveolar lavage evaluation, gives a useful contribution in clinical management of patient. It was a relatively safe procedure with low incidence of major complications.

PP 39

THE EFFECT OF KETAMINE ON EMERGENCE AGITATION IN CHILDREN: A SYSTEMATIC REVIEW WITH META-ANALYSIS AND TRIAL SEQUENTIAL ANALYSIS

Ka Ting Ng[1], Deep Sadore[2], Yuen Sin Lai[1], Wan Yi Teoh[3], Chew Yin Wang[1]

1 University of Malaya, Kuala Lumpur, Malaysia
2 University of Glasgow, Glasgow, Scotland
3 University of Liverpool, United Kingdom

Objectives:
Ketamine is believed to have anti-inflammatory effect to prevent neuronal damage, which is associated with lower incidence of emergence agitation in children. However, recent randomized controlled trials (RCTs) reported contraindicated findings. The efficacy and safety profile of ketamine for the prevention of emergence agitation remains unclear. The primary aim was to investigate the effect of ketamine on emergence agitation in children. Secondary aims were to examine the clinical effects of ketamine on pain score, postoperative nausea and vomiting, incidence of desaturation and laryngospasm.
Methods:
Databases of MEDLINE, EMBASE and CENTRAL were systematically sought from their inception until March 2019. All RCTs comparing intravenous ketamine and placebo in children were included in this review. Observational studies, case series and case reports were excluded.
Results:
Twelve RCTs (1,064 patients) were eligible for inclusion in the data synthesis. The incidence of emergence agitation was 15.8% in ketamine group and 37.7% in placebo group. Intravenous ketamine significantly reduced emergence agitation in children, with an OR being 0.20 (0.10, 0.40), $\rho<0.01$; trial sequential analysis: inconclusive; certainty of evidence: high. In comparison to placebo, children receiving intravenous ketamine had significantly lower pain score at post-anaesthesia care unit (OR -2.21, 95% CI -3.81, -0.60; $\rho<0.01$, certainty of evidence: moderate) and lower paediatric anaesthesia emergence agitation scale at 5-minute postoperatively (OR -2.21, 95% CI -3.81, -0.60; $\rho<0.01$, certainty of evidence: high). No significant differences were demonstrated in term of incidence of nausea and vomiting, desaturation and laryngospasm.

Conclusions:
In the meta-analysis of 12 RCTs, intravenous ketamine reduces the incidence of emergence agitation and postoperative pain score in children undergoing surgery and procedure sedation. Due to inconclusive trial sequential analysis and high degree of heterogeneity, future adequately powered RCTs are warranted to achieve the required information size and minimise heterogeneity by standardizing the choice of anaesthetic agents and type of surgery.

PROSPERO registration:
CRD42019131865

PP 40

MANAGEMENT OF PLEURAL EFFUSION IN PEDIATRIC POPULATION IN DISTRICT HOSPITAL: CHALLENGES AND REMEDIES

Sharanya Giridharan

Miri General Hospital, Miri, Sarawak, Malaysia

Parapneumonic effusion is defined as pleural effusion associated with lung infection. It is a frequent complication of bacterial pneumonia in children although occurrence is less compared to the adult population. Common causative organisms include Staphylococcus aureus, Streptococcus pneumoniae and Haemophilus infuenzae. The usual presenting symptoms are fever, anorexia, breathlessness, lethargy and pleuritic chest pain. Establishing the exact causative agent can be challenging in a resource limited center, further complicating the management. Ultrasound is more useful than chest xray in evaluation of complex effusions. The usage of CT is limited to cases with clinical suspicion of lung necrosis or abscess. Delayed treatment greatly increases the mortality and morbidity rate.

We report our observations and result of a 1 year retrospective review of all patients admitted to Miri General Hospital from April 2018 to April 2019 for pleural effusion. Majority of them came from lower sociodemographic sectors. All of the cases had an infectious cause. Without the availability of a respiratory paediatrician or paediatric surgeon, there were various treatment approaches in our setting which could have influenced the outcome.

PP 41

WHOLE EXOME SEQUENCING IN CHIDLREN WITH CHRONIC LUNG DISEASE

Asiah Kassim[1], N.Fafwati Akmar Mohamad[1], Noor Ain Noor Affendi[1], Hafizah Zainudin[1], Mohd Farid Baharin[2], Munirah Hishamshah[2], Chear Chai Teng[2], Hamidah Ghani[3], Saharuddin Bin Mohamad[3,4], Adiratna Mat Ripen[2]

1. Institute of Paediatrics, Kuala Lumpur Hospital, Malaysia.
2. Primary Immunodeficiency Unit, Allergy and Immunology Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia.
3. Institute of Biological Sciences, Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia.
4. Centre of Research for Computational Sciences and Informatics for Biology, Bioindustry, Environment, Agriculture and Healthcare (CRYSTAL), Institute of Biological Sciences, Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia.

Introduction: Chronic lung diseases (CLD) in children include bronchiectasis, bronchiolitis obliterans and interstitial lung disease are diagnosed with or without known cause. Common signs or symptoms are chronic cough, recurrent pneumonia, failure to thrive, respiratory distress etc. Objective: To detect role of whole-exome sequencing (WES) in children with CLD and abnormal laboratory immunology results. Methodology: Children who were newly diagnosed with CLD with abnormal laboratory immunological results from 2011-2017 were identified. WES study were done after parental consent available. WES was performed using Illumina paired-end sequencing platform with targeted 100X coverage using Agilent SureSelect Human All Exon kits. Bioinformatics analysis including mapping WES dataset to human reference genome (hg38) and variant calling on Single-nucleotide polymorphisms (SNPs) and insertion-deletion mutations (Indels) was performed. Filtering approach was used to identify genetic variants using 245 PID-related genes, allele frequency reported in GnomAD database and in-silico damaging prediction tools using SIFT, Poly-Phen2 and Mutation Taster. Demographic and clinical data were compiled for descriptive analysis. Results: 10 subjects were identified and four were female including one pair of identical twins. All subjects had abnormal laboratory immunological results like Isolated T cell deficiency, low immunoglobulins, combined T and B cell deficiency. WES identified gene mutation in six cases including one case of ABCA 3 gene mutation, three cases of SH2D1A (X-linked) and two cases of CD21 mutation. Conclusion: Whole-exome sequencing has a role in detecting underlying cause for children with CLD associated with abnormal laboratory immunological results.

PP 42

PERTUSSIS AMONG INFANTS IN HOSPITAL BINTULU: A THREE-YEAR RETROSPECTIVE REVIEW

Yee Yen Tan, Mas Qistina binti Saharudin, Yee Chin Tee, Yi Wen Wong, Anand Mohan
Department of Paediatrics, Hospital Bintulu, Sarawak, Malaysia

Introduction: Pertussis remains a significant cause of morbidity and mortality among infants who have been too young to receive the full course of vaccination.

Objective: This study aims to describe the clinical course and the outcomes of infants, aged between 0 to 6 months old, admitted to Hospital Bintulu with Pertussis over a three-year period.

Methodology: All infants aged between 0 to 6 months old who were admitted for acute respiratory infection between 1/7/2014 to 30/6/2017 were identified. The infants with NPA Bordetella pertussis sent and resulted positive were further selected for detailed clinical data collection and analysis.

Results: There were 1518 admissions for acute respiratory infections involving 1254 patients. NPA for Bordetella pertussis PCR was sent for 355 patients and 69 were tested positive. Among the 69 Pertussis-positive infants, the mean age of presentation was 1.6 month old (SD 1.37). The most common presentation was cough with facial congestion (n=42, 61%), followed by prolonged bouts of cough (n=24, 35%). They presented on a median of day 4 from the onset of symptom (IQR 4). 55 of them (80%) were infants who were previous well without any risk factor. 30 of them (60%) had not yet receive a single dose of Pertussis vaccination. 61 of them (88%) required oxygen supplementation and 16 of them (23%) required invasive ventilation. The median duration of hospital stay was 8 days (IQR 12). There was no death or neurological disability among these infants, but 3 of them (4%) required long term home oxygen. When followed up till 18 months old, 23 of them (33%) have had at least one hospital readmission for lower respiratory tract infection or wheezing episode, and 14 of them (20%) of them have been started on inhaled corticosteroid.

Conclusion: Pertussis resulted in significant morbidity among young infants, and the negative effect carried on till early toddlerhood. This justifies the call for more serious effort towards disease control.

PP 43

A SILENT KILLER: EPIDEMIOLOGY OF SEVERE ADENOVIRUS LOWER RESPIRATORY TRACT INFECTION (LRTI) IN CHILDREN AND CLINICAL OUTCOME FOLLOWING INTRAVENOUS HUMAN IMMUNOGLOBULIN

Rachel Huimin Chong, Puong Sing Lau, Narenderan Karthikesu
Hospital Miri, Sarawak, Malaysia

Introduction
Human adenovirus (HAdV) is a common causative agent of lower respiratory tract disease in the paediatric population. Severe outbreaks of HAdV infection have been widely reported in many countries over the past decade.

Objective
To describe the epidemiology and clinical features of HAdV in association with the severity of disease and the outcome following human immunoglobulin in severe HAdV infection.

Methodology
This was a retrospective study of 26 children under the age of 12 who presented with severe respiratory illness and had positive respiratory samples for HAdv between January 2018 and December 2018 in Hospital Miri, Sarawak. The demographics, clinical presentation, laboratory findings and outcome of patients were collected.

Results
Median age was 1.0 (0.3 – 11.0) years with 85% of them were under 2 years old. Male to female ratio was 2.7:1. 58% had severe disease with the case fatality rate of 12%. One patient developed bronchiolitis obliterans (3.8%). The commonest symptoms were cough (100%), fever and tachypnea (both 84.6%; 22/26), rhinorrhoea (65.4%; 17/26) and diarrhoea (26.9%; 7/26). Mean temperature during admission was 38.7°C.

The duration of fever was significantly longer in the severe HAdV group with a mean of 9.8 days versus the non-severe group of 5.5 days ($p=0.01$). A total of 15 patients required mechanical ventilation (58%), 40% of them were invasive while the rest were non-invasive ventilation. There was a significant association between the administration of human immunoglobulin and the survival of a child ($p=0.032$). The usage of IVIg was associated with shorter duration of admission ($p= 0.007$).

Conclusion
Adenovirus infection is a common infection in young children that can cause significant morbidity and mortality. HAdV LRTI should be considered as a differential diagnosis when a child below the age of 2 presents with respiratory distress and high spiking fever. The administration of human immunoglobulin may be considered in severe HAdV LRTI.

PP 44

CHARACTERISTICS OF THREE INFANT DEATHS FROM CRITICAL PERTUSSIS

[1]Kavetha Ramalingam, [1]Rus Anida Awang, [2]Saiful Rijal Muhammad
[1]Paediatric Respiratory Unit, Paediatric Department, Hospital Pulau Pinang
[2]Paediatric Department, Hospital Taiping

Introduction : The clinical spectrum of Bordetella pertussis infection in young infants varies from trivial to severe illness resulting in death. Critical pertussis is pertussis that results in Paediatric Intensive Care Unit admission or death, characterized by severe respiratory failure, extreme leucocytosis and pulmonary hypertension.

Methodology : We collected demographic and clinical information from the medical records of infants who died from clinical or laboratory confirmed pertussis in Hospital Taiping from January 2015 till December 2018.

Results : There were three deaths from pertussis in infants with critical pertussis. All infants were below 3 months old and presented with runny nose and cough associated with facial congestion. They were not vaccinated. Sick contact was family members. All infants presented in respiratory failure requiring intubation and ventilation on high FiO2 of at least 0.7. There were clinical and radiological evidence of pneumonia. The infants were very tachycardic with heart rate exceeding 190 beats per minute. There was extreme leucocytosis exceeding 50,000 WBC/mm3. During the course of illness, tachycardia persisted while WBC counts increased. Two patients had seizures. All infants had evidence of pulmonary hypertension, became hypotensive and succumbed.

Conclusion : The clinical picture of a young infant with cough, respiratory failure from pneumonia, extreme tachycardia and leucocytosis is characteristic of critical pertussis. These clinical features are well described as mortality predictors. By recognizing critical pertussis, clinicians can initiate double volume exchange transfusion which has been described as effective by various authors.

Keywords : Critical pertussis; pertussis mortality; extreme leucocytosis, exchange transfusion.

PP 45

ONE-YEAR FOLLOW UP OF CHILDREN ADMITTED WITH SEVERE LOWER RESPIRATORY TRACT INFECTION: A PROSPECTIVE COHORT STUDY IN DEVELOPING COUNTRY

H'ng Shih Ying[1], Anna M Nathan[1,2], Cindy Shuan Ju Teh[3], Kartini Abdul Jabar[3], Caroline Westerhout[4], Eg Kah Peng(MMed)[1,2], Rafdzah Zaki[5], Surendran Thavagnanam (FRCPCH)[6], Jessie Anne deBruyne[1,2]

[1]*Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia*
[2]*University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia*
[3]*Department of Microbiology, University Malaya, 50603 Kuala Lumpur, Malaysia.*
[4]*Department of Biomedical Imaging, University Malaya Medical Centre, 50603 Kuala Lumpur, Malaysia.*
[5]*Julius Centre University of Malaya, Department of Social & Preventive Medicine, Faculty of Medicine, 50603 Kuala Lumpur, Malaysia.*
[6]*Department of Paediatrica, Royal London Hospital, Whitechapel,London, United Kingdom.*

Background: Acute lower respiratory tract infections in children can result in persistent respiratory symptoms. **Objectives:** To determine the a) prevalence of respiratory complication, b) it's diagnoses and c) factors associated with persistent respiratory sequelae, 1 year following admission for a lower respiratory tract infection (LRTI). **Methods:** A prospective cohort study was conducted in a tertiary hospital, between 1st Oct 2014 till 31st Oct 2016, recruiting children aged 1 month till 5-years-old admitted with LRTI. Patients were reviewed at 1,6- and 12-months post discharge. The Parent Cough-Specific Quality of Life (PC-QOL) and the Depression, Anxiety and Stress (DASS21) questionnaires were administered at clinic visits. Outcome reviewed were need for unscheduled healthcare visits and respiratory symptoms. Consultant respiratory physicians made the final diagnoses. **Results:** Three hundred children with median(range)age of 14 (1-137) months were recruited. Mean (SD) duration of cough post discharge was 14 (±1) days as per cough-diary. At 1-month review, 31.4% had unscheduled health care visits and 18.1% had chronic cough. At 6 month and/or 12 months review, 60.7% were well, 33% had wheezing phenotype, 5.2% had chronic lung disease and 1.1 % had other complications. Severe disease (adjOR 2.94[95%CI 1.22, 6.78]) at presentation was associated with increased risk of respiratory sequalae while antibiotic use in hospital (adjOR 0.38[95%CI 0.21,0.70]) was associated with reduced risk of respiratory sequalae. **Conclusion:** One in three children who were hospitalised for LRTI required further healthcare visit at 1-month review and 40% had respiratory sequalae at 1 year. Severe disease and lack of antibiotic use was associated with increased risk of subsequent respiratory sequalae.

PP 46

RECURRENT PNEUMONIA IN CHILDREN

Lee Chian YEONG[1], Hafizah ZAINUDDIN[2], N. Fafwati Faridatul Akmar MOHAMAD[1], Farizah Mohd HAIRI[3], Asiah KASSIM[1]

[1] *Respiratory Unit, Women and Children Hospital, Kuala Lumpur, Malaysia*
[2] *Faculty of Medicine, Universiti Teknologi Mara, Selangor Darul Ehsan, Malaysia*
[3] *Faculty of Medicine, University of Malaya, Malaysia*

INTRODUCTION: Pneumonia is one of the common causes of hospital admission in children. Recurrent pneumonia defined as two or more episodes of pneumonia in 12 months or three episodes altogether with radiographic clearance in between. Commonest cause of recurrent pneumonia in countries like Canada, Turkey, India and Netherlands is gastro-esophageal reflux. However, there is no published data available on causes of recurrent pneumonia among children in Malaysia.

OBJECTIVE: The aims of the study are to determine the causes of recurrent pneumonia, describe associated factors and complications of recurrent pneumonia in children.

METHOD: Retrospective study of subjects referred to Paediatric Respiratory Unit, Institute of Paediatric Hospital Kuala Lumpur for recurrent pneumonia from January-December 2017.

RESULT: 22 subjects with recurrent pneumonia with completed information identified. Their range of age was from 10 months to 11 years with 15 boys and 7 girls. Smoker in household was found in 13 subjects (59%) and 8 subjects (36.3%) had underlying medical condition including congenital heart disease and gastrointestinal disease. 15 subjects (68.2%) cause of recurrent pneumonia was identified include airway anomalies in 6 subjects (40%) and pulmonary tuberculosis in 4 subjects (26%). Commonest complication found was failure to thrive in 9 subjects.

CONCLUSION: Early recognition of recurrent pneumonia is important to find the cause and prevent complication like growth retardation in children.

PP 47

ENDOBRONCHIAL TUBERCULOSIS IN CHILDREN

Fairuz ABDUL RANI, Fatin Farihah NASIR, N Fafwati Faridatul Akmar MOHAMAD, Nor Khailawati SHARIBUDIN, Asiah KASSIM

Women and Children Hospital, Kuala Lumpur

INTRODUCTION: Tuberculosis (TB) is a major global health issue. Endobronchial TB(EBTB) is a specific form of TB not easily recognized and is defined as tuberculosis infection of the tracheobronchial tree with or without parenchymal involvement. The early clinical manifestations of childhood EBTB are often non-specific along with normal chest radiograph in 10-20% cases may be alleged for the diagnostic delay. As EBTB is often underdiagnosed, delay in treatment often occurs and would result in many complications-posing serious impacts on children's health and development. The reported incidence of EBTB varies greatly from 6-50% and most of the diagnosis was retrospective. **OBJECTIVE:** To identify clinical presentations, complications, recognize management regimes and outcomes of EBTB in children. **METHOD:** Retrospective study of diagnosed EBTB among children in Institute of Paediatric Hospital Kuala Lumpur from January 2016 - December 2018. **RESULTS:** 18 subjects diagnosed as EBTB were identified. The age range was from 1 to 13 years old with 9 boys and 9 girls. Common symptoms were chronic cough, fever and shortness of breath. Other than respiratory findings, commonest sign was failure to thrive. Flexible bronchoscopy was done for 16 subjects and all subjects were treated with Isoniazid, Rifampicin and Pyrazinamide. Additional management regime includes additional Ethambutol (53%), Prednisolone (47%) and surgical intervention (17%). Several complications identified 6 months after diagnosis i.e. bronchiectasis (35%) and growth retardation. 12 months after diagnosis, 23% of subjects had survived without complications and 30% had complications like bronchiectasis and failure to thrive. 12% defaulted follow up or has not reached the given time period. **CONCLUSION:** Early recognition of EBTB is imperative in order to prevent complications such as bronchiectasis and growth retardation in children.

PP 48

CLINICAL PROFILE AND OUTCOME OF PAEDIATRIC HOME VENTILATION:10 YEARS' SINGLE-CENTRE EXPERIENCE

Mariana D[1]

[1] *Paediatric Respiratory Unit, Hospital Raja Perempuan Zainab(HPRZ) II, Kota Bharu, Malaysia*

Introduction: Home mechanical ventilation is an accepted standard treatment of children with chronic respiratory failure and obstructive sleep apnoea. Sending mechanically ventilated children to home is more challenging than adult.

Objective: The aim of this study is to evaluate the clinical profile and outcome of the children enrolled in home ventilation program in Kelantan.

Methodology: A retrospective review of demographic data and outcome of a cohort of children received home ventilation in Paediatric Respiratory Unit, HRPZ 11, Kelantan was conducted from the unit database from 1st January 2009 to 30th April 2019. The data was analysed using SPSS software version 20.

Result: Total of 59 children with 76.3 % males were enrolled. The mean age of starting NIV was 7.1 years (SD 4.9). Median length of time in the program was 9.9 months (IQR:23.4). CPAP mode was used in 59.3% of cases while 40.7% were on Bilevel/BiPAP support. Majority of respiratory support (47.5%) were used for severe OSAS in normal child, followed by 15.3% for lung parenchymal/respiratory diseases, 13.6% for syndromes, 10.2% for other neurological disorders, 6.8% for airway abnormalities and 6.8% for neuromuscular disorders. Among the OSAS children, 67.9% (19/28) used CPAP mode. Mean age of starting NIV among OSAS children was 9.4 years (SD 2.85) while the non-OSA group was 4.8 years (SD 5.3). For the non-OSAS children, 51.6% used CPAP and 48.4% used BIPAP, p=1.6. The median duration of respiratory support for OSAS was 4.8 months (IQR:16.2), while for non-OSAS was 18.1 months (IQR: 34.8). 16.9% % of cases required respiratory support with oxygen supplementation . Majority (50.8%) were able to wean off the respiratory support while 16/59 (27.1%) still on on-going therapy. There were 10 deaths (16.9%) and all were from non-OSAS group. The interface used was nasal mask 69.5% (41/59), full face mask in 22%(13/59) while 5 (8.5%) were on tracheostomy. 35.6% of children were on gastrostomy or nasogastric feeding and 38.1% of them used feeding pump.

Conclusion: Home ventilation program is feasible and provides safe and necessary home ventilatory assistance for children with chronic respiratory failure and obstructive sleep apnoea.

PP 49

SECONDARY OSTEOPOROSIS IN CHILDHOOD OBSTRUCTIVE SLEEP APNOEA SYNDROME.

Nur Syazwin Sies[1], Anne Marie Nathan[1,2], Jessie Ann de Bruyne[1,2], Mohd Yazid Jalaluddin[1,2], Azriyanti Anuar Zaini[1,2], Karuthan Chinna[3], Surendran Thavagnanam[4]

[1]*Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia*
[2]*University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia*
[3]*School of Medicine, Faculty of Health and Medical Sciences, Taylor's University, Malaysia*
[4]*Department of Paediatrics, Royal London Hospital, London, United Kingdom*

Introduction Obstructive sleep apnoea syndrome (OSAS) is the most common form of sleep disordered breathing affecting 2-4% children. Repetitive episodes of hypoxia may affect bone metabolism increasing the risk for secondary osteoporosis.
Objective To study the association of children with OSAS and risk of secondary osteoporosis using ultrasound calcaneus.

Methodology 86 children between 10-17 years-old suspected of having OSAS and 64 children without OSAS (control group) were included. Polysomnography was performed in all children suspected OSAS. Physical activity scoring for children (PAQ-C),dietary calcium intake (food frequency questionnaire), Vitamin D levels and quantitative calcaneus ultrasound measuring speed of sound (SOS) were collected.
Results Majority were male and Malay ethnicity. Children from OSAS group were mostly obese (84%) as compared to the control group. 57% of the OSAS group had moderate to severe OSAS. Both groups showed equally low activity individuals PAQ-C score 1 , p=0.078. Their mean dietary calcium intake in both groups was similar 1029.88 mg/day ± 100SD. Both groups showed evidence of Vitamin D deficiency but no differences in mean Vitamin D levels were seen in OSAS group (46.59 ng/ml ± 1.05SD) and control group.(50.03 ng/ml ± 1.53SD), p = 0.066. Patients with OSAS had a lower Speed of Sound (SoS) compared to controls ($F(2,147) = 11.698$, $p = < 0.001$).
Conclusion Children with OSAS had lower SoS suggesting risk for early osteoporosis. We conclude that using USG calcaneus is noninvasive and can be used to screen risk of osteoporosis in children with OSAS.

PP 50

SPIROMETRY REPEATABILITY AND ACCEPTABILITY TECHNIQUE AMONG CHILDREN AGED 7 TO 18 YEARS

Asmah A, **Junitarayani M**, Fazila MA, Mariana D
Paediatric Respiratory Unit, Hospital Raja Perempuan Zainab(HRPZ) II, Kota Bharu, Malaysia

Introduction:
Spirometry is one of the commonest respiratory function tests performed and is used to diagnose asthma, restrictive lung disease and other disorders affecting lung function. It also performed to monitor chronic lung conditions and the response to treatment. The proper technique is important for accurate interpretation. However, it is challenging to do spirometry in children.

Objective:
To evaluate repeatability and acceptability criteria of spirometry test among children aged 7 to 18 years.

Methodology:
A retrospective study of 50 children aged 7 to 18 years who performed spirometry at Paediatric Respiratory Clinic, HRPZ 11, Kota Bharu, Kelantan from 1st January 2018 until 31st Mei 2019 were enrolled. The spirometry were performed by trained and certified respiratory nurses and the spirometry results were interpreted by paediatric pulmonologist. The demographic data and spirometry results were collected and analyzed.

Results:
There were 50 children who performed spirometry with majority of them were girls (32/50) 64.0%. Most of the children (96%) were Malays. Mean age of the patient during the test was 11.6 years (SD 3.2). Majority of the children (96 %) were asthmatics and 92% were on preventer medication. The commonest preventer used was inhaled corticosteroids (ICS) alone in 58.7.0%, followed by ICS/LABA in 19.5% and the rest were on ICS/LABA+LTRA+other medications or ICS+LTRA. Majority (72.0%) of the patients had comorbidity of allergic rhinitis. All the children (100%) fulfilled repeatability criteria but only 72% of the spirometry test fulfilled acceptability criteria according to ATS guideline. The main reasons for failed acceptability criteria were 12% were due short blow for age in 8/14 patients (57.1%), short blow with end criteria not met in 2/14 (14.3 %), and 1 patient each (7.1%) for end criteria not meet with extra breath, short blow with extra breath , end criteria not met and leak around the mouth.

Conclusions:
This study showed that most of our children were able to perform the spirometry properly. All of them met the repeatability criteria and 72% met the acceptability criteria.

PP 51

RESPIRATORY TRACT INFECTIONS IN CHILDREN ADMITTED TO A TERTIARY HOSPITAL IN MALAYSIA

Chen Shu Ming , Fazliana AR, Nurul Shahida H, Jasminder K, Wong HL,Wong YM, Asiah Kassim
Women and Children Hospital, Kuala Lumpur

INTRODUCTION: Respiratory tract infection (RTI) is the commonest diagnosis for hospital admission in children. It involves upper respiratory tract and lower respiratory tract infections. Several risk factors were found to cause RTI e.g. underlying medical problems, poor socioeconomic status, overcrowding etc. **OBJECTIVE:** To describe the demographic and clinical features of the RTI among children admitted to General Paediatric Ward of Institute of Paediatric Hospital Kuala Lumpur in 2012. **METHOD:** It was a prospective study of children admitted with respiratory tract infections to three General Paediatric wards with total of 96 beds in Institute of Paediatric Hospital Kuala Lumpur from January till December 2012. **RESULTS:** There were total of 395 cases with male predominant (212). The age ranged from 0.01 to 11.7 years old. Predominant ethnicity was Malay (317). Diagnosis of respiratory tract infections admitted were pharyngitis (115), tonsillitis (22), Croup (7), Acute Otitis media (15), Acute bronchiolitis (52), Bronchopneumonia (170) and Lobar pneumonia (3). 25 of them had underlying medical problems including cardiac, respiratory and renal disease. 19 of them had incomplete immunization and 94 was send to daycare centre. Common symptoms were cough (330), fever (268), shortness of breath (90), lethargy (19) and noisy breathing (90). 253 cases received medical treatment from clinics like GP, ED, KK and other prior to hospital admission. About 22% had smokers in their household. Treatment given to them include bronchodilator (37%), antibiotic (60%), oxygen (14%) and assisted ventilation (1.2%). 98.9% did not develop any sequelae from the RTI.**CONCLUSION:** Children requiring hospital admission for RTI involves upper and lower RTI and about 64% had received previous medical therapy. Majority of children with RTI did not have any underlying medical disease and recovered without sequelae.

PP 52

CLINICAL CHARACTERISTICS AND OUTCOME OF PAEDIATRIC INFECTIVE PLEURAL EFFUSION

Fazila MA, Mariana D

Paediatric Respiratory Unit, Hospital Raja Perempuan Zainab(HRPZ) II, Kota Bharu, Malaysia

Introduction: Pleural effusion is defined as accumulation of fluids in pleural space. There are lack of data regarding the pleural effusion in children compare to adult. Common causes of pleural effusion in children are parapneumonic effusion, purulent empyema, heart disease and malignancy. Clinical presentation and some investigations were important to determine the severity of disease and the outcome.

Objective: To evaluate the clinical characteristics and outcome of infective pleural effusion in children

Methodology: A Retrospective study of medical records of all children admitted to paediatric wards, HRPZ II with infective pleural effusion/empyema from January 2018 until April 2019 was conducted. The clinical characteristics and outcome data were collected and analysed using SPSS version 20.

Results: There were 21 children with predominant girls in 66.7% of cases. The median age of presentation was 28.8 months (IQR 50.6). The duration of hospitalization was 21.4 days (SD: 10.1). Median duration of follow up was 13.1 weeks (IQR 23.4). In our patients, 33.3% of them had past history of previous admission for pneumonia. The commonest presenting complaints were fever 100%, followed by cough (85.7%) and difficulty in breathing (71.4%). Most of the children (71.4%) have associated sepsis. For the blood investigations, mean leucocyte was 23.5x10x9/L (SD 10.9) and CRP was 193.7mg/l (SD 97.6). Median for serum Albumin (20/21) was 27.2g/L (IQR 5). 12 patients (57.1%) required intensive care admission, while 9 of the them (42.9%) required ventilation. 16 patients (76.2%) required tube thoracotomy and out of that 6 patients (37.5%) required anti-fibrinolytic agents. Up to 61.9% of the patients have concurrent necrotizing pneumonia. Duration of chest tube ranged 3 to 25 days with mean of 12 days (SD 7.3). 1 patient required VATS. All of the patients needed antibiotics for 14 to 77 days with mean of 39 days (SD 16.4). There were 1 death due to disseminated staphylococcal septicaemia. Most of the patients (85.7%). were completely asymptomatics during medium-term review.

Conclusions: Infective pleural effusion in children were associated with significant sepsis, necrotizing pneumonia, intensive care admission/ventilation, prolonged antibiotics usage and prolonged hospital stay. However, the outcome of infective pleural effusion was generally good in children.

CASE REPORTS

CR 1 THE OCCURRENCE OF A BRUGADA PHENOCOPY IN A SEVERELY HYPONATREMIC PATIENT WITH PULMONARY TUBERCULOSIS

Melvin Lee Yoong Zher, Kho Sze Shyang, Koh Keng Tat, Alex Koh Zhi Yang, Tie Siew Teck
1. Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Ministry of Health, Sarawak, Malaysia
2. *Department of Cardiology, Sarawak General Hospital Heart Center, Ministry of Health, Sarawak, Malaysia*

CR 2 ACUTE RESPIRATORY DISTRESS SYNDROME DUE TO FAT EMBOLISM SYNDROME FOLLOWING BREAST ENHANCEMENT PROCEDURE USING HYALURONIC ACID: A CASE REPORT

Nai-Chien Huan, Noorasyikin Mohamed Arifin, Wen-Lee Lim, Norjuliana Julkipli
Labuan Hospital, Federal Territory of Labuan, Malaysia

CR 3 PULMONARY CONGENITAL CYSTIC ADENOMATOID MALFORMATION IN A YOUNG ADULT WITH HAEMOPTYSIS: ATYPICAL PRESENTATION OF A RARE CONDITION

Nai-Chien Huan, Yean-Chen Lai, Norjuliana Julkipli
Labuan Hospital, Federal Territory of Labuan, Malaysia

CR 4 A CASE SERIES OF BRONCHOPULMONARY SEQUESTRATION

TT Tee[1], CS Chai[1], Sangeta Vadivelu[1], SS Kho[1], ST Tie[1]
[1]Respiratory Unit, Hospital Umum Sarawak, Kuching, Malaysia

CR 5 THE MULTIFACETED CAUSES OF BREATHLESSNESS IN END STAGE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD); A CASE REPORT

Kean Yew Liew [1], Lim Boon Leong [2]
1. Department of General Internal Medicine, Hospital Ampang, Selangor, Malaysia
2. Department of Palliative Care Medicine, Hospital Selayang, Selangor, Malaysia

CR 6 TALC PLEURODESIS COMBINED WITH CONTINUOUS POSITIVE AIRWAY PRESSURE FOR REFRACTORY BENIGN PLEURAL EFFUSION DUE TO CONGESTIVE HEART FAILURE AND HEPATIC HYDROTHORAX

BH Ng, Andrea YL Ban, CI Soo, AH Faisal
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

CR 7 MELIOIDOSIS MIMICKING PULMONARY TUBERCULOSIS

BH Ng, CI Soo, AH Faisal, Andrea YL Ban
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

CR 8 PLEURAL TUBERCULOSIS PRESENTED AS PLEURAL MASSES WITHOUT EFFUSION: AN ATYPICAL PRESENTATION

Ho Yoke Fun
Medical Department, Bintulu Hospital, Sarawak

CR 9 MEDIASTINAL MELIOIDOSIS MASQUERADING MALIGNANCY / TUBERCULOSIS - A POTENTIALLY FATAL TRAP FOR THE UNWARY

Ho Yoke Fun[1], Kho Sze Shyang[2], Daniel Pang Cheng Lee[3], Tie Siew Teck[2]
1. Medical Department, Bintulu Hospital, Sarawak.
2. Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Sarawak.
3. Borneo Medical Centre, Bintulu, Sarawak.

CR 10 BARIUM BRONCHOGRAM: AN INTERESTING CHEST IMAGING

BH Ng, Hazwani ZA, Faisal AH, CI Soo, Andrea YL Ban
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

CR 11 INTRAPLEURAL INSTILLATION OF AUTOLOGOUS BLOOD – FINE-TUNING TECHNIQUES FOR BETTER SUCCESS RATES: A CASE SERIES

JK Tan, BH Ng, CI Soo, Faisal AH, Andrea YL Ban
Pulmonology Unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

CR 12 NON-THROMBOTIC PULMONARY EMBOLISM CAUSED BY BREAST FILLERS IN A YOUNG HEALTHY WOMAN

Muhammad Naimmuddin Abdul Azih[1], How Soon Hin[1], Ahmad Razali Md Ralib[2]
1. Respiratory unit, Department of Internal Medicine, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan Pahang
2. *Department of Radiology, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan Pahang*

CR 13 AN UNUSUAL CASE OF HYPEREOSINOPHILIC SYNDROME WITH PULMONARY AND SKIN INVOLVEMENT SECONDARY TO COSMETIC GLUTEAL IMPLANT

Khai-Lip Ng, Hema Yamini, Kunjikannan SK
Respiratory Department, Queen Elizebeth Hospital, Kota Kinabalu, Sabah

CR 14 PUZZLING PLEURAL EFFUSION IN WALDENSTROM'S MACROGLOBULINEMIA

Nur Aida MA[1], Ahlam Naila K[2], Ismail I[1], Megat Razeem AR[2], Soon Hin H[1], Arfahiza S[3], Nur Farahwahida MA[4]
[1]Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia
[2]Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia

[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Radiology Department, Hospital Tengku Ampuan Afzan, Kuantan Pahang, Malaysia*

CR 15 LACTOBACILLUS CATENAFORMIS ASSOCIATED LUNG EMPYEMA

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Roesnita B[3]
[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Microbiology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*

CR 16 ADVANCED ANTERIOR MEDIASTINAL YOLK SAC TUMOR WITH SUPERIOR VENA CAVA SYNDROME

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Norra H[3], Dahlia M[4]
[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Radiology Department, Hospital Temerloh, Pahang, Malaysia*

CR 17 ENDOCBRONCHIAL PSEUDO-TUMOR CAUSED BY HERPES SIMPLEX

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Suhaila A[3], Sharifah Nor Ashikin SY[4]
[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Radiology Department, Hospital Tengku Ampuan Afzan, Pahang, Malaysia*

CR 18 MALIGNANT LUNG CARCINOID TUMOR

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Nurhidayah H[3], Norra H[3], Fatimatulzahra AG[4]
[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Radiology Department, Hospital Temerloh, Pahang, Malaysia*

CR 19 PLEUROPULMONARY SOLITARY FIBROUS TUMOR

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Nor Hafliza MS[3], Noriah O[4], Dahlia M[5]
[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Pathology Department, Hospital Serdang, Malaysia*
[5]*Radiology Department, Hospital Temerloh, Pahang, Malaysia*

CR 20 EXTRASKELETAL EWING SARCOMA PRESENTING AS THORACIC MASS : A CASE REPORT

WJ Tan[1],Fatimah Azmah[2], Irfan Ali[3]
[1,2,3]*Hospital Pulau Pinang, Malaysia*

CR 21 A CASE REPORT OF SEVERE ADULT MEASLES PNEUMONIA WITH RESPIRATORY FAILURE TREATED WITH ORAL RIVABIRIN

Naim AM, Iskandar MA, Shahril NS
Hospital Putrajaya

CR 22 A RARE CAUSE OF EMPYEMA

Shu Ann Hon[1], Jan Jan Chai[2], Qin Jian Low[1]
[1]Department of Internal Medicine, Hospital Sultanah Nora Ismail, Batu Pahat, Malaysia.
[2]Department of Radiology, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Malaysia.

CR 23 MANAGEMENT OF BILATERAL EXTENSIVE SUBCUTANEOUS EMPHYSEMA. A CASE REPORT.

KN Tan[1], QJ Low[2]
[1]*Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia.*
[2]*Hospital Sultanah Nora Ismail, Batu Pahat,, Johor, Malaysia.*

CR 24 AN UNUSUAL CAUSE OF PANCOAST SYNDROME

KN Tan[1], QJ Low[2]
[1]*Department of internal medicine, Hospital Queen Elizabeth*
[2]*Department of internal medicine, Hospital Sultanah Nora Ismail*

CR 25 LEAKING THORACIC AORTA ANEURYSM CAUSING PLEURAL EFFUSION: A POTENTIAL DISASTER

Khai-Lip Ng, Hema Yamini, Kunjikannan SK
Respiratory Department, Queen Elizabeth Hospital, Kota Kinabalu, Sabah

CR 26 RIFAMPICIN-INDUCED ACUTE KIDNEY INJURY: A CASE OF PLEURAL TUBERCULOSIS

Jamhuri N.S, Abd Razak M.R, Harun N.
International Islamic University Malaysia/ Hospital Tengku Ampuan Afzan

CR 27 CENTRAL AIRWAY OBSTRUCTION WITH POST OBSTRUCTIVE PNEUMONIA

Kew YC, , Mona Zaria Nasaruddin, R. Ismail, Jamalul Azizi AR
Pulmonology Department, Hospital Serdang, Malaysia

CR 28 INTERMITTENT TKI IS ASSOCIATED WITH DURABLE RESPONSE IN ADVANCED NSCLC PATIENT: A CASE REPORT

Sin Nee Tan[1], Aishah Ibrahim[1], Megat Razeem Abdul Razak[1], Muhammad Naimmuddin Abdul Azih[2], Soon Hin

How[2]

1. Hospital Tengku Ampuan Afzan Kuantan, Pahang, Malaysia
2. International Islamic University Malaysia Kuantan, Pahang, Malaysia

CR 29 OCCUPATIONAL LUNG DISEASE - SILICOSIS

Shu Ann Hon[1], Qin Jian Low[1]

[1]Department of Internal Medicine, Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia.

CR 30 A RARE CASE OF TUBEROUS SCLEROSIS WITH PULMONARY LYMPHANGIOLEIOMYOMATOSIS (LAM)

Mohd Fauzan Salleh, Qin Jian Low

Department of Internal Medicine, Hospital Sultanah Nora Ismail, 83000 Batu Pahat, Johor, Malaysia

CR 31 THE INTERESTING CASE OF SUCCESSFUL TREATMENT OF ENDOBRONCHIAL ACTINOMYCOSIS.

Manar Mosaad [1], How Soon Hin [2], Aisyah Ibrahim [3], Megat Razeem [4].

1medical Officer, International Islamic University Malaysia, Kuantan, Pahang, 2. Professor, International Islamic University Malaysia, Kuantan Pahang 3.Pulmonoligist, Hospital Tunku Ampuan Afzan, Kuantan Pahang, 4. Pulmonologist, Hospital Tunku Ampuan Afzan, Kuantan Pahang

CR 32 RECURRENT PNEUMOTHORAX: A CASE OF PULMONARY LANGERHANS CELL HISTIOCYTOSIS

IS Khor, KL Ng, AH Kamarul, SK Kannan

Queen Elizabeth Hospital, Kota Kinabalu, Sabah

CR 33 UNVEILING HODGKIN LYMPHOMA BENEATH THE MASK OF EXTRA-PULMONARY TUBERCULOSIS IN A YOUNG SMOKER

[1]Joel WY Gan, [1]Ji Zhang Chin, [2]Tien Gen Wong

1Hospital Kuala Krai, Kelantan, Malaysia
2Hospital Raja Perempuan Zainab II, Kelantan Malaysia

CR 34 BREATHING WITH MELIOIDOSIS , AN INFECTION WITH FATAL OUTCOME: CASE SERIES

Nur Syaza S ,Kah Shien T, Muhamad Hafiz P , Suzila CS , Kasuma MN

Respiratory unit, Hospital Melaka, Melaka, Malaysia

CR 35 SOLITARY PULMONARY NODULE IN NEUROFIBROMATOSIS TYPE 1: BRINGING ORDER OUT OF CHAOS

Agni NK, BH Ng, CI Soo, Faisal AH, Andrea YL Ban

Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

CR 36 A RARE CASE OF SPORADIC LYMPHANGIOLEIOMYOMATOSIS.

Amalina Abu Othman, **Ng Khai Lip**, Kunji Kannan SK

Respiratory Department, Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia

CR 37 30 YEARS TOO LATE : DELAYED DIAGNOSIS OF A NARCOLEPSY PATIENT WITH CONCURRENT OBSTRUCTIVE SLEEP APNEA.

Dr Megat Razeem Abdul Razak

Respiratory and Sleep Unit, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

CR 38 THORACIC MELIOIDOSIS WITH AIR CRESCENT SIGN

Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4], Qin Jian Low[1]

[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizabeth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

CR 39 PULMONARY CEMENT EMBOLISM

CS Chai[1], SS Kho[1], SK Chan[1], TT Tee[1], ST Tie[1]

[1] Respiratory Medicine Unit, Department of Medicine, Sarawak General Hospital, Kuching, Malaysia

CR 40 CHEERIO SIGN IN NON-LEPIDIC LUNG ADENOCARCINOMA- CASE SERIES

CS Chai[1], SS Kho[1], SK Chan[1], TT Tee[1], ST Tie[1]

[1] Respiratory Medicine Unit, Department of Medicine, Sarawak General Hospital, Kuching, Malaysia

CR 41 A CASE OF SUPRASELLAR METASTASIS IN NON-SMALL CELL LUNG CANCER

Ka Kiat Chin[1], Thian Chee Loh[1], Chee Shee Chai[2], Jiunn Liang Tan[1], Mau Ern Poh[1], Chee Kuan Wong[1], Yong Kek Pang[1], Chong Kin Liam[1]

1. University Malaya Medical Center, Kuala Lumpur, Malaysia
2. Universiti Malaysia Sarawak(UNIMAS), Kota Samarahan, Sarawak

CR 42 MILIARY NEVER-SMOKING LUNG ADENOCARCINOMA WITH POSITIVE EPIDERMAL GROWTH FACTOR RECEPTOR EXON 19 DELETION

Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4], Qin Jian Low[1]

[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizabeth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

CR 43 RHODOCOCCUS EQUI INFECTION: A NIGHTMARE FOR IMMUNOCOMPROMISED.

M. Hafiz P, Kah Shien T ,Nur Syaza SM, Suzila CS, Kasuma MN

Respiratory Unit, Hospital Melaka, Melaka, Malaysia

CR 44 ATYPICAL LUNG CARCINOID TUMOR WITH CARCINOIDS SYNDROME: A CASE SERIES

Mohd Khairi Othman; **Nur Husna Mohd Aminudin**; Azza Omar; Mat Zuki Mat Jaeb
Hospital Raja Perempuan Zainab 2

CR 45 A YOUNG LADY WITH DIFFICULT PERSISTENT PNEUMOTHORAX

SW Cheo[1], AA Kamarudin[1], EK Ng[2], QJ Low[3]
[1]Hospital Lahad Datu, Sabah, Malaysia
[2]Hospital Tawau, Sabah, Malaysia
[3]Hospital Sultanah Nora Ismail, Johor, Malaysia

CR 46 A RARE CAUSE OF SPONTANEOUS BLADDER PERFORATION

Arvindran Alaga, Mohd Nazri Ali, Wan Nasruddin Wan Ismail
Anesthesia Department, Hospital Raja Perempuan Zainab II, Kota Bahru, Kelantan, Malaysia

CR 47 HYPERSENSITIVITY PNEUMONITIS WITH PNEUMOMEDIASTINUM

Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4], Qin Jian Low[1]
[1]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia
[2]Hospital Queen Elizaberth, Sabah, Malaysia
[3]Hospital Tawau, Sabah, Malaysia
[4]Hospital Lahad Datu, Sabah, Malaysia

CR 48 MELIOIDOSIS – AN IMPORTANT CAUSE OF UPPER LOBE PNEUMONIA

AA Kamarudin[1], SW Cheo[1], WC Mow[2], QJ Low[3]
[1]Hospital Lahad Datu, Sabah, Malaysia
[2]Hospital Queen Elizabeth, Sabah, Malaysia
[3]Hospital Sultanah Nora Ismail, Johor, Malaysia

CR 49 AN UNORTHODOX CASE OF HYPERSENSITIVITY PNEUMONITIS AND PULMONARY NEUROENDOCRINE CELL HYPERPLASIA WITH HRCT PATTERN OF NSIP

Tang JT, Razul Kassim
Respiratory Department, Hospital Alor Setar, Kedah, Malaysia

CR 50 PULMONARY MELIODOSIS – A CASE REPORT AND REVIEW OF LITERATURE

Eng Kian Ng[1], Seng Wee Cheo[2], Qin Jian Low[3]
[1]Hospital Tawau, Sabah, Malaysia
[2]Hospital Lahad Datu, Sabah, Malaysia
[3]Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia

CR 51 TUBEROUS SCLEROSIS COMPLEX ASSOCIATED LYMPHANGIOLEIOMYOMATOSIS PRESENTED AS BILATERAL PNEUMOTHORAX: A CASE REPORT

Khai-Lip Ng, IS Khor, AH Kamarul, KunjiKannan SK
Queen Elizebeth Hospital, Kota Kinabalu, Sabah

CR 52 HYPERCALCEMIA IN TUBERCULOSIS AND SARCOIDOSIS DUAL PATHOLOGY WITH UNRESOLVED MYSTERY

Nur Adlina Tajul Arifin, Nurul Yaqeen Mohd Esa
Respiratory department University Teknology MARA,Selangor ,Malaysia

CR 53 MELIOIDOSIS MIMICKING PULMONARY ASPERGILLOMA

Chee Yik Chang
Kapit Hospital, Kapit, Sarawak, Malaysia

CR 54 PRIMARY MULTIDRUG-RESISTANT EXTRAPULMONARY TUBERCULOSIS PRESENTED AS AXILLARY LYMPHADENITIS IN IMMUNOCOMPETENT PATIENT: A CASE REPORT

Jihaan Hafirain, Anisa Tia, Erlina Burhan
Department of Pulmonology and Respiratory Medicine University of Indonesia, Jakarta, Indonesia

CR 55 BENIGN EMPTYING OF THE POST PNEUMONECTOMY SPACE: A CASE REPORT & REVIEW OF THE LITERATURE

Hui Yi Lok*, Yan Yi Koay*, Tho Lye Mun**, Anand Sachithanandan ***
**Medical Student, Monash University, Kuala Lumpur, Malaysia, **Department of Clinical Oncology, Sunway Medical Centre, Selangor, Malaysia ***Division of Cardiothoracic Surgery, Sunway Medical Centre, Selangor, Malaysia*

CR 56 THORACOSCOPIC SURGERY FOR CATAMENIAL PNEUMOTHORAX DUE TO ENDOMETRIOSIS –RELATED DIAPHRAGMATIC FENESTRATIONS : A REPORT OF TWO CASES

Yan Yi Koay*, Hui Yi Lok*, Usha Rani George**, Anand Sachithanandan***
**Medical Student, Monash University, Kuala Lumpur, Malaysia **Department of Internal Medicine, Sunway Medical Centre, Selangor, Malaysia ***Division of Cardiothoracic Surgery, Sunway Medical Centre, Selangor, Malaysia*

CR 57 AN ADOLESCENT WITH HIGH SERUM CA 19-9 RELATED TO LUNG ADENOCARCINOMA

Dalleen Leong, BH Ng, Faisal AH, CI Soo, Andrea YL Ban
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia.

CR 58 SCLERODERMA-INTERSTITIAL LUNG DISEASE AND LUNG MALIGNANCY: THE DOUBLE TROUBLE

Syazatul Syakirin Sirol Aflah[1], Muhammad Hazwan Nasarudin[2]

Institut Perubatan Respiratori, Kuala Lumpur, Malaysia[1]
National University Malaysia, Kuala Lumpur Malaysia[2]

CR 59 CONFUSE MAN VS BUBBLE MAN

Vijayan Munusamy, Mohd Arif , Anuradha
Hospital Selayang,Selangor , Malaysia

CR 60 CONFUSE MAN VS BUBBLE MAN

Vijayan Munusamy, Arif , Anuradha
Hospital Selayang,Selangor , Malaysia

CR 61 TERT MUTATION ASSOCIATED LUNG FIBROSIS: THE MALAYSIAN REPORTED MYTH

Syazatul Syakirin Sirol Aflah[1], Dr Roziana Arifin[2], Borie Raphaeal[3], Caroline Kannengiesser[3]
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia[1]
Genetic Lab, Hospital Kuala Lumpur, Malaysia[2]
Hôpital Bichat, Paris, France[3]

CR 62 THE UNFORTUNATE EVENT: AN ACUTE MASSIVE PULMONARY EMBOLISM FOLLOWING A MYOCARDIAL INFARCTION.

Nor Suraya Samsudin[1], Nik Natasha[1], Nurul Yaqeen Mohd Esa[2], Mohd Arif Mohd Zim[2]
[1]Hospital Selayang, Batu Caves, Selangor.
[2]Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia,

CR 63 PULMONARY ARTERIAL HYPERTENSION AS THE FIRST PRESENTATION IN ANA-NEGATIVE SLE

Firdaus Zakaria, Aisya Natasya Musa, Hazlyna Baharuddin, Mohd Arif Mohd Zim
Universiti Teknologi MARA (UiTM), Sungai Buloh, Malaysia

CR 64 PLEUROPARENCHYMAL FIBROELASTOSIS:UNTYING THE KNOT WITH PULMONARY TUBERCULOSIS

Syazatul Syakirin Sirol Aflah[1], Siti Shanas Shahul Hamid[1], Rinosyah Palaniappan[1]
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia[1]

CR 65 WEGENER'S GRANULOMATOSIS : A DILEMMA OF NON RESOLVING CAVITATING LUNG LESIONS.

Nor Suraya Samsudin[1], Nabilah Salma Parasi@ Sulaiman[1], Ummi Nadira Daut[2], Rosmadi Ismail[1], Mona Zaria Nasaruddin[1], Jamalul Azizi Abdul Rahaman[1]
[1]Pulmonology Department, Hospital Serdang, Serdang, Malaysia.
[2]Pulmonology Unit , University Putra,Serdang, Malaysia.

CR 66 CHRONIC STRIDOR – DIAGNOSTIC CHALLENGES IN CHILDREN WITH ATYPICAL PRESENTATION

Yong Kean Khor, Pui Yin Tam
Department of Paediatrics. Hospital Melaka. Jalan Mufti Haji Khalil. 75400. Melaka

CR 67 PAEDIATRIC MILIARY PULMONARY TUBERCULOSIS WITH TUBERCULOMA AND INTRACRANIAL HEMORRAEGE

Lim Shu Syi
Paediatric Department, Hospital Lahad Datu, Sabah, Malaysia

CR 68 SYSTEMIC CORTICOSTEROIDS IN SEVERE HYDROCARBON PNEUMONITIS: A CASE REPORT

Yan Yi Neo[1], Nicholas Chang Lee Wen[2], Rus Anida Awang[1]
1 Paediatric Respiratory Unit, Paediatric Department, Hospital Pulau Pinang, Pulau Pinang, Malaysia
2 Paediatric Respiratory Unit, Paediatric Department, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Kuala Lumpur, Malaysia

CR 69 CASE REPORT: IS IT ALWAYS PNEUMONIA?

Mary Ann Jacob [1], Pei Pei Lim[1], Chiew Yee Yap [1] Nor Azmi [2]
1. Paediatric Department Hospital Shah Alam, Shah Alam, Malaysia
2. Otorhinolaryngology Department Hospital Shah Alam, Shah Alam, Malaysia

CR 70 ABCA3 GENE MUTATIONS- A RARE DISEASE.

N.Fafwati Faridatul Akmar[1], Adiratna Mat Ripen[2],Arni Talib[3], Che Zubaidah Che Daud[1], Hafizah Zainuddin[1], Noor Ain Noor Affendi[1], Asiah Kassim[1]
[1]Woman and Children Hospital Kuala Lumpur, Malaysia
[2]Primary Immunodeficiency Unit, Allergy and Immunology Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia
[3]Department of Pathology, Hospital Kuala Lumpur, Malaysia

CR 71 THE LESSER OF TWO EVILS : AN ESCAPE FROM LYMPHOMA

Nicholas Chang Lee Wen[1], Shangari Kunaseelan[1], N Fafwati Faridatul Akmar[1], Teh Kok Hoi[2], Sellymiah Adzman[3], Arni Talib[3], Zakaria Zahari[4], Che Zubaidah[5], Asiah Kassim[1]
1 Paediatric Respiratory Unit, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia
2 Paediatric Haemato-Oncology Unit, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia
3 Pathology Department, Hospital Kuala Lumpur, Malaysia
4 Paediatric Surgical Department, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia
5 Radiology Department, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia

CR 72 RECURRENT TRACHEOESOPHAGEAL FISTULA IN AN ADOLESCENT WITH CONGENITAL OESOPHAGEAL ATRESIA

Shangari Kunaseelan[1], Nur Fafwati Faridatul Akmar[1], Hafizah Zainuddin[1], Fazila Mat Arifin[1], Zakaria Zahari[2], Asiah Kassim[1]
[1] Paediatric Respiratory, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia
[2] Paediatric Surgery, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia

CR 73 INVASIVE PNEUMOCOCCAL INFECTION WITH PLEURAL EFFUSION AND HEMOLYTIC UREMIC SYNDROME: HOSPITAL TUANKU FAUZIAH EXPERIENCE

Amanil `Ula Hassan
Hospital Tuanku Fauziah, Perlis, Malaysia

CR 74 PULMONARY MANIFESTATION OF AUTOIMMUNE HEPATITIS CASE: HOSPITAL TUANKU FAUZIAH EXPERIENCE

Amanil `Ula Hassan, Siti Akma Ishak, Hospital Tuanku Fauziah, Perlis, Malaysia
Department of Paediatrics. Hospital Melaka. Jalan Mufti Haji Khalil. 75400. Melaka

CR 75 MALIGNANT PERTUSSIS WITH LEUCOCYTOSIS IN AN INFANT: A CASE REPORT

JY SEE, Siew Choo Su
Hospital Tengku Ampuan Rahimah, Klang, Malaysia

CR 76 DIAGNOSTIC CHALLENGE POSED BY THE CLINICAL PRESENTATION OF HYPOXEMIA IN AN OTHERWISE ASYMPTOMATIC INFANT

Ee Wei Ng[1], Yinn Khurn Ooi[1], Faizah Mohd Zaki[2], Dg Zuraini Sahadan[1]
[1]Hospital Serdang, Selangor, Malaysia
[2]Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

CR 77 SELECTIVE IGA DEFICIENCY PRESENTING WITH SEVERE ADENOVIRUS PNEUMONIA COMPLICATED WITH SEVERE POST INFECTIOUS BRONCHIOLITIS OBLITERANS: A CASE REPORT

Gayathiri Pushparajah, Siew Choo Su
Hospital Tengku Ampuan Rahimah, Klang, Malaysia

CR 78 BRONCHOGENIC CYST MASQUERADING AS LOCULATED PLEURAL EFFUSION

SH Tan[1], Mariana D[2], Fazila MA[3], Fairos AM[4]
[1,2,3] Paediatric Respiratory Unit, 4 Radiology Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan, Malaysia

CR 79 HYPERSENSITIVITY PNEUMONITIS PRESENTING WITH RECURRENT SEVERE CYANOSIS: A CASE REPORT

Hing Cheong Kok, Siew Choo Su
Tengku Ampuan Rahimah Hospital, Klang. Malaysia.

CR 80 A NOISY PLEA FOR HELP

Karen Looi[1], 'Afifah Bt Mokhtar[1], Intan Nor Chahaya Shukor[1], Ahmad Hafiz Ali[2], Nik Mohd Syukra Bin Nik Ab Ghani[2]
[1]Department of Paediatrics, Hospital Segamat
[2]Department of ENT, Hospital Segamat

CR 81 NEBULIZED AMIKACIN IN MYCOBACTERIUM ABSCESSUS PULMONARY DISEASE: SINGLE CENTRE EXPERIENCE.

Kah Shien T, Nur Syaza SM, Hafiz P, Suzila CS, Kasuma MN
Respiratory Unit, Hospital Melaka, Melaka, Malaysia

CR 82 MANAGING LONG SEGMENT SEVERE TRACHEOMALACIA IN INFANTS FOLLOWING OESOPHAGEAL ATRESIA WITH TRACHEOESOPHAGEAL FISTULA

Shangari Kunaseelan[1], N Fafwati[1], Nicholas C[1], Fazila MA[1], Noor Ain NA[1], Rohazly I[2], Normawati[2], Che Zubaidah CD[2], Sahrir S[3], V Priatharisiny[3], Shifa Z[3], Mohd Yusof A[4], Z Zahari[4], A Kassim[1]
[1] Paediatric Respiratory, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia
[2]Paediatric Radiology, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia
[3] Paediatric ENT, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia
[4] Paediatric Surgery, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia

CR 83 THEIR CLINICAL PRESENTATIONS WERE DIFFERENT BUT BOTH OF THEM HAVE P.I.G

Asiah Kassim[1], Shangari K[1], Nur Fafwati FA[1], Rohazly I[1], Normawati[1], Che Zubaidah CD[1], Zakaria Z[1], Sellymiah A[2], Arni T[2]
[1] Women and Children Hospital, Kuala Lumpur, Malaysia
[2]Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

CR 1

THE OCCURRENCE OF A BRUGADA PHENOCOPY IN A SEVERELY HYPONATREMIC PATIENT WITH PULMONARY TUBERCULOSIS

Melvin Lee Yoong Zher, Kho Sze Shyang, Koh Keng Tat, Alex Koh Zhi Yang, Tie Siew Teck

1. Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Ministry of Health, Sarawak, Malaysia

2. Department of Cardiology, Sarawak General Hospital Heart Center, Ministry of Health, Sarawak, Malaysia

Brugada phenocopy is a rare electrocardiography (ECG) occurrence which has different implications from Brugada Syndrome. It is benign and is often attributed to an underlying cause and would resolve when the underlying cause is treated. Metabolic causes of Brugada phenocopy is often linked to electrolyte disturbances such as hyponatremia. Hyponatremia is a common occurrence in patients with pulmonary tuberculosis. The occurrence of a Brugada phenocopy in severe hyponatremia is uncommon and to our best knowledge, Brugada phenocopy in patients with pulmonary tuberculosis with severe hyponatremia had not been described previously.

We describe a 60 year old gentleman with smear positive pulmonary tuberculosis who presented with severe hyponatremia secondary to persistent vomiting due to anti-tuberculous therapy. His serum sodium level was 98 mmol/l on presentation. The ECG on arrival showed a Brugada type 1 pattern which was not present during initiation of anti-tuberculous therapy. There were neither cardiac symptoms nor any family history of sudden cardiac death. Serial cardiac enzymes were normal. Echocardiography demonstrated a preserved left ventricular ejection fraction. Investigations ruled out Addisonian crisis and other endocrinopathy. Brugada phenocopy resolved when his serum sodium level was corrected cautiously during admission.

This case highlights the rare occurrence of “Brugada phenocopy” in a pulmonary tuberculosis patient with severe hyponatremia.

CR 2

ACUTE RESPIRATORY DISTRESS SYNDROME DUE TO FAT EMBOLISM SYNDROME FOLLOWING BREAST ENHANCEMENT PROCEDURE USING HYALURONIC ACID: A CASE REPORT

Nai-Chien Huan, Noorasyikin Mohamed Arifin, Wen-Lee Lim, Norjuliana Julkipli
Labuan Hospital, Federal Territory of Labuan, Malaysia

Introduction

Fat Embolism Syndrome (FES) is a rare condition characterized by the presence of fat globules within the microcirculation that triggers a systemic inflammatory response. When severe, FES is associated with respiratory failure, skin manifestations and neurocognitive disturbances. The most common causes of FES are long bone fractures. Acute respiratory distress syndrome (ARDS) due to FES post cosmetic breast enhancement is rare and has not been reported previously.

Case report

In our case report, we describe a 33 year old lady who presented with a 5 day history of chest pain and shortness of breath following an unlicensed breast enhancement procedure using hyaluronic acid injections a week ago. On examination she appeared tachypneic (respiratory rate 30 per minute) with tachycardia (heart rate 120 beats per minute). Multiple petechial rashes were seen over her anterior chest, back and neck. There were no signs of infection over both of her breast injection sites. Her chest radiograph and computed tomography of the thorax demonstrated presence of patchy bilateral ground glass changes suggestive of ARDS but without evidence of pulmonary embolism. Her sputum and blood cultures were negative. She responded well to non-invasive mechanical ventilation and was discharged well after approximately 10 days of hospitalization.

Discussion and conclusion

ARDS due to FES is a rare but potentially fatal complication of cosmetic breast augmentation procedures. Illegal and unregulated cosmetic procedures represents one of the most serious medical issues of our time. It is vital for clinicians to be aware of this issue as most cosmetic procedures are performed in unassuming outpatient settings where complications are not expected.

CR 3

PULMONARY CONGENITAL CYSTIC ADENOMATOID MALFORMATION IN A YOUNG ADULT WITH HAEMOPTYSIS: ATYPICAL PRESENTATION OF A RARE CONDITION

Nai-Chien Huan, Yean-Chen Lai, Norjuliana Julkipli
Labuan Hospital, Federal Territory of Labuan, Malaysia

Introduction
Pulmonary Congenital Cystic Adenomatoid Malformation (CCAM) is a rare condition characterized by an embryonic anomaly leading to excessive overgrowth of the terminal bronchioles. Most cases present as respiratory distress in neonatal period. Presentation in adulthood in the form of haemoptysis is considered atypical and rare.

Case report
In our case report, we describe a 40 year old lady who presented with a 6 month history of recurrent haemoptysis. She had no prior history of respiratory problems. Results of the physical examination were unremarkable. Her blood parameters including her full blood count and coagulation profile were within normal limits. She was assessed for pulmonary tuberculosis on multiple occasions but test results were all negative. Her computed tomography of the thorax showed sharply demarcated areas of increased lucency and fluid filled cystic lesions over the posterior segment of right upper lobe and anterior and basal segments of the right lower lobe. These findings are suggestive of pulmonary CCAM. A bronchoscopy conducted to look for any possible intraluminal causes of her haemoptysis were unremarkable as well. With the diagnosis in mind, she was offered for evaluation for potential surgical treatment in which she declined. Fortunately she remained well on outpatient clinic follow-ups.

Discussion and conclusion
CCAM is a rare diagnosis among adults with recurrent haemoptysis. Haemoptysis, on the other hand is a fairly common symptom that is alarming to both clinicians and patients. A good knowledge on potential causes of haemoptysis, including rare etiologies such as CCAM is vital to secure a correct diagnosis, prevent unnecessary investigations and finally to ensure a better clinical outcome.

CR 4

A CASE SERIES OF BRONCHOPULMONARY SEQUESTRATION

TT Tee[1], CS Chai[1], Sangeta Vadivelu[1], SS Kho[1], ST Tie[1]

[1]*Respiratory Unit, Hospital Umum Sarawak, Kuching, Malaysia*

Introduction

Congenital bronchopulmonary malformation is rare with male predominance. They usually present in the neonatal period with respiratory distress.

Case 1

A 14-year-old boy presented with abnormal chest radiograph during tuberculosis contact tracing. He was born full term with brief hospitalisation during childhood for lung infection. He denied any chronic respiratory symptoms. First chest x ray showed localised multicystic lesions. With recurrent infection, it turned into homogenous opacities in the latest chest radiograph. Bronchoscopy was normal. CECT thorax showed right lower lobe cystic mass with its anomalous arterial supply from thoracic aorta. He opted for conservative management.

Case 2

A 40-year-old housewife, presented with recurrent hemoptysis since the age of 16 without other respiratory symptoms. Her HRCT thorax showed cylindrical bronchiectasis in left lower lobe. Serum immunogobulin profile was normal. Bronchoscopy was normal. TB workup was negative. CTA thorax showed multicystic lesion in left lower lobe with anomalous arterial supply from aorta. She underwent surgical lung resection and histopathology was consistent with the diagnosis.

Case 3

21-year-old female student was asymptomatic when Chest X-ray showed fibrocavitatory lesion during TB contact tracing. Spirometry and bronchoscopy were normal. CECT thorax showed lobulated heterogeneous mass at left lower lobe with arterial supply from descending thoracic aorta. She agreed for surgical option.

Discussion

By definition bronchopulmonary sequestration (BPS) should not have a communication with tracheobronchial tree. However it could develop in the event of recurrent infection. HRCT thorax alone would not be able to identify its characteristic arterial supply and venous drainage. Other differential diagnosis are localised congenital cystic bronchiectasis, congenital pulmonary airway malformation, bronchogenic cyst or pulmonary arteriovenous malformation. Surgical resection is the definitive treatment to reduce future complications.

Conclusion

BPS can have delayed presentation in adolescence or in adulthood with asymptomatic presentation or with complications.

CR 5

THE MULTIFACETED CAUSES OF BREATHLESSNESS IN END STAGE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD); A CASE REPORT

Kean Yew Liew[1], Lim Boon Leong[2]

1. Department of General Internal Medicine, Hospital Ampang, Selangor, Malaysia

2. Department of Palliative Care Medicine, Hospital Selayang, Selangor, Malaysia

End-stage COPD refers to patients with GOLD D disease who have very severe airflow limitation. These patients often have poor quality of life. We report a 55 year old gentleman with COPD GOLD D that has been on long term oxygen therapy. Between years 2017 till date, we find that his admissions have become increasingly frequent. During a recent admission, he was admitted and given conventional treatment for infective exacerbation of COPD. His septic parameters improved with intravenous antibiotics. However, patient continues to score 9/10 on visual analogue scale (VAS) for breathlessness. Echocardiography ruled out cardiac causes of breathlessness showing no ischemia and normal pulmonary arterial pressure. A high resolution computed tomography of the chest revealed emphysematous, fibrotic and bronchiectatic changes. However, we find that on numerous occasions of exacerbations, clinical examination revealed no bronchospasm. We then assess the patient's HADS (Hospital Anxiety and Depression Score) which revealed 13 on Depression and Anxiety score 12. Syrup morphine was commenced with gradual titration of dose over three weeks to total daily dose of 30mg with sublingual lorazepam 0.5mg PRN (during exacerbations). We also advised methods such as fan to face methods and relaxation techniques to help with his breathlessness on top of chest physiotherapy. Patient's condition improved significantly, scoring 2/10 on VAS. This case highlights the variable causes of breathlessness in an end stage COPD patient. Opioid and benzodiazepine therapy is effective in the treatment of breathlessness when conventional treatment is no longer effective in such a patient. Non pharmacological techniques have shown to be equally useful. There is a need to identify the cause of breathlessness and the treatment modalities available in end stage COPD patients as this might lead to significant improvement in the patient's quality of life.

CR 6

TALC PLEURODESIS COMBINED WITH CONTINUOUS POSITIVE AIRWAY PRESSURE FOR REFRACTORY BENIGN PLEURAL EFFUSION DUE TO CONGESTIVE HEART FAILURE AND HEPATIC HYDROTHORAX

BH Ng, Andrea YL Ban, CI Soo, AH Faisal
Pulmonology Unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Introduction:
The use of pleurodesis has been established for recurrent malignant pleural effusion. However, pleurodesis in refractory benign pleural effusion has limited evidence especially when combined with continuous positive airway pressure (CPAP) therapy. CPAP increases intrathoracic pressure that prevents transdiaphragmatic migration of ascitic fluid to the pleural cavity. CPAP also reduces left ventricular (LV) preload and afterload by decreasing LV transmural pressures during diastole and systole. We describe our experience in a case of refractory symptomatic pleural effusion secondary to congestive heart failure (CHF) and hepatic hydrothorax who responded to talc pleurodesis pre and post-elective CPAP ventilation.

Case Report:
A 57-year-old man suffered from CHF (LVEF of 29%) and autoimmune hepatitis with Child-Pugh B liver cirrhosis, required repeated thoracocentesis and large volume peritoneal paracentesis with albumin replacement for symptomatic right pleural effusion and ascites in the last 6 months prior to current presentation. In addition, he was on a maintenance dose of digoxin, ivabradine, bisoprolol, spironolactone and ramipril. However, he had persistent dyspnoea which did not respond to diuretics and required repeated thoracocentesis during 6 weeks of hospitalisation.

Seldinger chest tube 12Fr was inserted and pleural fluid was allowed to drain 1.5 litres every 8 hours. Once chest radiograph improves, the patient was electively initiated on overnight CPAP therapy of 6 cmH2O to maintain lung expansion and to reduce pleural fluid volume. The following day after CPAP, bedside thoracic sonography confirmed the minimal volume of pleural effusion. Pleurodesis was then performed by instillation of 5g Talcum + 7.5cc lignocaine 2% diluted in 50 mls normal saline. The chest tube was clamped for 2 hours, and the patient was continued with 6 cm H2O of CPAP for another 24 hours. Repeated bedside sonography showed an absence of sliding sign which confirmed successful pleurodesis.

Conclusion:
Talc pleurodesis combined with CPAP can be considered an alternative treatment for the refractory non-malignant pleural effusion despite optimising of the medical therapy.

CR 7

MELIOIDOSIS MIMICKING PULMONARY TUBERCULOSIS

BH Ng, CI Soo, AH Faisal, Andrea YL Ban
Pulmonology Unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Introduction:
Melioidosis is a tropical disease is caused by gram-negative bipolar staining bacillum, Burkholderia pseudomallei. We describe a case of disseminated melioidosis where the clinical presentation and chest imaging that are mimicking pulmonary tuberculosis.

Case Report:
An 84-year-old man with poorly controlled diabetes mellitus and was recently discharged for pneumonia again presented with two weeks history of intermittent fever and cough. Systemic examination showed coarse crepitation in both lower zones of the lung. His white cell count was 11.4 x 109/L and C-reactive protein was 12.5 mg /dl. The chest imaging revealed right upper lobe air space opacities. He was treated with intravenous piperacillin-tazobactam and empiric anti-tuberculous treatment.

His fever persistent despite five days of piperacillin-tazobactam and anti-tuberculous treatment. He was then subjected to bronchoscopy which showed inflamed right upper lobe bronchus. The endobronchial biopsy was normal and the broncho-alveolar lavage for mycobacterium tuberculosis cultures and GeneXpert were negative. Computed tomography thorax revealed multiple thick wall cavitations with consolidation in both upper lobes and sub-centimetre mediastinal lymph nodes.

After a week of admission, his blood cultures grew Burkholderia pseudomallei, and meropenem plus bactrim was added. The anti-tuberculous was stopped. Unfortunately, his condition complicated with right ankle septic arthritis and required arthroscopic ankle wash. He developed maculopapular rashes while on bactrim and antibiotics was changed to co-amoxiclav 1.2 g TDS plus doxycycline 100 mg BD. He responded well with a combination of meropenem, co-amoxiclav and doxycycline. The subsequent CT thorax on fourth weeks of treatment showed a good response with resolution of both upper lobes thick wall cavitations. He was discharged well and continues with oral co-amoxiclav and doxycycline.

Conclusion:
Our case report highlights the importance of considering other differential diagnoses in patients suspected of tuberculosis as when the pulmonary tuberculosis workup was negative and poor clinical response to tuberculosis treatment. As the management differs between these two clinical entities and delayed treatment will have a significant impact on the morbidity and mortality.

CR 8

PLEURAL TUBERCULOSIS PRESENTED AS PLEURAL MASSES WITHOUT EFFUSION: AN ATYPICAL PRESENTATION

Ho Yoke Fun

Medical Department, Bintulu Hospital, Sarawak

Tuberculous involvement of the pleura usually presented as pleural effusion or empyema, often with residual pleural thickening and calcification. Pleural tuberculosis presented radiographically as pleural masses without associated effusion had been reported rarely.

We report a case of a 28-year-old man with unilateral pleural tuberculosis presented as extensive lobulated and nodular pleural masses without effusion, which initially raised the possibility of pleural neoplasm (primary or secondary). Pathological examination of the pleural biopsy showed epithelioid cell granulomas. His sputum culture later grew Mycobacterium tuberculosis which further confirmed the diagnosis.

CR 9

MEDIASTINAL MELIOIDOSIS MASQUERADING MALIGNANCY / TUBERCULOSIS - A POTENTIALLY FATAL TRAP FOR THE UNWARY

Ho Yoke Fun[1], Kho Sze Shyang[2], Daniel Pang Cheng Lee[3], Tie Siew Teck[2]

1. Medical Department, Bintulu Hospital, Sarawak.

2. Division of Respiratory Medicine, Department of Internal Medicine, Sarawak General Hospital, Sarawak.

3. Borneo Medical Centre, Bintulu, Sarawak.

INTRODUCTION

Melioidosis, the mimicker of maladies, is a potentially deadly infection without early diagnosis and prompt treatment. We report a case of melioidosis, with a rare presentation of mediastinal mass with extensive local infiltration, which masquerading as malignancy / tuberculosis.

CASE PRESENTATION

A 63-year-old farmer with diabetes mellitus presented with fever, productive cough and weight loss for one month. He is a longhouse dweller, staying in an area endemic to both tuberculosis and melioidosis. CT thorax showed an infiltrating mediastinal mass at the peri-aortic region. Flexible bronchoscopy revealed a stenotic left main bronchus with abnormal nodular mucosa. The clinical suspicion of melioidosis, which led to his admission two weeks later, only arose after the initial endobronchial biopsy showed inflammatory changes and the tuberculosis workup was negative. His condition further deteriorated requiring ICU admission with mechanical ventilation and inotropic support. His blood culture later grew Burkholderia pseudomallei. After hospitalized for over one-month duration with adequate intensive phase antimicrobial therapy (ceftazidime / meropenem), he was finally discharged with trimethoprim-sulfamethoxazole as eradication treatment. His follow-up CT thorax showed resolution of the mediastinal mass.

CONCLUSION

Melioidosis presenting with mediastinal mass is rare. High index of suspicion is necessary especially when patient presented with chronic febrile illness from endemic area. Endobronchial ultrasound-guided transbronchial needle aspiration of the mediastinal mass might aid earlier diagnosis in this case in order to avoid the potential catastrophic outcome of delay treatment.

CR 10

BARIUM BRONCHOGRAM: AN INTERESTING CHEST IMAGING

BH Ng, Hazwani ZA, Faisal AH, CI Soo, Andrea YL Ban
Pulmonology Unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Introduction:

The barium swallow is often the investigation to distinguish oropharyngeal and oesophageal dysphagia. Aspiration of barium is relatively rare but remains the major complication of this procedure. We present a case of aspiration of a large amount of barium during an upper gastrointestinal radiographic contrast study with hypoxemia and interesting chest imaging changes over 1-year interval.

Case Report:

A 73-year-old man was evaluated for dysphagia and unintentional weight loss and dysphagia for 1-year duration. He was subjected for a barium swallow and aspirated a large amount of barium. He developed hypoxic respiratory failure which required oxygen supplement, bronchodilator and appropriate antibiotics.

A chest film was obtained. The film showed opacification of bilateral lower lobes bronchi, segmental bronchioles and distal smaller airways producing tree-in-bud appearance. The patient underwent bronchoscopy, which confirmed the presence of barium in the right and left lower lobes. Computed tomography imaging of thorax excluded trachea-oesophageal fistula. Fiberoptic endoscopic evaluation of swallowing confirmed pharyngeal dysphagia and aspiration. Subsequent follow up at an interval of 1 year showed delayed chest imaging improvement.

Conclusion:

Generally, aspiration of barium sulphate does not lead to significant clinical sequelae, but large volume aspiration may lead to respiratory failure. Careful selection of patient and fiberoptic endoscopic evaluation of swallowing (FEES) assessment should be performed in any suspicious cases of oropharyngeal dysphagia before contrast-related upper gastrointestinal evaluation may reduce the chance of barium aspiration.

CR 11

INTRAPLEURAL INSTILLATION OF AUTOLOGOUS BLOOD – FINE-TUNING TECHNIQUES FOR BETTER SUCCESS RATES: A CASE SERIES

JK Tan, BH Ng, CI Soo, Faisal AH, Andrea YL Ban
Pulmonology Unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Introduction:
In the past, many case series have reported the effectiveness of blood patch pleurodesis in recurrent secondary pneumothorax particularly in those who were unfit for surgery. We describe two cases of pneumoconiosis and pulmonary fibrosis whereby the method employed had improved the success rate of blood pleurodesis.

Case Series:
First case:
A 42-year-old dental technician diagnosed with pneumoconiosis presented to our centre with acute onset of breathlessness. Computed tomography (CT) of the thorax showed a right-sided pneumothorax in which the initial chest radiography did not reveal an apparent visceral pleural line. A 24Fr chest tube was inserted but the pneumothorax did not resolve. Blood patch pleurodesis was performed on three separate occasions over a period of nine days. However, it was only successful after the third attempt where the patient was given 2cc/kg of autologous blood and was put in Trendelenburg position for 15 minutes before attaching the drain to a pneumostat for approximately 72 hours.

Second case:
An 84-year-old man with cystic bronchiectasis and pulmonary fibrosis presented to our centre with recurrent left-sided pneumothorax. A 20Fr chest tube was inserted but the pneumothorax did not resolve. Blood patch pleurodesis was again undertaken and was successful after the third attempt when a 32Fr chest tube was reinserted instead, directed towards the apex. Subsequently, 1cc/kg of autologous blood was instilled, and the patient placed in Trendelenburg position for 15 minutes followed by pneumostat for approximately 72 hours.

Conclusion:
We observe that the success rate of blood patch pleurodesis may be affected by large bore chest tube directed towards the lung apex, with the patient placed in Trendelenburg position in addition to early mobilisation with a pneumostat.

CR 12

NON-THROMBOTIC PULMONARY EMBOLISM CAUSED BY BREAST FILLERS IN A YOUNG HEALTHY WOMAN

Muhammad Naimmuddin Abdul Azih[1], How Soon Hin[1], Ahmad Razali Md Ralib[2]

[1]*Respiratory Unit, Department of Internal Medicine, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan Pahang*

[2]*Department of Radiology, Kulliyyah of Medicine, International Islamic University Malaysia, Kuantan Pahang*

Breast fillers, amongst other injectable cosmetic materials are a rare cause of non-thrombotic pulmonary embolism. Various agents are used including hyaluronic acid, polyacrimide hydrogel, silicone, microcrystalline cellulose and many other particulate matters. The mechanisms of this potentially life-threatening condition include inadvertent intravenous injections, trauma at the injection sites and possibly autoimmune reactions. We report a 32-year old healthy woman presented with 1-week history of productive cough associated with fever and breathlessness. Her oxygen saturation under room air was 85% and the arterial blood gases showed mild type 1 respiratory failure. Her chest radiograph showed non-specific opacities at both lung bases and later CT thorax was surprisingly showed diffuse ground-glass opacities with wedge-shaped atelectasis at the lung periphery and an incidental finding of lobulated bilateral breast lesions. Indeed, further questioning revealed that she had a bilateral hyaluronic acid filler injected at her breasts one month ago. An urgent CT pulmonary angiogram was done but revealed no filling defects. She was also referred to surgeon but the fillers were unremovable since it was injected diffusely into her breasts. Thus, she was treated conservatively with intravenous antibiotics and corticosteroid with good clinical response. She was discharge with home oxygen therapy since she had exertional desaturation. Upon review in the outpatient respiratory clinic, she had marked clinical improvement and now waiting for spirometry and HRCT thorax to re-assess for any residual lung damage. This rare case illustrates the danger of seemingly harmless cosmetic procedures that should create an important public and clinical awareness.

CR 13

AN UNUSUAL CASE OF HYPEREOSINOPHILIC SYNDROME WITH PULMONARY AND SKIN INVOLVEMENT SECONDARY TO COSMETIC GLUTEAL IMPLANT

Khai-Lip Ng, Hema Yamini, Kunjikannan SK
Respiratory Department, Queen Elizebeth Hospital, Kota Kinabalu, Sabah

Introduction
The hypereosinophilic syndromes (HES) are a group of disorders marked by the sustained overproduction of eosinophils, in which eosinophilic infiltration and mediator release cause damage to multiple organs.Peripheral blood eosinophilia may be caused by numerous conditions, including allergic, infectious, inflammatory, and neoplastic disorders.HES due to foreign body is rare and has not been reported previously.

Case report
We describe a 41 years old lady who presented with a 2 weeks history of cough associated with fever, pleuritic chest pain, and shortness of breath on the day of presentation with rashes at the upper body. Significant history including unlisenced breast and gluteal implant done using massage oil in 2011, which was removed incompletely in early 2018. On examination, there was macular papular rash over upper chest and back, supravlacivular lymph node of 3cmx4cm in size and inguinal lymph node of 4x6cm. lungs examination revealed reduced air entry bilaterally. There was a well marginated mass at the right hip which appears to be a ruptured gluteal implant which was incompletely removed. The TWBC was 28.5x10*9 with AEC of 23.39x10*9. PBF showed hyperesoinophilia with no blast cell seen. CXR and HRCT showed few pleural based nodules of 0.2cm with ground glass opacity at subpleural region. Right inguinal lymph node biopsy showed foreign body type inflammatory reaction. the gluteal implant was subsequently removed and CXR and rash showed marked improvement with resolution of eosinophilia.

Discussion and conclusion
HES is a rare but potentially dangerous complication of cosmetic breast/ gluteal implant procedures, especially if not done properly. Besides ruling out other causes of hypereosinophilia such as hematological malignancies, autoimmune diseases and fungal infection, rare causes such as foreign body or medication taken should be considered and ruled out from careful history taking and physical examination.

CR 14

PUZZLING PLEURAL EFFUSION IN WALDENSTROM'S MACROGLOBULINEMIA

Nur Aida MA[1], Ahlam Naila K[2], Ismail I[1], Megat Razeem AR[2], Soon Hin H[1], Arfahiza S[3], Nur Farahwahida MA[4]

[1]Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia
[2]Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia
[3]Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia
[4]Radiology Department, Hospital Tengku Ampuan Afzan, Kuantan Pahang, Malaysia

Introduction

Involvement of pleural by Waldenstrom's Macroglobulinemia remains a rare manifestation. We report a case of middle age woman who presented to us with failure symptoms and noted to have massive left pleural effusion, large right cervical lymphadenopathy and hepatosplenomegaly who was finally diagnosed to have lymphoplasmacytic lymphoma. Her effusion is a puzzling indeed for the team. We treated her with antibiotic initially and later started her on RCD regime which she responded remarkably.

Methodology – Case Report

A 49-year-old Malay lady presented with worsening shortness of breath, fullness of the abdomen associated with productive cough with yellowish sputum. She is unwell for 2 months, notices right neck swelling and also having B symptoms. Clinically, she had right large cervical lymphadenopathy level III measuring 7cm x 7cm with right arm lymphedema, left sided effusion and hepatosplenomegaly. Urgent CECT Thorax was ordered in view of possibility of superior vena cava obstruction, which is reported as negative. However, there is a massive left large pleural effusion communicating with the splenic collection with left hemidiaphragmatic breach. Chest tube inserted, drained hemoserous fluid and pleural fluid analysis showed exudative pictures with high LDH 804, normal glucose 5.3 and cytology is negative for malignancy. FBP urgent showed leukoerythroblastic anaemia with marked rouleux formation and occasional lymphoplasmacytoid cells. Trucut biopsy of right cervical LN are expressing strong and diffuse CD79a (+), CD20 (+), BCL2 (+) and IgM Lamda restriction. The plasmacytic component is CD138+. Her HPE is suggestive of lymphoplasmacytic lymphoma. Patient was initially started with Augmentin, and escalated to Meropenem when she deteriorates. Once patient able to weaning, cyclophosphamide was started followed by rituximab and dexamethasone. Patient improve remarkably. During her 2nd RCD regime, repeated CXR showed resolution of pleural effusion.

Conclusion

Pleural effusion is unusual presentation of Waldenstrom's macroglobulinemia. The exudative pictures could encompass both neoplastic and non-neoplastic diagnosis. A pleural involvement in Waldenstrom's macroglobulinemia could be confirmed by either a biopsy or a flow cytometry done for the pleural fluid.

CR 15

LACTOBACILLUS CATENAFORMIS ASSOCIATED LUNG EMPYEMA

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Roesnita B[3]

[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*

[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*

[3]*Microbiology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*

Introduction

Lactobacillus catenaformis is a gram positive, anaerobic, non-motile and non-spore forming rod belonging to the Erysipelostrichaceae family. This bacterium was reclassified as Eggerthia catenaformis in 2011 after phylogenetic analysis of its genome. It has been proven that this strain can be a human pathogen and can carry genes related to virulence. Here we describe the clinical case of a patient with a lung empyema caused by Lactobacillus catenaformis.

Methodology – Case Report

A perfectly healthy 62-year-old Malay man presented with history of fever and productive cough with purulent blood streak sputum for one week. He was brought over to emergency department due to worsening shortness of breath. He was noted to be tachypneic and had significant type 1 respiratory failure. Clinical examination showed decreased right basal breath sound with stony dullness on percussion of right lower zone. Right pleural tapping drained 400 mls mucopurelent fluid. Antibiotic therapy with IV Ceftazidime was immediately initiated. The patient was hospitalized in intensive care unit for 2 days necessitating mechanical ventilation and later transferred to general ward. The outcome was favorable with withdrawal of oxygen after 3 days, regression of right pleural effusion on serial chest x-ray.

Results

In earliest chest x ray, there is homogenous opacity at the right lower zone, associated with loss of right lung volume and air fluid level seen. It is likely to represent right pleural effusion with collapsed consolidation. Subsequent chest x ray showed improvement of right lung volume. Pleural fluid cultures revealed the presence of Lactobacillus catenaformis. The blood and sputum culture examination were negative. Antibiotic therapy was changed to amoxicillin-clavulanic and metronidazole for a total duration of 6 weeks.

Conclusions

Lactobacillus catenaformis, or Eggerthia catenaformis is a rare but potentially life-threatening anaerobe that can cause lung empyema. Source control and appropriate antibiotic is paramount.

CR 16

ADVANCED ANTERIOR MEDIASTINAL YOLK SAC TUMOR WITH SUPERIOR VENA CAVA SYNDROME

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Norra H[3], Dahlia M[4]

[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*

[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*

[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*

[4]*Radiology Department, Hospital Temerloh, Pahang, Malaysia*

Introduction

Mediastinal germ cells tumors are extragonadal germ cell tumors (EGGCTs). They are more common in men. It is an extremely rare tumor and it has a worse prognosis than gonadal germ cell tumors.

Case Report

39-year-old Malay gentleman presented with chronic cough for 2 months and worsening shortness of breath during presentation. Clinically, he had superior vena cava syndrome (SVCS) and hemodynamically unsupported. Lung examination captured significantly reduce air entry over right side of lung and it is dull on percussion. CT finding showed huge right anterior mediastinal mass 12.1 cm x 21.3 cm x 17.3 cm with lung, liver, spleen and bone involvement with evident of narrowing of the superior vena cava at T4 vertebral level downward. He was started on IV Dexamethasone 8mg TDS for SVCS. Trucut biopsy of anterior mediastinal mass was performed which showed multiple pieces of tumor tissue arranged as glands, solid aggregates and sinusoidal pattern. The tumor cells exhibit mildly atypical cells having round to ovoid nuclei, inconspicuous to prominent nucleoli and moderated amount of vacuolated to clear cytoplasm. Mitosis is frequent. Immunohistochemical stain showed strong positivity of alphafetoprotein, positive CKAEI/ AE3, and occasional cell positivity of CD117. It is negative for PLAP and TTF-1. Features are consistent with yolk sac tumor. This diagnosis was supported by a grossly elevated serum alphafetoprotein (138397ng/ml). Unfortunately, patient passed away prior the result of biopsy was obtained, high likely due to advanced bulky disease with distant metastasis.

Conclusion

We reported this case due to its rarity. Yolk sac tumor of the anterior mediastinum is rare highly malignant tumors with SVCS are reported in 6% of these cases.

CR 17

ENDOCBRONCHIAL PSEUDO-TUMOR CAUSED BY HERPES SIMPLEX

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Suhaila A[3], Sharifah Nor Ashikin SY[4]

[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Radiology Department, Hospital Tengku Ampuan Afzan, Pahang, Malaysia*

Introduction

Endobronchial Pseudo-tumor like lesions has been described very rarely as HSV pulmonary manifestations in critically ill patients or in immunosuppressed individuals.

Methodology - Case Report

64 year old Malay male with background history of DM and hypertension with good premorbid condition presented with a short duration of fever, cough and SOB (3 days). This patient was initially treated as CAP with ARDS, complicated with recurrent nosocomial infection. Serial CXR showed persistent right upper lobe lung collapse. CECT Thorax showed air space opacities with air-bronchograms seen at posterior segment of right upper lobe associated with surrounding ground glass opacities. Multiple cystic lesions and dilated airways are seen at right upper lobe adjacent to and within the consolidation. During his ICU stay, anaesthesiology team had difficulty with weaning of oxygenation thus decided for bronchoscopy which revealed suspicious growth at middle lobe of the right lung. At D26 of ICU admission, case was referred to respiratory team. Repeated bronchoscopy was done and it showed nodular 'warty' appearance lesion at right bronchus intermedius. Endobronchial biopsy taken and the result is consistent with herpes infection as evident by balloon degeneration free lying epithelium with ground glass nuclei admixed with necrotic tissue with inflammatory exudate. Endobronchial tissue also shows intranuclear inclusion. Patient was started on IV Acyclovir. However, this patient succumbed later due to severe Klebsiella CRE nosocomial infection.

Conclusion

Diagnosis of HSV infection is feasible from the characteristic cytological and histological findings seen in samples obtained by bronchoscopic examination. The presence of intranuclear inclusions is considered to be useful cytopathic feature in diagnosing HSV.

CR 18

MALIGNANT LUNG CARCINOID TUMOR

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Nurhidayah H[3], Norra H[3], Fatimatulzahra AG[4]

[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Radiology Department, Hospital Temerloh, Pahang, Malaysia*

Introduction

Lung carcinoid tumor comprises 1-2% of all lung cancer however atypical lung carcinoid carry high risk of malignant transformation.

Methodology – Case Report

A 43-year-old lady presented initially to surgical team with history of chronic diarrhea for more than 20 times for a year. Further history suggests that she had flushing of the face significant loss of weight nearly 18 kg. OGDS done with normal finding and colonoscope revealed multiple none bleeding cecal diverticulum. Clinically patient had hepatomegaly thus decided by surgical team for CT liver which revealed multiple liver masses and incidental finding of right lung mass. CECT thorax which was ordered subsequently captured a minimally enhancing irregular hypodense mass at medial segment of right lower lobe measuring 4.1 cm x 3.2 cm x 2.2 cm with evident of bone metastasis. Patient was referred to respiratory team for further management. Bronchoscopy was done and noted narrowed opening of right lower lobe medial segment and unable to pass scope further but can see mass at tertiary carina. There is no endobronchial lesion and transbronchial lung biopsy (TBLB) under fluoroscopy was done. Histopathology report is consistent with atypical carcinoid. The neoplastic cells are strong and diffusely positive for Chromagranin A, Synaptophysin, CD56 and focally positive for CK7. A full diagnosis of malignant lung carcinoid with liver and bone metastasis was made and patient was referred to oncology team HKL. PET scan done and showed evidence of somatostatin receptor metastasis in the enlarged lobulated liver. Patient was started on SC Sandostatin LAR 30mg OD. PET scan done 6 months later showed partial response. Unfortunately, patient passed away 9 months later at home with likely underlying advanced disease.

Conclusion

Physician should always have high suspicious and include a differential diagnosis of carcinoid syndrome in a patient with chronic diarrhea and flushing despite of its rarity.

CR 19

PLEUROPULMONARY SOLITARY FIBROUS TUMOR

Ummu Afeera Z[1], Megat Razeem AR[2], Soon Hin H[1], Aishah I[2], Nor Hafliza MS[3], Noriah O[4], Dahlia M[5]

[1]*Internal Medicine , International Islamic University Malaysia , Kuantan, Pahang, Malaysia*
[2]*Internal Medicine , Hospital Tengku Ampuan Afzan , Kuantan, Pahang , Malaysia*
[3]*Pathology Department, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia*
[4]*Pathology Department, Hospital Serdang, Malaysia*
[5]*Radiology Department, Hospital Temerloh, Pahang, Malaysia*

Introduction

Solitary fibrous tumors (SFTs) are relatively rare neoplasms that commonly occur in the pleura. The tumor infrequently has been associated with paraneoplastic syndromes, most commonly reported is non-islet cell tumor hypoglycaemia (Doege Potter Syndrome).

Case Report

Case Report – A 63 year old female, non smoker, non diabetic presented to district hospital with history of cough for 2 weeks, difficulty breathing and constitutional symptoms. CXR noted homogenous opacity obscuring right hemothorax, mediastinal shifted with tracheal deviated to the left. CECT Thorax showed huge heterogeneously enhancing mass occupying the right hemithorax. It measures approximately 16.4 cm x 16.5 cm x 21.1 cm. Minimal residual collapsed lung noted at right apical region. Pleural tapping done at district hospital noted exudative picture. Patient also noted to have unexplained hypoglycaemia initially thought to be adrenal metastasis and was started on IV Hydrocortisone 100mg TDS however the hypoglycemia persist. Upon transferred to our care, patient was on NIV and noted patient had superior vena cava syndrome (SVCS) and she was started on IV Dexametasone high dose. SVCS and refractory hypoglycemia improved remarkably with dexamethasone. Trucut biopsy of right lung mass done under ultrasound guided.

Result

Microscopically, the biopsy show spindle to oval shaped tumor cells with hypocellular and hypercellular area within a ropey collagenous stroma. Pericytic vascular pattern are seen. The tumor cells are positive for CD34, BCL2, CD99 and STAT 6 with patchy CK AE1/AE3 positivity, thus the impression of solitary fibrous tumor (SFT) given.

Conclusion

Our case highlights the importance of considering Doege-Potter syndrome in a patient with SFT and hypoglycemia. Non islet cell tumor hypoglycaemia (NICTH) is the main clinical characteristic of Doege–Potter syndrome. It occurs in < 5 percent of cases and is primarily seen in large peritoneal/ primary tumor and caused by tumor secretion of large insulin like growth factor II (IGF2) and responded well with high dose steroid.

CR 20

EXTRASKELETAL EWING SARCOMA PRESENTING AS THORACIC MASS : A CASE REPORT

WJ Tan[1],Fatimah Azmah[2], Irfan Ali[3]

[1,2,3]*Hospital Pulau Pinang, Malaysia*

The Ewing's sarcoma is an uncommon group of malignant neoplasms that may be located in both skeletal and extraskeletal regions. Extraskeletal Ewing's sarcoma (EES) is even rarer and predominantly involves the soft tissues of the trunk or the extremities. We report the case of 22 years old gentleman presented with lower limb weakness for 6 months and breathlessness for 1 week. Patient was paraplegia, cachexic and tachypenic on high flow oxygen support upon examination with no lymph nodes palpable. Chest radiograph revealed homogenous opacity occupying left hemithorax . Computed tomography thorax showed huge left heterogenous mass with necrotic component seen with mediastinum shift to to right side. Upon tracing magnetic resonance imaging of lumbar spine done in previous centre showed epidural mass over L3 region however patient defaulted for 6 months until presented to us. Tumor marker carcinoembryonic antigen CEA, beta human chorionic gonadotropin BHCG, thyroid function test were normal. Subsequently bedside ultrasound guided biopsy was done in view of patient was breathless and could not lie flat. Histology showed Ewing sarcoma with round cells. Unfortunately patient succumbed before treatment could be initiated. The usual causes of mediastinum mass in young patient namely lymphoma, germ cell tumor,thymoma and goiter need to be excluded however rare causes like ewing sarcoma in young patient can be found in the literature with 3 case reports been found. Ewing’s sarcomas are high grade relatively rare malignant bone neoplasm that predominantly affect children and young adults with male preponderance. It usually involves major long bones, pelvis and ribs. ESS has been described in areas of chest walls, lower extremities, retroperitoneum and paravertebral in 15% of cases but not as thoracic mass. With early diagnosis and treatment , combination surgical with chemoradiotherapy patient can achieve 5 year relative survival rates of 56%% based on Surveillance, Epidemiology and End Results(SEER) program of national cancer institute data

CR 21

A CASE REPORT OF SEVERE ADULT MEASLES PNEUMONIA WITH RESPIRATORY FAILURE TREATED WITH ORAL RIVABIRIN

Naim AM, Iskandar MA, Shahril NS
Hospital Putrajaya

Introduction:
Pneumonia is a known complication of measles. The beneficial effects of intravenous rivabirin on life-threatening measles pneumonia has been well described in the literature, but evidence for use of oral ribavirin is limited and optimal duration of treatment is unknown. We aim to describe a case of severe adult measles pneumonia complicated with respiratory failure treated with oral ribavirin.

Case Summary:
A 34-year old gentleman, immunized against measles in childhood, presented with six days history of fever associated with cough, coryza, vomiting and diarrhoea followed by generalized body rash. He was febrile (390C), dehydrated and there were bilateral subconjunctival haemorrhages with macular papular rashes all over his body. Koplik's spots with non-exudative tonsilitis, and tender hepatomegaly were present. Cardiovascular, respiratory and neurological examinations were unremarkable. Blood investigations showed total white count 8.4 x 109/L, and platelet 100 x 109/L. He had mild hyponatremia with sodium of 134 mmo/L, with elevation in creatinine kinase levels (768 U/L), C-reactive protein (55 mg/L) , aspartate transaminase (111 U/L) and alanine transaminase (68 U/L). Measles IgM was positive. Other investigations such as Retroviral and viral hepatitis B and C serology, blood film for malaria parasite, Leptospira IgM and dengue serology (NS-1, IgG, IgM) were negative. Serial chest rays showed features of worsening pneumonitis. He required mechanical ventilation for respiratory failure. Patient was treated with oral ribavirin 15 mg/kg/day (400 mg TDS for 5 days) and intravenous methylprednisolone (80mg stat and 60mg daily for total of three days), with marked improvement in his clinical condition.

Conclusion:
Use of oral ribavirin and intravenous methylprednisolone are effective in the treatment of severe adult measles pneumonia.

CR 22

A RARE CAUSE OF EMPYEMA

Shu Ann Hon[1], Jan Jan Chai[2], Qin Jian Low[1]
[1]*Department of Internal Medicine, Hospital Sultanah Nora Ismail, Batu Pahat, Malaysia.*
[2]*Department of Radiology, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Malaysia.*

Introduction: Boerhaave Syndrome is a rare condition due to a spontaneous longitudinal transmural rupture of the esophagus which usually develops during or after persistent vomiting secondary to sudden increase of intraluminal pressure in the esophagus. Literature review reported an incidence of 3.1 per 1,000,000 per year. Approximately 15 percent occurred spontaneously. The non-specific symptoms may contribute to a delay in diagnosis and may lead to sepsis or multi-organ failure.

Objectives: To highlight a rare cause of lung empyema.

Methodology: Case Report.

Case Report: A 49-year-old gentleman presented with epigastric pain for 1 day associated with single episode of vomiting with no hematemesis. He subsequently experienced dyspnoea with no chest pain. Respiratory examination showed reduced breath sound over his left lower zone with absence of subcutaneous emphysema. He was treated as left spontaneous pneumothorax and left lung empyema requiring a left chest tube insertion and intravenous antibiotics. Pleural fluid biochemistry results showed an exudative picture while left pleural fluid biochemistry is consistent with empyema. His condition deteriorated further requiring mechanical intubation. We noted food material draining from his left chest tube during feeding. An urgent contrast enhanced computed tomography (CECT) thorax showed left oesophageal-pleural fistula with possible broncho-oesophageal fistula. Oesophagogastroduodenoscopy (OGDS) revealed air bubbles in his left chest tube under-water seal during air-insufflation of his esophagus. The revised diagnosis was Boerhaave Syndrome. He was treated conservatively with an esophageal stent to cover the esophageal perforation by the upper gastrointestinal surgical team. The esophageal stent was removed after the perforation had healed. The thoracic surgeon performed a left lung decortication via video assisted thoracoscopic surgery for his left empyema. He improved and was discharged well.

Conclusion: Boerhaave syndrome has to be considered early if there are any combined gastrointestinal complaints (epigastric pain and vomiting) with respiratory symptoms (pneumothorax or empyema).

CR 23

MANAGEMENT OF BILATERAL EXTENSIVE SUBCUTANEOUS EMPHYSEMA. A CASE REPORT.

KN Tan[1], QJ Low[2]
[1]*Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia.*
[2]*Hospital Sultanah Nora Ismail, Batu Pahat,, Johor, Malaysia.*

Introduction

Subcutaneous emphysema (SE) occurs due to passage of air from rupture alveolus to pulmonary interstitial tissue that is greater than pleural reabsorption, causing air to be trapped under the skin.

Commonly, this occurs due to chest tube insertion or cardiothoracic procedures and usually is self-limiting. Rarely, SE can be extensively widespread which can compromise cardio-respiratory system.

Case Report

A 52 year-old gentleman with underlying chronic obstructive pulmonary disease, presented with dyspnea for two days and productive cough. He was tachypnoeic and his saturation under room air was 88%. Chest radiograph showed a right pneumothorax (3cm size of pneumothorax). A 24F size right chest drain was inserted and patient's symptom improved. Unfortunately, he developed SE over his right chest and subsequently developed respiratory failure with dysphagia requiring mechanical ventilation. He was ventilated in intensive care unit for 3 days and successfully extubated. However, his SE had extended to his neck, cheek, bilateral upper limbs, torso and thighs. A thorax computer tomography showed pneumomediastinum with extensive SE. There is emphysematous lung changes with bilateral apical bronchiectasis in keeping with chronic lung disease complicated with right pneumothorax. Two 16G branulas were inserted subcutaneously at his anterior chest wall and a low-grade suction had been applied over his right chest tube. His subcutaneous emphysema resolved gradually over two weeks.

Conclusion

The main aim of treating extensive SE is to decompress the thoracic outlet and the neck to ensure airway patency1. A few methods have been discussed in literatures including emergency tracheostomy, multisite subcutaneous drainage, or suction pressure from a chest tube. In this case, we have applied wide-bore branula with low grade suction from chest tube, which provides a simple, cost-effective and low risk approach in decompressing SE.

Reference

1. Quoc Tran, et. al. (2018). Management of extensive surgical emphysema with subcutaneous drain: A case report.

CR 24

AN UNUSUAL CAUSE OF PANCOAST SYNDROME

KN Tan[1], QJ Low[2]
[1]*Department of internal medicine, Hospital Queen Elizabeth*
[2]*Department of internal medicine, Hospital Sultanah Nora Ismail*

Introduction

Pancoast tumors, also known as tumors in the superior pulmonary sulcus, typically caused by non-small cell lung cancer. Horner syndrome occurs when the tumor invades the apical chest wall causing destructive lesion to the cervical sympathetic chain. Rarely, it causes pain at the shoulder and along the ulnar nerve distribution over the arm, and produces a syndrome called Pancoast syndrome.

Case Report

A 27 year-old lady presented with easily bruising and gum bleeding for 3 weeks, associated with left eyelid dropping and pain over her left arm. She had reduced effort tolerance for the past 2 weeks with constitutional symptoms. She has a left Horner syndrome with wasting over her left hypothenar muscles. A chest radiograph showed a homogeneous mass at her left upper and middle lung zones. Laboratory studies revealed a leukocytosis (44,710/ul), thrombocytopenia (14,000/uL) and a normal hemoglobin level (12.1g/dl), together with numerous leukemic blasts cells noted from full blood picture. Bone marrow aspiration and trephine biopsy showed 78% of blasts. Her cell-surface markers is consistent with T cell lymphoblastic leukemia.

A neck, thorax, abdomen and pelvis computed tomography revealed multiple lymphadenopathies over the cervical and inguinal region with huge anterior mediastinal lymph node, which measured about 5.7 x 12.5 x 5.1 cm, encasing the right brachiocephalic trunk, left common carotid and subclavian artery. She had been given induction chemotherapy based on Modified BFM 5/93, which consists of Daunorubicin, Vincristine, Prednisolone, L-Asparaginase and intrathecal methotrexate. At the end of induction chemotherapy, her Horner syndrome resolved and her repeated chest radiograph showed complete resolution of the mediastinal mass over her left lung.

Conclusion

Pancoast syndrome can be caused by other malignancies such as thyroid carcinoma, lymphoma, or any distant metastasis tumor. Most of the patients with pancoast syndrome have poor prognosis1. However, in this case, her tumor is chemo-sensitive and it resolved completely after the induction chemotherapy cycle.

Reference

1. Panagopoulos N, et.al (2014). Pancoast tumors: characteristics and preoperative assessment.

CR 25

LEAKING THORACIC AORTA ANEURYSM CAUSING PLEURAL EFFUSION: A POTENTIAL DISASTER

Khai-Lip Ng, Hema Yamini, Kunjikannan SK
Respiratory Department, Queen Elizabeth Hospital, Kota Kinabalu, Sabah

Introduction.
Thoracentesis is the first step in diagnosing a unilateral pleural effusion. Although malignancy remains the most common cause of a hemoserous effusion, we must be aware of other causes such as uremia, pulmonary infarction, post cardiac injury syndrome etc. We report a rare case of leaking thoracic aortic aneurysm masquerading as a unilateral hemoserous pleural effusion.

Case Report
A 79-year-old female with underlying hypertension, dyslipidemia and chronic kidney disease presented with a 2-weeks history of cough and dyspnea. She also reported a weight loss of 5 kilograms in 1 month. A Chest X-Ray (CXR) on presentation revealed a large left pleural effusion. As her main differential diagnosis was malignancy, she was subjected to pleuroscopy to obtain a tissue diagnosis. During pleuroscopy, 1 liter of hemoserous fluid was drained. Apart from patchy white plaques on the parietal pleura, a large cystic mass was seen adhered to the parietal pleura posteriorly. Biopsies were taken from the parietal pleura however decision was made not to biopsy or aspirate the cystic mass during pleuroscopy. CXR post-drainage revealed a well-defined mass at the left lower lobe. The biopsy results were negative for malignancy and pleural fluid adenosine deaminase sent during the procedure was 11. There was no drop in the hemoglobin level. Computed tomography of the thorax done few weeks later showed a large thoracic aorta aneurysm with multiple penetrating atherosclerotic ulcers and mural thrombus. No evidence of a pleural based mass. Patient was counseled for surgical repair but opted for conservative management.

Discussion
Leaking thoracic aneurysm is an uncommon but potentially dangerous cause of hemoserous pleural effusion. A blind thoracentesis or biopsy of the cystic mass during pleuroscopy would have led to rupture of the aneurysm. Depending on the clinical context, it is safer to obtain a CT thorax prior to pleuroscopy when dealing with undiagnosed pleural effusion.

CR 26

RIFAMPICIN-INDUCED ACUTE KIDNEY INJURY: A CASE OF PLEURAL TUBERCULOSIS

Jamhuri N.S, Abd Razak M.R, Harun N.
International Islamic University Malaysia/ Hospital Tengku Ampuan Afzan

Introduction
Acute kidney injury (AKI) is an uncommon complication attributed to Rifampicin. The incidence in Malaysia is rare. This is a case of pleural tuberculosis (TB) with AKI, after Rifampicin exposure and is supported with renal biopsy.

Case presentation
A 48 year old male, presented with chronic cough, fever and weight lost. Diagnosis of pleural TB was established. Baseline liver and renal profile were normal. He was commenced on Akurit-4 in intensive phase and at day 48, he complaint of vomiting and further weight loss. Renal profile was deranged. Urinalysis showed proteinuria, leucocyturia and hematuria. Ultrasound kidney,ureter,bladder (KUB) was normal. Despite anti-TB adjustment, renal profile progressively impaired. Renal biopsy performed which showed unremarkable glomeruli with acute tubular necrosis (ATN) and acute interstitial nephritis (AIN). No granuloma noted. Impression of Rifampicin-induced AKI was made. Treatment was changed to Isoniazid, Levofloxacin and Pyrazinamide (HLZ). Remarkably, renal profile showed improvement. He was treated for 9 months.

Discussion
The incidence of Rifampicin-induced AKI is scarce. Literatures showed that Rifampicin is the commonest anti-TB agent. No particular timing documented for the development. Based on case series, overall median time to onset is 45 days. In this case, AKI developed after 48 days of Rifampicin exposure.
Common symptoms reported are fever, gastrointestinal disturbances and skin manifestation. Proteinuria, sterile leukocyturia and hematuria also commonly observed. This patient's symptoms and urinalysis were consistent with literatures. Genitourinary TB had been ruled out. Ultrasound KUB was normal. Renal biopsy showed no granuloma. Common histopathological changes of Rifampicin-induced AKI are ATN and AIN which is consistent with this report.
Published literatures reported improvement of renal profile after terminating Rifampicin with some showed benefits of steroid. Currently, no strong data regarding steroid benefits. In this case, renal profile improved after removal of Rifampicin alone.

Conclusions
Based on the symptoms, laboratory and histopathology findings, with the recovery of renal profile after stopping Rifampicin, we can conclude that, this is another case of Rifampicin-induced AKI to be reported in Malaysia.

CR 27

CENTRAL AIRWAY OBSTRUCTION WITH POST OBSTRUCTIVE PNEUMONIA

Kew YC, Mona Zaria Nasaruddin, R. Ismail, Jamalul Azizi AR
Pulmonology Department, Hospital Serdang, Malaysia

Introduction :
Post obstructive pneumonia is a commonly encounter complication among lung cancer patient, and is associated with substantial morbidity and mortality. In fact, obstructive component in patients with community acquired pneumonia might leads to the detection of primary or metastatic lung cancer. The management of these patients is very challenging and will need multidisciplinary involvement. We reported a mortality case of a large cell neuroendocrine tumor patient presented with central airway obstruction, who pass away later due to multiorgan failure secondary to sepsis despite the intervention approach.

Case presentation :
A 46 years old indonesian male, an ex-chronic smoker diagnosed with stage 4 large high grade neuroendocrine lung tumor in year 2017 who had underwent serial of chemotherapy and cyberknife therapy was refer to hospital serdang pulmonology department urgently due to central airway obstruction. He was treated for lung empyema earlier at private centre with broad spectrum antibiotic coverage. Chest drain inserted at private centre drain out 2.6L of pus from his right hemithorax. He underwent two rigid bronchoscope with tumor debulking and stenting in our centre. During procedure, another 1.3L of pus was removed from his right lower bronchus. He was transfer to ICU for further care after the procedure. He succumb to death few days later due to sepsis with multiorgan failure.

Discussion :
This case illustrate the difficulty in managing central airway obstruction, which further complicated with post obstructive pneumonia.

CR 28

INTERMITTENT TKI IS ASSOCIATED WITH DURABLE RESPONSE IN ADVANCED NSCLC PATIENT: A CASE REPORT

Sin Nee Tan[1], Aishah Ibrahim[1], Megat Razeem Abdul Razak[1], Muhammad Naimmuddin Abdul Azih[2], Soon Hin How[2]

1. Hospital Tengku Ampuan Afzan Kuantan, Pahang, Malaysia
2. International Islamic University Malaysia Kuantan, Pahang, Malaysia

Introduction

Tyrosine kinase inhibitor (TKI) has been widely recognized as first line treatment for non-small cell lung cancer (NSCLC) with Epidermal Growth Factor Receptor mutations postive (EGFRm+). Extensive studies had been proven that TKI provides better progression free survival (PFS) comparing to standard chemotherapy. There is no randomized controlled study of TKI in patients with poor ECOG harboring EGFR mutation. Commonly patients with poor compliance are associated with poorer outcome. We are reporting a stage IV lung cancer patient with poor ECOG surviving on intermittent doses of TKI and chemotherapy.

Case report

Madam S, a 61 year old lady presented in Jan 2016 with chronic cough and constitutional symptoms for 4 months. When in the hospital, she was ECOG 4 and clinically she had massive pericardiac effusion. Pericardial tap was done and cytology revealed adenocarcinoma with common EGFR mutation (19 deletion). CT thorax and abdomen confirmed stage IV lung carcinoma (T3N2M1B). She was started with erlotinib 100mg (free sample donated by another patient) and her ECOG improved to 1. Repeated CT thorax and abdomen showed partial response to erlotinib. Due to financial constraint, she had never bought any TKI. She was given erlotinib for 6 months by hospital followed by gefitinib and afatinib donated by other patients. She took these medication very occasionally tends to take these medications once every few days and especially when she developed symptoms. She was given 2 cycles of chemotherapy in between which only showed stable disease after 2 cycles. She didn't have major side effect and remained well up to the last review in April 2019. Her ECOG was 0 and with good weight gained.

Conclusion

Intermittent doses of TKI may be useful in patient with advanced EGFRm+ NSCLC especially with poor ECOG functional status and financial limitation.

CR 29

OCCUPATIONAL LUNG DISEASE - SILICOSIS

Shu Ann Hon[1], Qin Jian Low[1]

[1]*Department of Internal Medicine, Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia.*

Introduction: Interstitial lung disease can be caused by various factors including occupational exposure, drugs and idiopathic. Occupational lung disease such as silicosis has been a common cause for progressive massive pulmonary fibrosis. Silicosis is a fibronodular lung disease caused by inhalation of crystalline silica dust, i.e. Quartz. It has continued to result in significant morbidity and mortality worldwide.

Objectives: To report a case of silicosis leading to progressive massive fibrosis.

Methodology: Case Report.

Case Report: A 63-year-old woman, who is a lifelong non-smoker, complaining of wheezing and dyspnoea ever since retired from her work 8 years ago. She had worked in clay and piping industry for more than a decade. She wore only a simple face mask at work without other protective gown. She had multiple hospital admissions for acute exacerbation of chronic lung disease for several years. Apart from bilateral fine crepitations and occasional rhonchi on auscultation, her physical examination was within normal limits. Chest radiograph revealed ground glass changes. Pulmonary function testing was suggestive of irreversible severe obstruction with a FEV1 of 45%. High resolution computed tomography thorax demonstrated hyperinflated lungs with emphysematous changes with multiple nodules over subpleural region and conglomerate mass with calcifications within over bilateral lungs (right upper lobe and bilateral lower lobes) with fibrotic band and adjacent pleural thickening. These findings were in keeping with progressive massive fibrosis. Imaging, supported by occupational history, was suggestive of progressive massive fibrosis (PMF) due to silicosis.

Conclusion: Silicosis is a progressive fibrosing disease. This patient is likely suffering from accelerated silicosis which is likely to progress to radiological deterioration, altered respiratory function and premature death. Therefore, it is essential to avoid risk factors for the development of this disease.

CR 30

A RARE CASE OF TUBEROUS SCLEROSIS WITH PULMONARY LYMPHANGIOLEIOMYOMATOSIS (LAM)

Mohd Fauzan Salleh, Qin Jian Low

Department of Internal Medicine, Hospital Sultanah Nora Ismail, 83000 Batu Pahat, Johor, Malaysia

LAM is a rare disorder resulting from proliferation in the lung, kidney and axial lymphatics of abnormal smooth muscle-like cells (LAM cells) that exhibits features of neoplasia and neural crest origin. Cystic destruction of the lung with progressive pulmonary dysfunction and the presence of abdominal tumours characterize the disease. LAM typically occurs in premenopausal women, suggesting the involvement of female hormones in disease pathogenesis. LAM can occur with increased frequency in patient with tuberous sclerosis complex (TSC).

A 40-year-old woman presented to the emergency department for chronic cough with whitish sputum of 2 months duration. She had no fever, dyspnoea, haemoptysis, chest pain, night sweat, loss of appetite or loss of weight. She had underlying tuberous sclerosis with hepatic angiomyolipoma, bilateral renal angiomyolipoma and chronic kidney disease. She had undergone nephrectomy of her right kidney due to symptomatic kidney enlargement. On physical examination, she was mildly dyspnoeic, presence of sebaceous adenoma on her face, fine crepitation on her both lungs, right nephrectomy scar and ballotable left kidney. Arterial blood gas found hypoxaemia. Chest radiograph showed reticulonodular opacities with multiple cystic lesions. High resolution computed tomography (HRCT) of thorax also found diffuse thin-walled cystic lesions, not exceeding 1.0 cm in diameter, in both lung fields consistent with pulmonary lymphangioleiomyomatosis. She has been treated with home long term oxygen therapy. She was not treated with sirolimus because of financial constraint. Since then, she had multiple hospitalisation due to symptomatic ascites which requiring paracentesis. She finally succumbed to death due to hospital acquired infection.

Currently, there is no cure for LAM. Sirolimus is the only medication that may be helpful in treating LAM. It has demonstrated improvement in lung function, reduce the size of angiomyolipomas, lymphangioleiomyomas and chylous effusions. The therapeutic response, however, is generally not sustained.

CR 31

THE INTERESTING CASE OF SUCCESSFUL TREATMENT OF ENDOBRONCHIAL ACTINOMYCOSIS.

Manar Mosaad [1], How Soon Hin [2], Aisyah Ibrahim [3], Megat Razeem [4].

1medical Officer, International Islamic University Malaysia, Kuantan, Pahang, 2. Professor, International Islamic University Malaysia, Kuantan Pahang 3.Pulmonoligist, Hospital Tunku Ampuan Afzan, Kuantan Pahang, 4. Pulmonologist, Hospital Tunku Ampuan Afzan, Kuantan Pahang

Endobronchial actinomycosis is a rarely reported entity of Actinomycosis which is an infectious disease caused by certain Actinomyces species, A Gram-positive, non-spore forming organisms that usually inhibits the oral cavity, it is often mistaken to malignancy or unresolved pneumonia and rarely considered in the differential diagnosis.

We report a case of 58 years old Malay male who presented with chronic cough, he is ex-smoker and have underlying diabetes, hypertension and hyperlipidemia initial workup was negative for PTB , infection as well as gastritis, an HRCT showed a right pleural based nodule with surrounding necrotic tissue, contrasted CT showed similar finding of right posteriobasal pleural density 2,9x1.6x1,8 cm, during bronchoscopy noted a lobulated shiny growth at the lumen of right lower lobe partially occluding the lumen. a sample of tissue with obtained with BAL, BAL was negative however the HPE noted at focal area some filamentous microorganism forming sulfur granules are present surrounded with neutrophilic exudate necrotic tissue, gram-positive organism, suggestive of endobronchial actinomycosis after a year of oral amoxicillin with a three month surveillance bronchoscope , symptoms significantly dropped with ct evidence of decrease in size to 0.9x1.2x1.4 cm a bronchoscopy was preceded afterward with an HPE which showed inflamed endobronchial tissue with no evidence of actinomyco

CR 32

RECURRENT PNEUMOTHORAX: A CASE OF PULMONARY LANGERHANS CELL HISTIOCYTOSIS

IS Khor, KL Ng, AH Kamarul, SK Kannan
Queen Elizabeth Hospital, Kota Kinabalu, Sabah

INTRODUCTION: Pulmonary Langerhans Cell Histiocytosis (PLCH) is an orphan disease that is generally associated with cigarette smoking. An usual presentation would be a young adult with dry cough and shortness of breath. A diagnosis can be made via High Resolution Computed Tomography (HRCT) or via tissue biopsy.

OBJECTIVE: This case illustrates the radiological characteristics and management of PLCH.

CASE PRESENTATION: A 21 years old gentleman, visited hospital with short history of dyspnea and dry cough. He was an active smoker and otherwise had no history of connective tissue diseases, inheritance diseases or noxious exposure. Physical examination revealed reduced breath sound on the right chest. Chest radiograph revealed a right pneumothorax and multiple cystic lesions bilaterally. A chest drain was inserted. HRCT (thorax) detailed multiple cystic lesions of various sizes and lung nodules with little normal lung parenchyma on both lungs. The lesions predominantly affected the upper lobes, middle and lingula lobes. Despite drainage, the lung did not fully expanded. He was adviced to stop smoking. Cardiothoracic Unit was referred for persistent air leak and a surgical biopsy. He was discharged with a Heimlich valve while awaiting date for video assisted thoracoscopy surgery (VATS) with the plan for bullectomy, pleurodesis and lung biopsy. However, he came back a week later with another pneumothorax on left side, although he had stopped smoking since then. He was discharged later with bilateral Heimlich valves to see Cardiothoracic team.

CONCLUSION: PLCH remains a challenging disease to manage. Smoking cessation is the mainstay of treatment but may not be effective in advanced disease. The management of spontaneous pneumothorax in PLCH follows that for spontaneous secondary pneumothorax and includes pleurodesis. For patients who require surgical intervention, a lung biopsy at the time of the procedure can further consolidate the diagnosis.

CR 33

UNVEILING HODGKIN LYMPHOMA BENEATH THE MASK OF EXTRA-PULMONARY TUBERCULOSIS IN A YOUNG SMOKER

[1]**Joel WY Gan**, [1]Ji Zhang Chin, [2]Tien Gen Wong
1Hospital Kuala Krai, Kelantan, Malaysia
2Hospital Raja Perempuan Zainab II, Kelantan Malaysia

A 25 year old gentleman presented to the surgical ward with left inguinal swelling and fever of one week onset. A provisional diagnosis of left inguinal abscess was made and the patient underwent incision and drainage. Culture of the pus grew mycobacterium tuberculosis and he was referred to chest clinic for commencement of anti-tuberculosis drugs. Initial assessment in chest clinic revealed multiple cervical lymphadenopathy and widened mediastinum on chest X-Ray. The patient was started on intensive phase of anti-TB and planned for excisional biopsy of the lymph node and computed tomography for evaluation of the mediastinum. The histopathology examination of the lymph node showed Hodgkin Lymphoma and CT staging showed he had extensive bulky disease involving cervical, axillary, mediastunum, abdomen, pelvic and inguinal nodes. In the process of establishing the diagnosis, he also developed recurrent right sided pleural effusion. A decision for pleurodesis with bleomycin was made following multiple pleurocentesis. Following pleurodesis the lung re-expanded and the patient had complete resolution of dyspnoea. We highlight the danger of missing a diagnosis of malignancy with the presence of tuberculosis as a red herring, especially in cases where both diseases have similar clinical presentations. This case also highlights the implication and challenge of managing malignancy in the background of ongoing tuberculosis treatment. He is currently on maintanence phase of anti-tuberculosis therapy with Rifampicin and Isoniazid, and undergoing concurrent chemotherapy with Doxorubicin, Bleomycin, Vinblastin and Dacarbazine.

CR 34

BREATHING WITH MELIOIDOSIS , AN INFECTION WITH FATAL OUTCOME: CASE SERIES

Nur Syaza S ,Kah Shien T, Muhamad Hafiz P , Suzila CS , Kasuma MN
Respiratory unit, Hospital Melaka, Melaka, Malaysia

Introduction
Melioidosis is highly endemic in Malaysia , caused by gram negative saprophyte Burkholderia Pseudomallei that is associated with high case fatality. The organism can infect any organ system, and the lung is the most common organ affected. Pulmonary melioidosis presents either as pneumonia or as an indolent cavitary disease.

Objective
The aim of this case series is to describe different lung manifestations and progression of two patients with melioidosis.

Methodology
Radioimaging includes Chest Xray , CT thorax and case notes of 2 cases with culture positive melioidosis in Hospital Melaka were reviewed and analyzed.

Discussion
Case 1
A 50-year-old man with poorly controlled diabetes mellitus presented with prolonged fever and cough. Initial chest Xray showed left lobar pneumonia .Blood culture positive for melioidosis.Despite on adequate treatment, he developed empyema then later complicated with pyopneumothorax. CT thorax revealed present of left sided bronchopleural fistula.

Case 2
A 47-year old man also with underlying diabetes mellitus came specifically for his fever and left lower limb pain. Initially treated for necrotizing fasciitis and condition deteriorated. Blood ,tracheal aspirate and lower limb pus were positive for melioidosis .Chest radiography progressed from lobar pneumonia to multiple disseminated cavitating lesion with large right cavity and lesion within.

Conclusion
Melioidosis is potentially fatal as early diagnosis is missed due to its varied clinical manifestations either localized or disseminated infection.

CR 35

SOLITARY PULMONARY NODULE IN NEUROFIBROMATOSIS TYPE 1: BRINGING ORDER OUT OF CHAOS

Agni NK, BH Ng, CI Soo, Faisal AH, Andrea YL Ban
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia

Introduction:
Neurofibromatosis type 1 (NF-1) is pro-carcinogenic due to mutation in the tumour suppressor gene causing various malignancies derived from neural crest. Lung malignancy though, remains rare and detection can be tricky in view of higher prevalence of diffuse lung disease, lung cysts and intrapulmonary schwannoma in NF-1.

Case Report:
We present 72-year-old female, lifetime non-smoker with a known background history of NF-1 who underwent a contrasted computed tomography (CT) of thorax due to chronic cough of 1-year duration without other constitutional symptoms. A solitary pulmonary nodule was detected incidentally in the right lower lobe measures 1.9 x 1.7 x 1.3 cm (APxWxCC) with mediastinal lymphadenopathy. A question arises whether the solitary pulmonary is a pulmonary neurofibromatosis or pulmonary malignancy. Subsequent positron emission tomography in combination with CT showed enhancing hypermetabolic (SUV max: 5.3) spiculated lesion at the medial segment of the right lower lobe and few sub-centimetre station 2R, 4R and 5 nodes with background metabolic activity. Thus, the patient was subjected for CT guided biopsy, and histopathological examination confirmed adenocarcinoma with immunohistochemical staining showed the malignant cells are positive for CK7 and TTF-1. She was then referred to the cardiothoracic team for video-assisted thoracoscopic lobectomy and recovered well.

Conclusion:
Although neurogenic tumours are the hallmark of malignancies in NF-1, vigilance for other type on malignancy is still vital. As NF-1 is also related to multiple other pulmonary pathologies, screening with low dose CT thorax may unmask other pathologies.

CR 36

A RARE CASE OF SPORADIC LYMPHANGIOLEIOMYOMATOSIS.

Amalina Abu Othman, **Ng Khai Lip**, Kunji Kannan SK
Respiratory Department, Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia

Introduction

Lymphangioleiomyomatosis is a rare multisystem disease that mostly affected young women of childbearing age. It can present as sporadic cases or inherited form of tuberous sclerosis complex. This rare disease occurs due to abnormal proliferation of smooth-muscle like cells in the lungs or extrapulmonary sites.

Case Report

A case of 22 years old lady was admitted with sudden onset of shortness of breath and pleuritic chest pain after recovering from upper respiratory tract infection. She has underlying illnesses of bronchial asthma. She was diagnosed with pituitary tumour with panhypopituitarism on replacement therapy in August 2015. She refused biopsy for the pituitary tumor. Clinical examination showed patient had reduced air entry of left lung with hyperresonance on percussion. Chest radiograph confirmed the left pneumothorax and chest tube was inserted. No features of tuberous sclerosis such as facial angiofibroma, ungual fibroma, shagreen patch or hypopigmented patch observed. Otherwise, systemic review were unremarkable.There was no neurological deficit. She has persistent air leak despite putting on chest tube for a week. She was referred to cardiothoracic team in view of persistent air leak. They proceeded with left thoracotomy, surgical pleurodesis, pleurotomy and bullectomy. HPE from the bullae showed patchy proliferation of bland spindle cells in between the airways, lymphatic channels and vessels (highlighted by Actin, Desmin and HMB-45 stain). This morphological features are consistent with lymphangioleiomyomatosis. CECT thorax showed minimal pneumothorax with numerous thin walled cysts of variable sizes surrounded by normal lung parenchyma. There was no renal mass seen. Despite surgical intervention, she was admitted again for recurrent pneumothorax.

Discussion

Spontaneous pneumothorax among female patients is rare and lymphangioleiomyomatosis should always be considered in this population. Recurrent pneumothorax is common due to ruptured cysts at different sites. Radiological imaging should be done in young females presented with spontaneous pneumothorax to look for secondary causes.

CR 37

30 YEARS TOO LATE : DELAYED DIAGNOSIS OF A NARCOLEPSY PATIENT WITH CONCURRENT OBSTRUCTIVE SLEEP APNEA.

Dr Megat Razeem Abdul Razak

Respiratory and Sleep Unit, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

Narcolepsy is a sleep disorder characterized by excessive sleepiness, sleep paralysis, hallucinations, and in some cases episodes of cataplexy. It affects 1 in 2000 individuals, with prevalence of about 0.04% of general population. The symptoms appear in childhood or adolescence, but many people have symptoms of narcolepsy for years before getting a proper diagnosis. Most studies report a mean delay to diagnosis of up to 15 years but in this case it was only diagnosed after 30 years. A lack of symptom recognition resulting in misdiagnosis prior to reaching the narcolepsy diagnosis is the likely underlying reason. Co-existence of narcolepsy with other sleep disorders like obstructive sleep apnea or periodic limb movement during sleep may also impeach the diagnosis of narcolepsy as some symptoms may overlap. There is no cure for narcolepsy and the goal of therapy is to produce the fullest possible return of normal function at home, school, work, and socially with minimal side effects. Amphetamine and Amphetamine-like central nervous system stimulants are the mainstay of treatment but are not widely available in Malaysia with a potential risk of tolerance and abuse. We report a case of a middle age lady who presented with all four cardinal symptoms of narcolepsy with superimposed obstructive sleep apnea and had been misdiagnosed with psychosis and depression.

CR 38

THORACIC MELIOIDOSIS WITH AIR CRESCENT SIGN

Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4], Qin Jian Low[1]

[1]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Lahad Datu, Sabah, Malaysia*

Introduction : Melioidosis results from infection with the soil and water bacterium Burkholderia pseudomallei. Disease occurs due to percutaneous inoculation or inhalation of aerosolized bacteria. Pulmonary melioidosis can present as acute bacterial pneumonia or cavitary lung lesions. Culture remains the mainstay for melioidosis diagnosis.

Objective: To highlight a rare presentation mimicking lung malignancy.

Methodology: Case Report

Result : A 68-year-old gentleman, non-smoker with uncontrolled type 2 diabetes (latest HbA1c was 11%) presented with chronic productive cough, intermittent fever and weight lost for one month duration. His initial chest radiograph showed a right middle zone consolidation. He was treated as lung abscess and was started on intravenous co-amoxiclav 1.2g tds. His smears for AFB and sputum gene Xpert were negative. His CECT Thorax showed a right middle lobe heterogenous mass with a cavity and air cresence within and mediastinal lymphadenopathy. Serum galactomannan and serial blood cultures were negative. He undergone bronchoscopy where his bronchioalveolar lavage (BAL) culture grew Burkholderia pseudomallei thus confirming the diagnosis of pulmonary meliodosis. His BAL for fungal, mycobacterial stains and cytology were negative. He was treated with intravenous ceftazidime 2g qid for 4 weeks (intensive phase) followed by oral trimethoprim-sulfamethoxazole 320+1600mg bd (eradication phase) for 3 months along with optimization of sugar control. His repeated CT thorax showed resolution of the mass and he remains asymptomatic during follow-up.

Conclusion : An air crescent sign is commonly seen in invasive aspergillosis but can also occur due to pulmonary necrosis. It usually heralds recovery and is the result of increased granulocyte activity.

CR 39

PULMONARY CEMENT EMBOLISM

CS Chai[1], SS Kho[1], SK Chan[1], TT Tee[1], ST Tie[1]

[1] *Respiratory Medicine Unit, Department of Medicine, Sarawak General Hospital, Kuching, Malaysia*

Introduction:
Percutaneous vertebroplasty (PV) involves injection of polymethylmethacrylate (PMMA) bone cement into vertebra body for relieve of pain and strengthening of bone in symptomatic vertebral compression fracture.

Passage of bone cement into vertebral venous plexus then into the lungs is a rare and serious complication of PV. The reported incidence ranges from 2.1% to 26%.

Case Report:
We present a case of incidental finding of pulmonary cement embolism (PCE) after PV.

A 68 years old woman with history of PV done 3 years ago for T11 osteoporotic fracture presented to us with cough for 3 weeks following choking by fish bone.

CXR reviewed left lower zone consolidation and a high-density opacity in a tubular branching pattern, corresponding to pulmonary arterial distribution.

Contrasted computed tomography of thorax reviewed segmental pulmonary cement embolism of both lungs and left lower lobe consolidation.

She underwent bronchoscopy with finding of purulent secretion from left lower lobe. Her symptom resolved after 3 weeks of antibiotic.

She was managed conservatively for the PCE as she remains asymptomatic.

Conclusion:
PV should only be performed by experienced surgeons after critical determination of the indications under fluoroscopic or computer-tomographic monitoring. Risk of this complication should be clearly stated to patients before the intervention.

CR 40

CHEERIO SIGN IN NON-LEPIDIC LUNG ADENOCARCINOMA- CASE SERIES

CS Chai[1], SS Kho[1], SK Chan[1], TT Tee[1], ST Tie[1]

[1] *Respiratory Medicine Unit, Department of Medicine, Sarawak General Hospital, Kuching, Malaysia*

Cheerio sign is a rare radiographic sign on CT thorax, defined as a nodule with a central lucency, resembling the ring-shaped "Cheerios" breakfast cereal.

In lung adenocarcinoma, it is commonly associated with invasive lepidic predominant adenocarcinoma. However, cases on non-lepidic adenocarcinoma with cheerio sign is rarely reported.

Case 1
26 years old lady with unresolved bilateral consolidation. CT Thorax showed extensive consolidation with cheerio sign. Transbronchial lung biopsy (TBLB) under Radial Endobronchial Ultrasound (EBUS) guidance revealed lung adenocarcinoma with predominant acinar pattern.

Case 2
66 years old gentleman, chronic cough for 8 months. CT Thorax showed cavitating lung mass at lingular segment with cheerio sign. TBLB under EBUS and fluoroscopy guidance revealed lung adenocarcinoma with mixture of glandular structures, papillary and micropapillary formation.

Case 3
68 years old gentleman, weight loss in 3 months. CT Thorax shows right hilar mass with cheerio sign. Endobronchial biopsy revealed lung adenocarcinoma with predominant acinar pattern.

All 3 cases were proven malignant histologically with negative microbiological study. Interestingly, none of the cases show commonly described lepidic pattern in cheerio sign.

In conclusion, growth patterns other than lepidic infiltration may also give rise to the Cheerio sign.

CR 41

A CASE OF SUPRASELLAR METASTASIS IN NON-SMALL CELL LUNG CANCER

Ka Kiat Chin[1], Thian Chee Loh[1], Chee Shee Chai[2], Jiunn Liang Tan[1], Mau Ern Poh[1], Chee Kuan Wong[1], Yong Kek Pang[1], Chong Kin Liam[1]

1. University Malaya Medical Center, Kuala Lumpur, Malaysia
2. Universiti Malaysia Sarawak(UNIMAS), Kota Samarahan, Sarawak

Brain metastasis with suprasellar lesion is rare. Cranial diabetes insipidus, pituitary hormone deficiencies and visual field defect are the clinical manifestations reported. We would like to present a case of suprasellar metastasis in non-small cell lung cancer complicated with cranial diabetes insipidus and secondary hypothyroidism.

A 45-year-old gentleman presented with cough and blurring of vision both eyes for 3 months prior admission. Chest radiograph showed mass over left upper zone. Laboratory biochemistry revealed persistent hypernatremia with raised serum osmolarity suggestive of Diabetes Insipidus. Other hormones profiling showed reduced thyroxine stimulating hormone and free thyroxine. He was assigned for needle biopsy under Computed tomography guidance over left lung mass. The histopathological analysis confirmed primary lung adenocarcinoma. Further workup with Magnetic resonance imaging (MRI) of the brain and spine showed multiple cerebral metastasis involved suprasellar, pineal, cerebral and sacral region. He was treated with desmopressin to stabilize the sodium level. Thyroid hormone deficiency was replaced with thyroxine. Due to his poor performance status, the patient opted for palliative care.

The prognosis of pituitary metastasis is poor. Careful evaluation and assessment regarding the primary tumor in order to differentiate suprasellar metastasis from pituitary germinoma. Further study on multimodal approach to improve long term patient outcome with radiotherapy, chemotherapy, targeted therapies or surgery required.

Keyword: Suprasellar metastasis, Cranial diabetes insipidus, Secondary hypothyroidism

CR 42

MILIARY NEVER-SMOKING LUNG ADENOCARCINOMA WITH POSITIVE EPIDERMAL GROWTH FACTOR RECEPTOR EXON 19 DELETION

Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4], Qin Jian Low[1]

[1]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*

[2]*Hospital Queen Elizabeth, Sabah, Malaysia*

[3]*Hospital Tawau, Sabah, Malaysia*

[4]*Hospital Lahad Datu, Sabah, Malaysia*

Introduction : Miliary pattern of pulmonary metastasis is a rarity in patients with lung cancer. This presentation is associated with an EGFR mutation and thyrosine kinase inhibitors may be the treatment of choice.

Objective : To highlight a rare association between miliary lung adenocarcinoma with deletion in exon 19 of EGFR gene.

Methodology : Case Report

Results : A 52-year-old gentleman, non-smoker, with no comorbid presented with breathlessness that progressively worsened over 6 months. He had 10 kg weight lost over the last 6 months along with non productive cough for 3 months with no hemoptysis. Lung examination was normal and there was presence of a left cervical lymph node. Chest radiography showed bilateral reticular nodular changes. His sputum for tuberculosis was negative. Computed tomography of the thorax showed multiple diffusely distributed pulmonary nodules in both lungs. His computed tomography of the abdomen and pelvis were normal. His lymph node immunohistochemistry examination was strongly immunopositive for cytokeratin 7 and thyroid transcription factor 1 but negative for cytokeratin 20 – findings that are consistent with primary lung adenocarcinoma. Next generational sequencing revealed an EGFR exon 19 deletion. There are reports of non-small cell lung cancer with epidermal growth factor receptor (EGFR) mutation presenting as miliary metastases. He was started on cisplatin and gemcitabine for 6 cycles and subsequently switched to gefitinib. After 9 months of treatment, he had no disease progression and no breathlessness.

Conclusions

This highlights the link between a rare radiological presentation of adenocarcinoma (miliary metastasis) and the association with activating EGFR mutation.

CR 43

RHODOCOCCUS EQUI INFECTION: A NIGHTMARE FOR IMMUNOCOMPROMISED.

M. Hafiz P, Kah Shien T ,Nur Syaza SM, Suzila CS, Kasuma MN
Respiratory Unit, Hospital Melaka, Melaka, Malaysia

Introduction:
Rhodococcus Equi has increasingly been appreciated as one of the cause of infection in patients with immune system dysfunction.It was first reported in 1967 and only 12 additional cases were recorded in the next 15 years.In adults ,pulmonary infections are the most common form of human disease.

Objective:
To share an experience in managing a patient who was an immunocompromised patient with retroviral disease treated as Rhodococcus Equi Pneumonia complicated with multiloculated pleural effusion.

Methodology:
Medical record review. All results were analyzed including the laboratory and radiographic findings.

Results:
34 years old Vietnamese lady with no known medical illness initially presented with chronic cough with high grade fever,loss of appettite and left sided pleuritic chest pain for one week of duration. She newly diagnosed as retroviral disease .The initial CXR on admission revealed left lung consolidation and cavitation with moderate pleural effusion. Ultrasound of thorax showed multiloculated left pleural effusion.Pleural tapping was done and the pleural fluid analysis revealed straw coloured,exudative effusion with investigations for tuberculosis infection include sputum AFB direct smear, MTB culture(sputum and pleural fuid) and pleural fluid Gene X pert MTB were negative.The pleural fluid culture grew Rhodoccocus Equi.She was treated with total 8 weeks of IV Vancomycin and oral Azithromycin 500mg OD.Her chest x ray upon completion of treatment revealed resolution of consolidation and effusion.

Conclusion:
The mainstay treatment for Rhodococcus Equi is antimicrobial therapy.For immunocompromised patient, a combination therapy with at least two agents(macrolide or fluoroquinolones) with rifampin/vancomycin/imipinem for at least two months was recommended.Prompt diagnosis,early initiation of treatment seem to be effective to eradicate the infection and improve the outcome.

CR 44

ATYPICAL LUNG CARCINOID TUMOR WITH CARCINOIDS SYNDROME: A CASE SERIES

Mohd Khairi Othman; **Nur Husna Mohd Aminudin**; Azza Omar; Mat Zuki Mat Jaeb
Hospital Raja Perempuan Zainab 2

Carcinoid tumors are variants of neuroendocrine tumors that typically arise from the gastrointestinal tract and the bronchus. Carcinoid bronchopulmonary tumors represent approximately 25% of all carcinoid tumors and 1%–2% of all lung neoplasms. The most common symptoms are: persistent cough, asthma-like wheezing, chest pain, dyspnea, hemoptysis and obstructive pneumonitis. We present two case series of young adult diagnosed with atypical carcinoid lung cancer. The first case was young man whom being diagnosed as atypical carcinoids tumor arise from anterior mediastinum and the second case was a man whom being diagnosed as atypical carcinoids arise from right lung. Both of them receive intramuscular injection (IM) somatostatin analogs (SSAS) octreotide acetate as surgical intervention is not an option. SSAS bind to somatostatin receptor, blocking the release of peptides and amines, and thus helping to control symptoms The first patient was passed away after received two doses of IM octreotide acetate and the second patient still under follow up and his symptom improving given the first two doses of octreotide acetate. Atypical carcinoids have an poor prognosis, overall 5 and 10-year survival rate are 61-72% and 35-39%.

CR 45

A YOUNG LADY WITH DIFFICULT PERSISTENT PNEUMOTHORAX

SW Cheo[1], AA Kamarudin[1], EK Ng[2], QJ Low[3]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Tawau, Sabah, Malaysia*
[3]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

Introduction :
Pneumothorax occurs as a result of abnormal accumulation of air in pleural space. Persistent pneumothorax is defined by ongoing bubbling of air from an in-situ chest tube, 48hours after its insertion. The cause of persistent pneumothorax can be due to chest tube, lung parenchymal disease and fistula. Here, we would like to illustrate a difficult case of persistent pneumothorax due to lung bullae.

Methods : Case report

Result :
A 23-year-old lady with no past illness presented to hospital with sudden onset dyspnea associated with cough. Her cough was productive with greenish sputum. She denied fever, weight loss or reduced appetite. There was no family history of tuberculosis or lung disease. On examination, she was tachypnoeic with RR of 30bpm, Spo2 94% on air. Her BP was 123/83mmHg and PR was 123bpm. Respiratory examination showed reduced breath sound on the left side with hyperresonant percussion note. Cardiovascular and abdomen examination was normal.

Chest radiograph showed left pneumothorax. A left chest tube was inserted. She was also given antibiotic to treat for infection. On day 4 of admission, noted patient has persistent pneumothorax despite functioning chest tube, she was started on low grade suction on 10cmH20. A CT thorax was done due to persistent pneumothorax which showed left hydropneumothorax with multiple lung bullae and necrotizing pneumonia. Low grade suction was continued. On day 12 of admission, a new left chest tube was inserted in view of malfunctioning chest tube. Cardiothoracic surgeon was consulted on day16 in view persistent pneumothorax and planned for thoracotomy and bullectomy. While waiting for surgery date, she managed to wean off chest tube and discharged on day27 of admission. Further workup excluded SLE, tuberculosis.

Conclusion :
In conclusion, persistent pneumothorax is a difficult diagnostic conorum. Specific etiology of persistent pneumothorax must be hunt for. Chest radiograph and CT scan are helpful imaging modality in term of evaluation.

Reference :
Apeksha Chaturvedi, 2016

CR 46

A RARE CAUSE OF SPONTANEOUS BLADDER PERFORATION

Arvindran Alaga, Mohd Nazri Ali, Wan Nasruddin Wan Ismail
Anesthesia Department, Hospital Raja Perempuan Zainab II, Kota Bahru, Kelantan, Malaysia

Introduction
Spontaneous perforation of bladder secondary to tuberculosis (TB) is very rare entity. Only a handful cases have been reported in literature. Due to its rarity, the diagnosis of this condition is often missed.

Case Report
We present our experience with a middle-aged man who presented with clinical features of perforated viscus and was only diagnosed with perforated bladder during emergency laparotomy. He had enlarged mesenteric lymph node adjacent to terminal ileum and his sigmoid colon was adhered to caecum. His WBC, urea and creatinine were raised on admission. The findings raised suspicion of tuberculosis thus tracheal aspirate for sputum AFB was sent and the results came back positive. He was started on anti-tuberculosis medication the next day. The histopathological (HPE) examination was consistent with granulomatous inflammation with suppuration and acid-fast bacilli was seen under Ziehl Nielsen stain in mesenteric lymph node specimen. He was discharged after 2 weeks of hospital admission.

Conclusion
Diagnosis of bladder perforation, though remote, should be kept in mind in cases of acute abdomen and when there is presence of disproportionately elevated serum urea and creatinine levels. Based on typical surgical and HPE findings, anti-TB medication should be started as soon as possible for the better outcome.

CR 47

HYPERSENSITIVITY PNEUMONITIS WITH PNEUMOMEDIASTINUM

Carwen Siaw[1], Kee Nam Tan[2], Eng Kian Ng[3], Seng Wee Cheo[4], Qin Jian Low[1]
[1]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*
[2]*Hospital Queen Elizaberth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Lahad Datu, Sabah, Malaysia*

Introduction
Hypersensitivity pneumonitis (HP) also called extrinsic allergic alveolitis is a complex syndrome that could present as acute, subacute or chronic depending upon the frequency, duration, and intensity of exposure and duration of illness. Dirk Koschel, et al. (2011), reported a case of pneumomediastinum as a primary manifestation of chronic hypersensitivity pneumonitis. Pneumomediastinum has been associated with fibrotic lung diseases but rarely described as a primary manifestation of chronic fibrotic HP. Here, we describe a case of hypersensitivity pneumonitis who unfortunately developed pneumomediastinum.

Objective
To highlight a rare disease presentation.

Methodology
Case report.

Results
A 66-year-old, non-smoker, bird keeper with underlying hypertension presented with insidious onset of cough and dyspnea for 3 months' duration. There was no fever, night sweats, weight lost or hemoptysis. His tuberculosis and autoimmune work-up were negative. He requires 3L nasal prong oxygen support as his SpO2 under air is 86-88%. Chest radiograph showed mid to upper zone opacities. Thoracic CT showed diffuse ground glass opacity involving all segments. Lung function test showed a restrictive defect with reduced DLCO. He was started on oral prednisolone 0.5mg/kg per day for 8 weeks followed by tapering to 10mg per day by three months. Unfortunately, a repeated elective outpatient HRCT in 2 months showed evidence of pneumomediastinum and esophageal tear. He was referred to the upper GI surgeons and OGDS showed a high right upper esophageal tear at upper oesophageal sphincter sealed with fibrin clots. He was started on empirical intravenous antibiotics and managed conservatively with Ryle's tube feeding. He improved and repeated OGDS showed the complete healing of the esophageal tear. We think that the esophageal tear is likely due to foreign body ingestion as patient has recently lost his dentures.

Conclusion
A detailed history taking, examination and imaging should be performed as there are many causes of pneumomediastinum in a hypersensitivity pneumonitis patient.

CR 48

MELIOIDOSIS – AN IMPORTANT CAUSE OF UPPER LOBE PNEUMONIA

AA Kamarudin[1], SW Cheo[1], WC Mow[2], QJ Low[3]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

Introduction:
Community acquired pneumonia remains the leading cause of mortality and morbidity worldwide. It is defined as infection of the lung parenchyma. There are various etiologies of pneumonia, which include bacterial, viral, fungal and tuberculous. Melioidosis is one of the important cause of pneumonia. In general, pulmonary involvement of melioidosis can be localized patchy alveolar infiltrates, cavitation, fibroreticular lesions and sometimes upper lobe involvement mimicking tuberculosis. Here, we would like to illustrate a case of melioidosis as a cause of upper lobe pneumonia.

Methods : Case report

Result :
A 52-year-old lady with underlying diabetes mellitus and hypertension presented to hospital with fever, lethargic, abnormal behavior and reduced appetite for 4 days. There was no cough or dyspnea. On examination, her blood pressure was 111/55mmHg, PR 130bpm, T37.6C, RR24bpm and SpO2 was 94% on air. Her GCS was E4V4M6. She was lethargic. Respiratory examination showed presence of bronchial breathing in left upper zone. Cardiovascular and abdominal examination were unremarkable.

Her hemoglobin level was 9.1g/dl, TWC 34.3x109/L, Platelet 469x109/L. Her sodium was 128mmol/L, potassium was 4.4mmol/L, creatinine was 122mmol/L. Her ALT was 58U/L, albumin was 22g/L, bicarbonate was 8.7mmol/L. Chest X-ray showed left upper lobe consolidation. She was treated as severe pneumonia with multi-organ failure. She required intubation, mechanical ventilation and ICU care. Subsequently, her blood culture grew Burkholderia pseudomallei. Microbiological examinations excluded tuberculosis with negative sputum AFB and genexpert. Her sputum culture and HIV screening were negative too. Further radiological examination with computed tomography showed splenic abscess and left upper lobe lung abscesses. She was treated as disseminated melioidosis with intravenous meropenem and subsequently improved.

Conclusion :
This case highlighted melioidosis as an important differential diagnosis when come to evaluating upper lobe pneumonia. It's important to diagnose pulmonary melioidosis early as it has high morbidity and mortality. In severe cases of pneumonia, empirical treatment should be given based on clinical evaluation and risk factors.

Reference :
Wipa Reechaipichitkul, 2004

CR 49

AN UNORTHODOX CASE OF HYPERSENSITIVITY PNEUMONITIS AND PULMONARY NEUROENDOCRINE CELL HYPERPLASIA WITH HRCT PATTERN OF NSIP

Tang JT, Razul Kassim
Respiratory Department, Hospital Alor Setar, Kedah, Malaysia

INTRODUCTION

Non Specific Interstitial Pneumonia (NSIP) is one of the most discussed entity in the group of idiopathic interstitial pneumonia. Recognised in 2002 by the American Thoracic Society and the European Respiratory Society as a provisional diagnosis, NSIP may be idiopathic or associated with a number of clinical settings. The diagnostic work-up of idiopathic NSIP requires multidisciplinary teams (MDT) approach. The role of surgical lung biopsy however remains controversial.

CASE SUMMARY

We present a case of 58 year old lady complained of chronic cough for three years. Her spirometry revealed restrictive picture. Her autoimmune screening was negative. Her HRCT show patchy ground glass attenuation giving the mosaic appearance with predominant basilar distribution, which was concluded as NSIP pattern after MDT discussion. Subsequently, she underwent right lung VATS biopsy, and the lung histopathological examination result revealed two different pathologies, which were hypersensitivity pneumonitis and pulmonary neuroendocrine cell hyperplasia with carcinoid tumorlet.

CONCLUSION

Surgical lung biopsy, being an invasive prosedure, is an important tool in the diagnostic approach of idiopathic NSIP, and should be considered after the multidisciplinary teams discussion.

CR 50

PULMONARY MELIODOSIS – A CASE REPORT AND REVIEW OF LITERATURE

Eng Kian Ng[1], Seng Wee Cheo[2], Qin Jian Low[3]
[1]*Hospital Tawau, Sabah, Malaysia*
[2]*Hospital Lahad Datu, Sabah, Malaysia*
[3]*Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*

Introduction
Being referred as a "mimicker of maladies", Meliodosis is a disease caused by the organism Bukhoderia Pseudomallei. It has a wide variety of clinical presentations, ranging from abscesses to acute fulminant sepsis with multi organ failure, often punishing the unsuspecting clinician.
Objectives
To highlight the uncommon presentation of a relatively common disease and the need to entertain meliodosis when investigating a case of upper lobe consolidation.
Methodology
Case report and literature review
Results
We would like to report a case of a 63-year-old gentleman who presented with chronic cough and loss of weight for one-month duration. His past medical illness is unremarkable other than Type II Diabetes Mellitus. Clinical examination and preliminary radiological findings were consistent with a right upper lobe consolidation. Sputum smears for acid fast bacilli (AFB) were persistently negative. Flexible bronchoscopy revealed erythematous bronchial mucosa with copious thick secretions from all three subsegments of the right upper lobe (RB1 to RB3). Subsequent blood and bronchial washing for culture and sensitivity (C&S) came back positive for B.pseudomallei. Contrast enhanced computed tomography (CECT) of the chest demonstrated a minimally enhancing consolidation of the right upper lobe with areas of cavitation and hypodensities with air pockets noted within. A revised diagnosis of necrotizing pneumonia secondary to meliodosis was made. The gentleman was treated with a 4 week course of intravenous ceftazidime and is currently ongoing a 6-month maintenance therapy of oral trimethoprim-sulfamethoxaxole. Pulmonary meliodosis has a diverse series of presentation ranging from acute fulminant pneumonia with multifocal infiltrates to chronic infections mimicking tuberculosis. Frequently associated comorbids include diabetes mellitus, chronic obstructive pulmonary disease, and congestive heart failure. The gold standard of diagnosis remains the isolation and culture of B.pseudomallei from patient samples.
Conclusion
A high index of suspicion must be entertained when treating patients who present with chronic pulmonary symptoms in regions where both tuberculosis and meliodosis are endemic.

CR 51

TUBEROUS SCLEROSIS COMPLEX ASSOCIATED LYMPHANGIOLEIOMYOMATOSIS PRESENTED AS BILATERAL PNEUMOTHORAX: A CASE REPORT

Khai-Lip Ng, IS Khor, AH Kamarul, KunjiKannan SK
Queen Elizebeth Hospital, Kota Kinabalu, Sabah

Introduction

Tuberous sclerosis complex is an autosomal dominant genetic disorder characterized by development of variety of benign tumors in multiple organs. Many patients are diagnosed during childhood when they present with epilepsy, cognitive deficits, behavioral problems, and psychosocial difficulties.

Case report

A 30 year old girl was presented to district clinic with complain of sudden onset of shortness of breath for 3 days. Chest radiograph showed bilateral pneumothorax with suspected multiple small cysts on both lung fields. She was sent to ED department and bilateral chest tube was inserted. On further questioning, she revealed having multiple episodes of seizures as a child but stopped at 10 years old. Thus, she did not seek for medical attention. Physical findings revealed facial angiofibroma and ungal fibroma. Power is reduced on right side of the body with cerebellar sign on the right. She claims that her mother and sister is having similar skin features but do not have any neurological and lung manifestations. A vague mass was felt at right hypochondriac region. We were able to wean off chest tube on both side after several days. Patient was referred for surgical intervention in view of bilateral pneumothorax. Thoracic HRCT, CT brain, abdominal ultrasound and ophthalmological evaluation is pending. A diagnosis of lymphangioleiomyomatosis of the lung was presumed with regards to the lung manifestation.

Discussion

This case illustrates the importance of detailed history and physical examination to clinch a clinical diagnosis pending further imaging. A primary spontaneous pneumothorax is rare in young females and efforts should be made to look for secondary causes. Understanding the disease is important to look for other possible complications besides managing the bilateral pneumothorax. Finally it's important to highlight that early surgical referral for bilateral pneumothorax is indicated for definitive surgical interventions despite presented for the first time.

CR 52

HYPERCALCEMIA IN TUBERCULOSIS AND SARCOIDOSIS DUAL PATHOLOGY WITH UNRESOLVED MYSTERY

Nur Adlina Tajul Arifin, Nurul Yaqeen Mohd Esa
Respiratory department University Teknology MARA,Selangor ,Malaysia

Both tuberculosis (TB) and sarcoidosis are granulomatous diseases, TB is characterized by caseating granulomas, whereas sarcoidosis is characterized by noncaseating granulomas. It is often difficult to differentiate sarcoidosis from TB, especially when caseous necrosis is not seen and acid-fast staining is negative in the biopsy specimen of patient with TB. One of the features that can be seen in in sarcoidosis is hypercalcemia. However, does pulmonary tuberculosis has the same entity as sarcoidosis? Here,we report a case seen in Selayang Hospital, a patient who presented with hypercalcemia symptoms facing with diagnostic dilemma, leading us initially to malignancy as our differential diagnosis however he end up suffering from sarcoidosis and pulmonary tuberculosis later not long after initiating steroid. In this write up we discuss on can TB and sarcoidosis co –exist? Or either of this primary diagnosis leads to another pathology? Can TB presented as hypercalcemia as well as one of presenting illness?

CR 53

MELIOIDOSIS MIMICKING PULMONARY ASPERGILLOMA

Chee Yik Chang
Kapit Hospital, Kapit, Sarawak, Malaysia

Introduction
Melioidosis is an infectious disease caused by Burkholderia pseudomallei. Its ability to cause severe infection with multiorgan involvement contributed to the high mortality rate. Melioidosis mimics many other conditions, making it more difficult to treat. Here, we report a case of melioidosis mimicking pulmonary aspergilloma.

Case Report
A 55-year-old previously well Iban gentleman presented to Kapit Hospital, Sarawak with prolonged fever and productive cough for 3 weeks duration associated with reduced appetite. He was an ex-smoker and formerly worked in Papua New Guinea as a logging camp manager. Chest radiograph on admission showed right pulmonary opacity with cavity with differential diagnoses of lung abscess and neoplasm. Investigation results of sputum for microbiological culture, AFB and GenXpert were all negative. His condition improved partially with first line antibiotic amoxicillin-clavulanate, hence he was allowed home with outpatient follow up. However, he was readmitted 5 days later due to worsening of symptoms. Repeated chest radiograph revealed new-onset minimal right pleural effusion. Diagnostic pleurocentesis was performed and findings were suggestive of complicated parapneumonic effusion. The pleural fluid culture grew Burkholderia pseudomallei. Computed tomography of thorax showed cavitating lung lesion with soft tissue within in the right middle lobe likely represents aspergilloma. He was treated with intravenous ceftazidime for 2 weeks without chest drainage. He responded well to treatment with resolution of symptoms and improving serial chest radiograph. Blood for fungal culture and PCR were negative. He completed a 20-week course of eradication phase treatment and showed no sign of disease relapse.

Conclusion
Melioidosis also dubbed the ‘great mimicker’, poses a great challenge for clinicians as delayed or misdiagnosis would potentially lead to worse outcome. Melioidosis can manifest as pulmonary aspergilloma on radiological imaging, therefore clinicians should be more vigilant about diverse clinical manifestation of melioidosis.

CR 54

PRIMARY MULTIDRUG-RESISTANT EXTRAPULMONARY TUBERCULOSIS PRESENTED AS AXILLARY LYMPHADENITIS IN IMMUNOCOMPETENT PATIENT: A CASE REPORT

Jihaan Hafirain, Anisa Tia, Erlina Burhan
Department of Pulmonology and Respiratory Medicine University of Indonesia, Jakarta, Indonesia

Introduction: A 28-year old female was admitted with a history of persistent swelling around her left axilla for the past month. The patient was found to be hemodynamically stable with multiple left axillary lymph nodes enlargement, firm, painless, mobile, and smooth surfaced.

Case history: History of common symptoms like coughing, fever, night sweating, breathlessness, progressive weight loss, or hemoptysis were not found. The patient had a history of incomplete TB treatment. HIV status was negative.

Investigation: Chest x-ray result was normal and sputum staining for acid-fast bacilli (AFB) examination was negative. Ultrasonography of the axillary lymph nodes showed the morphology that associated with lymphadenitis TB. Line Probe Assay (LPA) test from lymph nodes specimen was found resistant to both rifampicin and isoniazid, and confirmed the diagnosis for lymphadenitis MDR-TB.

Treatment/Results: Patient received Pyrazinamide 1000 mg, Ethambutol 1000 mg, Kanamycin 750 mg, Levofloxacin 750mg, Ethionamide 500mg, Cycloserine 500 mg, and Pyridoxine 100 mg. She started the anti-tuberculosis regimen with good therapeutic response and has completed the therapy within 21 months.

Discussion/Differential Diagnosis: Multidrug-resistant tuberculosis (MDR-TB) prevalence is increasing globally, but only a few cases of drug-resistant extrapulmonary TB have been reported. The incidence of extrapulmonary TB is about 15% of the 6.3 million cases that were reported in 2016. Lymphadenitis TB is the most common extrapulmonary clinical presentation. It is challenging to diagnose and treat because it mimics other pathologic processes and shows changeable physical and laboratory findings. Complete history and physical examination, with AFB staining, fine-needle aspiration, and PCR are important in early diagnosis. Lymphadenitis MDR-TB without pulmonary TB in HIV-negative patient is a rare case, but can occur in patient with a history of incomplete TB treatment.

CR 55

BENIGN EMPTYING OF THE POST PNEUMONECTOMY SPACE: A CASE REPORT & REVIEW OF THE LITERATURE

Hui Yi Lok*, Yan Yi Koay*, Tho Lye Mun**, Anand Sachithanandan ***

**Medical Student, Monash University, Kuala Lumpur, Malaysia, **Department of Clinical Oncology, Sunway Medical Centre, Selangor, Malaysia*
****Division of Cardiothoracic Surgery, Sunway Medical Centre, Selangor, Malaysia*

Background

Reduction of fluid levels in the pleural cavity following a pneumonectomy in an asymptomatic patient is termed "benign emptying of the postpneumonectomy space (BEPS)." The main concern for such fluid loss is a bronchopleural fistula (BPF) which often manifests with fever, cough, copious sputum and respiratory distress. Rarely, however BEPS is considered when the patient remains well and asymptomatic.

Case

A 60-year-old Chinese female non smoker underwent a left pneumonectomy for a central 3cm moderately differentiated adenocarcinoma (primary NSCLC) that crossed the oblique fissure involving both lobes. Clinical staging was Stage IIA (T2b N0 M0). Her surgery and recovery was uneventful and she was discharged home well five days later. The tumour was fully resected with no nodal involvement however due to miscroscopic visceral pleural invasion she received adjuvant therapy. She completed 4 cycles of cisplatin and alimta post-operatively without complications. Her initial routine surveillance chest radiographs (CXR) were normal with the expected 'whiteout' of the postpneumonectomy space noted till post-operative day (POD) 54. However, subsequent surveillance CXRs on POD 63 and POD 78 revealed a significant drop in fluid level in the left thorax. The patient remained clinically very well and asymptomatic throughout this time and her thoracotomy wound was always dry with no signs of dehiscence or infection. Her haemoglobin, white blood cell (WCC) and c-reactive protein (CRP) levels were normal when repeatedly checked. An ultrasound ruled out fluid shift into the abdominal cavity. Bronchoscopy and CT-PET scan revealed the absent fluid but no evidence of a BPF. Due to the negative clinical findings and investigations, she remains under close surveillance with no active intervention.

Conclusion

Having excluded a BPF, we believe this to be a case of BEPS. It is imperative that clinicians recognize and consider BEPS as a rare occurence post pneumonectomy. In a well asymptomatic patient, close surveillance may be sufficient preventing unnecessary interventions, which contribute to cost and morbidity.

CR 56

THORACOSCOPIC SURGERY FOR CATAMENIAL PNEUMOTHORAX DUE TO ENDOMETRIOSIS –RELATED DIAPHRAGMATIC FENESTRATIONS : A REPORT OF TWO CASES

Yan Yi Koay*, Hui Yi Lok*, Usha Rani George**, Anand Sachithanandan***

**Medical Student, Monash University, Kuala Lumpur, Malaysia **Department of Internal Medicine, Sunway Medical Centre, Selangor, Malaysia ***Division of Cardiothoracic Surgery, Sunway Medical Centre, Selangor, Malaysia*

Introduction

Catamenial pneumothorax (CP) is a spontaneous pneumothorax (SP) that occurs in reproductive-age women before or within 72 hours of menstruation. The rare condition and mild symptoms makes it a diagnostic challenge.

Case 1

A 32-year-old female non-smoker presented with a one-year history of intermittent peri-menstrual right sided pleuritic chest pain and mild dyspnea which would resolve spontaneously within one week. On initial admission, a chest radiograph (CXR) revealed a small right SP. Due to mild symptoms, she opted for conservative management. However she proceeded to surgery a month later for a recurrent episode. Video assisted thoracoscopy (VATS) revealed inflammed pleura and multiple diaphragmatic fenestrations. A non-absorbable PTFE mesh was placed over the diaphragm in addition to a standard apical bullectomy and parietal pleurectomy. Postoperatively, she was commenced on Dienogest 2mg daily, once an ultrasound confirmed pelvic endometriosis.

Case 2

A 40-year old female non-smoker presented with an 8-month history of self-resolving recurrent dyspnea with right sided pleuritic chest pain in relation with her menses. A chest drain was inserted for a SP detected on CXR but she proceeded to surgery for a persistent air leak. VATS revealed multiple diaphragmatic fenestrations suggesting CP. Besides a bullectomy and parietal pleurectomy, a PTFE mesh was implanted to obliterate the fenestrated diaphragm. The patient was prescribed with dyhydrogesterone 10mg twice daily for suspected thoracic endometriosis.

Conclusion

The aetiology of SP in both cases was most likely due to transdiaphragmatic passage of peritoneal air through multiple diaphragmatic fenestrations. CP should be suspected in all pre-menopausal women with right-sided respiratory symptoms around their menses. Awareness is crucial to avoid a delayed diagnosis and recurrent episodes. In cases with widespread diaphragmatic fenestrations, a definitive mesh repair along with synchronous hormone therapy can reduce the risk of recurrence.

CR 57

AN ADOLESCENT WITH HIGH SERUM CA 19-9 RELATED TO LUNG ADENOCARCINOMA

Dalleen Leong, BH Ng, Faisal AH, CI Soo, Andrea YL Ban
Pulmonology unit, Department of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia.

Introduction:
Primary pulmonary adenocarcinoma among adolescents is rare and generally associated with a genetic predisposition. Carbohydrate antigen 19-9 (CA 19-9) is a tumour-associated antigen originally isolated from a human colorectal cancer cell line. However, CA 19-9 is also present in the glands of bronchi and bronchioles. Therefore, raised serum levels of CA 19-9 can be associated with pulmonary adenocarcinomas.

Case report:
A 19 years old girl presented with lower back pain and progressive lower limbs weakness of 1-month duration. Clinical examination revealed lower limbs power of 0/5 and other systemic examination were normal. Urgent magnetic resonance imaging of the spine showed prevertebral and paravertebral collection from level T1-T5 with cord compression. The patient was then subjected for laminectomy and posterior instrumentation of T1/T2 and T5/T6. Histopathological examination from bone showed metastatic adenocarcinoma with CK7 and CK 20 positive. Tumour marker screening showed significantly raised in CA 19-9 level (20909 U/ml). The patient was referred to the pulmonology team as to exclude the possibility of lung pathology that causes metastatic adenocarcinoma. Subsequent computed tomography (CT) scan of thorax incidentally found a 6cm left lung mass infiltrating to the diaphragm and biopsy-proven primary pulmonary adenocarcinoma. The epidermal growth factor receptor (EGFR) testing was negative. The positron emission tomography staged the pulmonary adenocarcinoma as T3N0M1b. The patient has then received radiotherapy of the spine and platinum-based chemotherapy.

Conclusion:
A physician should screen for pulmonary malignancy in a patient with highly elevated serum CA 19-9 and should not limit the tumour survey solely in biliopancreatic fields.

CR 58

SCLERODERMA-INTERSTITIAL LUNG DISEASE AND LUNG MALIGNANCY: THE DOUBLE TROUBLE

Syazatul Syakirin Sirol Aflah[1], Muhammad Hazwan Nasarudin[2]
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia[1]
National University Malaysia, Kuala Lumpur Malaysia[2]

Introduction
A recent meta-analysis has shown a higher incidence of cancer in patients with systemic sclerosis and particularly a strong link with lung cancer. The development of lung cancer in patients with systemic sclerosis is frequently in the setting of pulmonary fibrosis. We report 2 cases of scleroderma with worsening respiratory symptoms which mistakenly thought as worsening interstitial lung disease.

Case 1

A 34-year old man,a non-smoker diagnosed with systemic sclerosis with lung fibrosis in 2013. Serological findings revealed positivity for anti-Scl 70. He was given a course of parenteral cyclophosphamide for the lung fibrosis. Middle of year 2018, he developed cough and loss of weight. The chest radiograph showed right base consolidation which a CT scan confirmed a lung mass. A CT-guided mass biopsy was carried out and histology reported as malignant spindle cells tumor.

Case 2

A 28-year old lady, a non-smoker presented systemic sclerosis with interstitial lung disease. The serology is positive for anti-Scl 70. She had a stable lung function from her serial follow and never received any immunosuppressant therapy. In March 2019, she had loss significant of weight with increasing shortness of breath. Chest radiograph showed multiple cannon ball lesion with pleural effusion. Pleuroscopy with biopsy was performed and histology revealed primary lung adenocarcinoma with EGFR, ALK and PDL-1 were negative.

Discussion
There was an association with the male gender, a longer duration of the disease, a younger age at the diagnosis of systemic sclerosis. Pulmonary fibrosis together with anti-Scl70 antibodies were risk factor for lung cancer. An active surveillance of scleroderma patients for early detection of cancer is advisable, and pertaining to the lung, a standard of procedure is required to define modalities and timing of the screening with the benefit of a periodic CT scan of the lung, outweighing the risk constituted by radiation. Alkylating agent should be used in caution as it may predispose patients to cancer.

CR 59

CONFUSE MAN VS BUBBLE MAN

Vijayan Munusamy, Mohd Arif , Anuradha
Hospital Selayang,Selangor , Malaysia

Case 1
Objective: We report an atypical presentation of Lung cancer that mimicking cerebral abscess and toxoplasmosis.
Background: Lung cancer is one of the leading cause of cancer-related deaths worldwide, accounting for about 1 in 4 cancer deaths. The patients presentation are mostly stereotypical.
Design/Method: Case analysis and literature review
Result:We report a 67-year-old male ex-smoker presenting with a 2 month history of constitutional symptoms, cough with hemoptysis and 2 weeks of abnormal behavior. Contrast enhanced computed tomography revealed multiple thick and nodular ring enhancing lesion seen either at white or grey-matter junction of bilateral high frontal and parietal lobes. The CXR showed consolidation over the right middle lobe. He was treated as cerebral toxoplasmosis despite of his negative HIV test. His lumbar puncture was negative for meningitis and toxoplasmosis IgM. The diagnosis was revised as cerebral abscess in view of persistent fever with high inflammatory markers. Despite on aggressive treatment with antibiotic patient's condition did not improved. Patient was subjected for a cervical lymph nodes biopsy. The histopathology result shows metastatic adenocarcinoma, primary lung with immunoreactive to PanCK, CK7 and TTF-1. The CT thorax, abdomen and pelvis showed hypodense lesion over the spleen, adrenal, lung and brain.
Conclusions: This is one of the few cases of atypical presentation stage IV lung cancer
with atypical presentation, multiple brain lesions and high inflammatory markers delay the process of diagnosing lung cancer. Full clinical examination is still the fundamental for any patients.

CR 60

CONFUSE MAN VS BUBBLE MAN

Vijayan Munusamy, Arif , Anuradha
Hospital Selayang, Selangor , Malaysia

Case 2
Objective: We report a rare presentation of extensive subcutaneous emphysema due to a rare cause.
Background: Subcutaneous emphysema (SE) is often seen as a sequela of chest tube placement, cardiothoracic surgery, trauma, pneumothorax, infection or malignancy
Design/ Method: Case analysis and literature review.
Result: A 37-year-old man who works in a sport rim making factory presented to emergency department 2 hours after a work related injury to his right thumb. He was injured during inserting aluminum coating via high-pressure rim making mold. The aluminum lacerated his right thumb despite wearing hand protector. There were no other associated injuries. The patient had normal vital sign but circumferential oedema progressed to his right upper limb and chest wall within half and hour after the onset of his injury. On examination there is crepitation on palpation and restricted right upper limb movement. CT neck and chest revealed diffuse air pockets involving deep spaces of the neck, bilaterally, subcutaneous region of right anterior chest wall, subcutaneous and muscle layer of right upper limbs. Pneumo mediastinum present till the base of heart however no pleura fistula or air pocket communications. Despite of the massive subcutaneous emphysema patient was not hypoxic and his laboratory investigations were unremarkable. He was treated with a broad spectrum antibiotic to cover life-threatening infection with gas-producing bacteria (gas gangrene because of Clostridium perfringens, crepitating cellulitis because of anaerobic Streptococcus or other coliforme bacteria)? as shown many case studies.
Conclusion: Subcutaneous emphysema and pneumomediastinum can cause tension physiology, impairing normal cardiovascular and pulmonary function however the absent of such complication, treating conservatively is the best option.

CR 61

TERT MUTATION ASSOCIATED LUNG FIBROSIS: THE MALAYSIAN REPORTED MYTH

Syazatul Syakirin Sirol Aflah[1], Dr Roziana Arifin[2], Borie Raphaeal[3], Caroline Kannengiesser[3]

Institut Perubatan Respiratori, Kuala Lumpur, Malaysia[1]

Genetic Lab, Hospital Kuala Lumpur, Malaysia[2]

Hôpital Bichat, Paris, France[3]

Introduction

Idiopathic pulmonary fibrosis (IPF) is a progressive interstitial lung disease of unknown etiology that occurs sporadically, but it can also occur in families. Genetic and environmental factors commonly play a vital role in the pathogenesis of familial pulmonary fibrosis and the most commonly identified mutations involve the telomerase complex. Here, we report a case of a lady at the age of 36, in whom genetic testing showed heterozygous variants for the telomerase reverse transcriptase gene (TERT).

Case Report

A 36-year old lady, former smoker presented with persistent dry cough at the age of 20. She experienced shortness of breath in 2016 and was diagnosed with autoimmune related lung fibrosis and thrombocytopenia. She was started on immunosuppressant therapy with minimal clinical benefit. In the middle of 2018, her symptoms worsening which requiring her to use continuous oxygen support. Clinical examination showed finger clubbing, Velcro sound on both lungs and significant white hair. There was no lung fibrosis in the family but both of her siblings and mother have early white hair. Her serial high resolution computed tomography (HRCT) scansshowed inconsistent usual interstitial pneumonia (UIP) pattern. Her condition deteriorated further and she succumbed to her illness due to respiratory failure. A genetic test was sent to overseas which noted she is a carrier of heterozygous state of a variation p.Asp945Asn in exon 4 of TERT gene.

Discussion

This case is the first confirmed TERT mutation lung fibrosis in Malaysia and this variation of TERT is very rare in GnomAD database (1 heterozygous individual among 120, 000 individuals). This genetic mutation should be suspected in lung fibrosis patient with haematological abnormalities, abnormal liver function, abnormal coagulation profile, hepatosplenomegaly on abdominal ultrasound and family history of interstitial pneumonia, self-reported early greying, aplastic disease and liver disease. Recently, Danazol, a synthetic androgen, showed to increase telomere length and to stabilize lung function during the treatment

CR 62

THE UNFORTUNATE EVENT: AN ACUTE MASSIVE PULMONARY EMBOLISM FOLLOWING A MYOCARDIAL INFARCTION.

Nor Suraya Samsudin[1], Nik Natasha[1], Nurul Yaqeen Mohd Esa[2], Mohd Arif Mohd Zim[2]
[1]*Hospital Selayang, Batu Caves, Selangor.*
[2]*Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia,*

Acute pulmonary embolism is a life threatening condition that can present with non specific symptoms. Therefore, early detection in high risk patients with early initiation of a correct treatment will reduce the morbidity and mortality of this devastating event.

This 50 years old gentleman, active smoker with no prior medical illness, presented initially with inferolateral myocardial infarction (MI) complicated with cardiogenic shock and pulmonary oedema in which he was intubated and required inotropic support. He received intravenous methylase 6000 units stat on 21/4/2019 followed by resolution of his ST elevation. However, the next day he developed an episode of massive hemoptysis (500cc). Chest radiograph noted new opacity at both midzones. Hemoptysis resolved after witholding his dual anti platelet (DAPT) and low molecular weight heparin (LMWH). He was treated for hospital acquired pneumonia and was intubated for 5 days. Once extubated, his DAPT and LMWH was resumed. After a week of antibiotic coverage, he was feeling breathless again and hypoxic on room air. An urgent CTPA was done and showed massive saddle-like thrombus at both main pulmonary trunks. At that point of time, he was haemodynamically stable and only requires nasal prong oxygen 3L/min. A repeat bedside echo showed new unorganized massive right atrial clot measuring 2.0X 2.2cm with ejection fraction of 30% and global hypokinesia. His PESI score was high risk. In view of recent MI and cardiogenic shock, he is not a good candidate for surgical embolectomy for his massive pulmonary embolism. He received 2nd antithrombolytic agent for his pulmonary embolism (intravenous Streptokinase 250 000 unit bolus followed by 100 000 unit infusion over 8 hours) despite of recent 1st successful thrombolysis for his MI (after 8 days). Post thrombolysis, he requires intubation and inotropic support for cardiogenic shock. This time, hemoptysis did not recur and patient was stabilized with supportive medications. Currently, he is on recovery and started on warfarin with DAPT. A repeat CTPA was planned in 6 months time.

Prompt imaging and treatment is crucial in a high risk patients and complications may arise especially in patient with concomitant comorbidities.

CR 63

PULMONARY ARTERIAL HYPERTENSION AS THE FIRST PRESENTATION IN ANA-NEGATIVE SLE

Firdaus Zakaria, Aisya Natasya Musa, Hazlyna Baharuddin, Mohd Arif Mohd Zim
Universiti Teknologi MARA (UiTM), Sungai Buloh, Malaysia

SLE is an autoimmune condition with a heterogeneous presentation with multi-system involvement. The diagnosis is challenging when there is atypical clinical feature with negative ANA. We present a rare case of pulmonary arterial hypertension secondary to SLE.

Case Presentation

A 30 year-old lady presented with progressive shortness of breath started in 2016, a few days after her second trimester miscarriage. At that time, she became breathless only on exertion with NYHA II and was diagnosed as postpartum cardiomyopathy with right sided failure. Her symptoms persist till her admission to a tertiary hospital in May 2018 where she was treated with frusemide and spironolactone. Since then, despite being on diuretics, her symptoms progressed necessitate another admission in April 2019. Her NYHA functional class was III-IV only. An echocardiogram done showed PAP of 68mmHg and pericardial effusion. CTPA done did not reveal PE or ILD. She was subsequently referred to us for management of pulmonary hypertension.

On further history, she had photosensitivity and subfertility. Clinical examination revealed malar rash, alopecia, raised JVP, signs of right ventricular hypertrophy and pulmonary hypertension, and hepatomegaly with ascites. Respiratory examinations were unremarkable. 6MWT showed significant desaturation (95% to 84%) with a distance of 20 meters only. Bloods investigations showed leukopenia, thrombocytopenia, raised indirect bilirubin with ESR of 14 mm/hr. Urinalysis revealed proteinuria and erythrocytes with positive granular cast. ANA were negative, C3 and C4 were low and positive direct comb test were positive. She fulfilled the SLICC criteria for SLE and was started on prednisolone and hydroxychloroquine.

Discussion and Conclusion

90-95% of SLE patients are positive for ANA. There are patients in which the diagnosis of SLE is not based on positive ANA as illustrated by this patient. Treatment options for SLE-PAH are immunosuppressant and pulmonary vasodilators. Early aggressive treatment improves SLE-PAH prognosis therefore early diagnosis is important. Unfortunately in this patient, the diagnosis of SLE-PAH was only made after 3 years of initial presentation.

CR 64

PLEUROPARENCHYMAL FIBROELASTOSIS:UNTYING THE KNOT WITH PULMONARY TUBERCULOSIS

Syazatul Syakirin Sirol Aflah[1], Siti Shanas Shahul Hamid[1], Rinosyah Palaniappan[1]
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia[1]

Introduction
Pleuroparenchymal fibroelastosis (PPFE) is a rare condition with involvement of predominantly upper lobe pleural and subjacent parenchymal fibrosis. The aetiology is not largely known and most cases are considered idiopathic, although a few cases are familial and previous bone marrow transplantation have been reported to be associated with. We report 3 cases who were referred for pulmonary tuberculosis initially for abnormality of upper lobe noted on chest radiograph

Case Report
Case 1
A 52-year old man, presented with shortness of breath on exertion with progressive weight loss. His chest radiograph showed upper lobe fibrosis and he was investigated for tuberculosis which turned out to be negative. He was subjected for a lung biopsy of the upper lobe which reported as PPFE.

Case 2
A 55-year old lady, who was investigated for tuberculosis for 3 consecutive years since 2015 however the results were negative. She experienced progressive shortness of breath and weight loss unintentionally. Her HRCT showed typical pleuro-parenhcymal abnormality which represented as PPFE.

Case 3
A 50-year old lady who was treated for smear negative pulmonary tuberculosis in 2015 and experienced progressive shortness of breath with weight loss significantly. Her HRCT showed changes which consistent with PPFE.

Discussion
Pleuroparenchymal fibroelastosis (PPFE) is a recently discovered unusual form of fibrosing interstitial pneumonia with specific radiological and pathological characteristics. The special features of PPFE radiologically showed pleuroparenchymal abnormalities, accentuated in the upper lobe, with corresponding histological changes of a distinctive fibroelastosis involving the peripheral/subpleural regions of the lung. Common complication can occur at presentation or at other times is pneumothorax. Unrecognized cases of PPFE may be incorrectly diagnosed as sarcoidosis, atypical idiopathic pulmonary fibrosis, other unclassifiable interstitial pneumonias or even in our local context can be mistaken as pulmonary tuberculosis. Clinical outcome in PPFE is variable with progressive decline and death. Besides lung transplantation, there is no demonstrated effective treatment.

CR 65

WEGENER'S GRANULOMATOSIS : A DILEMMA OF NON RESOLVING CAVITATING LUNG LESIONS.

Nor Suraya Samsudin[1], Nabilah Salma Parasi@ Sulaiman[1], Ummi Nadira Daut[2], Rosmadi Ismail[1], Mona Zaria Nasaruddin[1], Jamalul Azizi Abdul Rahaman[1]

[1]Pulmonology Department, Hospital Serdang, Serdang, Malaysia.

[2]Pulmonology Unit , University Putra,Serdang, Malaysia.

Cavitating lung lesion is always a diagnostic dilemma in the setting of immunocompromised patient in an endemic tuberculosis area. Thorough investigations need to be done in order to get accurate diagnosis and give an appropriate treatment.

A 41 years old lady, she was diagnosed of Wegener's Granulomatosis with IgA Nephropathy and Hypertension since June 2013 in which she received oral cyclophosphamide. She is currently on immunosuppressive treatment with azathioprine and prednisolone. She presented with chronic cough associated with massive haemoptysis. Her tuberculosis (TB) workup was negative. Her HRCT thorax showed cavitating lung lesions with lung ball formation. Her bronchoscopy findings was normal. She was treated for chronic aspergillus infection in view of mildly elevated serum galactomanan. A repeat CT thorax done after 3 months of oral Itraconazole 100mg BD, showed no significant resolution of her cavitating lung lesions with patchy ground glass opacities. Her current complaints were cough but no fever and no other constituitional symptoms. Her haemoptysis also resolved. However she have reduced effort tolerance. Her 6 minutes walk test was 320m with no desaturation and serial full lung function was stable with restrictive pattern. She underwent cryo lung biopsy via rigid bronchoscopy on 20/12/19 complicated with minimal pneumothorax. Histologically, the biopsy showed mild chronic non specific inflammation and tissue culture was no growth for bacterial, fungal and tuberculosis. Her condition remained stable on immunosuppressant with prednisolone and azathioprine and comanaged with rheumatologist.

This patient needs close monitoring with multidisciplinary team management for her cavitating lung lesion in which likely secondary to her Wegener's Granulomatosis.

CR 66

CHRONIC STRIDOR – DIAGNOSTIC CHALLENGES IN CHILDREN WITH ATYPICAL PRESENTATION

Yong Kean Khor, Pui Yin Tam

Department of Paediatrics. Hospital Melaka. Jalan Mufti Haji Khalil. 75400. Melaka

Stridor is an abnormal, high-pitched breath sound produced by turbulent airflow through a narrowed airway. It can be inspiratory, expiratory or biphasic. An inspiratory stridor would suggest airway obstruction above the glottis while an expiratory stridor is indicative of subglottic obstruction. A biphasic stridor suggests obstruction involving both. Stridor is not a diagnosis in itself, but a sign of underlying acute or chronic aetiology. The causes of stridor in children can be differentiate into congenital or acquired, acute or chronic. Acute stridor is associated with infection and foreign body aspiration. Chronic stridor can be congenital as in laryngomalacia, or due to mechanical obstruction. These are case series of three paediatric patients with atypical presentation of chronic stridor. The aim is to highlight the diversity in presentation, to emphasize the importance of good clinical history in aiding diagnosis and to consider other causes of stridor if not responding to initial treatment. A delayed diagnosis can be quite distressing to the parents, especially if the child has increased work of breathing. Hence, an early and accurate diagnosis is important to administer appropriate treatment and to prevent complication.

CR 67

PAEDIATRIC MILIARY PULMONARY TUBERCULOSIS WITH TUBERCULOMA AND INTRACRANIAL HEMORRAEGE

Lim Shu Syi

Paediatric Department, Hospital Lahad Datu, Sabah, Malaysia

Tuberculosis is major public health problem involving all age group and the rate of infection is associated with poor social economic status, social disruption and immunodeficiency status.

We are reporting a case of miliary pulmonary tuberculosis with right basal ganglia tuberculoma with underlying protein energy malnutrition complicated with intracranial hemorrhage. A 8 months old non immunised, home delivered boy presented with history of fever for two weeks, cough for one weeks and generalised tonic clonic seizure. His weight(4.8 kg) and height (65cm)below 5th centile. Child was intubated upon arrival in hospital for impending respiratory distress with inotrope support. His was HIV negative. Chest X-ray showed Miliary Pulmonary Tuberculosis. Tracheal aspirate sampling was positive for acid- fast bacilli. CT scan of brain showed Tuberculoma over right basal ganglia with multiple intracranial bleeding at right temporo- parietal region and subarchnoid hemorrhage at right fronto- tempo- parietal region with non communicating hydrocephalus, no leptomeningeal enhancement. He was started on antituberculous treatment and IV Dexamethasone at day 2 of admission. Neurological examination showed bilateral pupils unequal in size and sluggish with left sided hypotonia of upper and lower limbs. Child was extubated after 11 days of intubation to Nasal Prong Oxygen for 14 days.

At day 11 and day 13 of Antituberculous Treatment, child developed fitiing -generalised tonic clonic type aborted by Suppository diazepam.Child was given IV Phenytoin and IV Phenobarbitone loading dose and maintenance dose and fit free since then. CT brain showed similar changes as previously

In ward child was on Ryle tube feeding. He was discharge home with Ryle Tube and weight of 6.7 kg at 10 months old . Developmental assessment at 1 year 2months showed generalised developmental delay and neurological examination showed improvement over left side.

Tuberculosis of central nervous system is the most serious type because of its high mortality rate and serious neurological complication.

CR 68

SYSTEMIC CORTICOSTEROIDS IN SEVERE HYDROCARBON PNEUMONITIS: A CASE REPORT

Yan Yi Neo[1], Nicholas Chang Lee Wen[2], Rus Anida Awang[1]

[1]*Paediatric Respiratory Unit, Paediatric Department, Hospital Pulau Pinang, Pulau Pinang, Malaysia*

[2]*Paediatric Respiratory Unit, Paediatric Department, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Kuala Lumpur, Malaysia*

We are reporting a 15 months old toddler who inadvertently ingested kerosene at home. Induced emesis was attempted by his father, which resulted in breathlessness and seizures. Upon arrival to the hospital, he was intubated for severe respiratory distress and central nervous system depression. As he did not show much clinical improvement after 4 days of supportive therapy with high frequency oscillating ventilation (HFOV) and worsening radiographic changes, intravenous methylprednisolone 0.5mg/kg/dose for 7 days was initiated. We saw a rapid recovery whereby he was extubated within 5 days of commencement of corticosteroids. He was discharged well after 17 days of admission with no sequelae of pulmonary complications. A chest X-ray done prior to discharge revealed complete resolution of consolidations. Hydrocarbon ingestion is associated with high morbidity and mortality especially if involving the pulmonary and neurological systems. Management of hydrocarbon pneumonitis is primarily supportive, though not well studied globally. The usage of systemic corticosteroids in severe cases is still controversial. Corticosteroids have been proven to be successful in some cases in children, especially severe pneumonitis. Nevertheless, the type of corticosteroid, dosage, duration or route of administration are not well established. This was the first case of a severe hydrocarbon pneumonitis which was successfully treated with systemic corticosteroids in Pulau Pinang. Though current small-scaled case reports reveal no added benefits with systemic corticosteroids, we would suggest larger studies to determine the efficacy of such therapy in the future among children.

CR 69

CASE REPORT: IS IT ALWAYS PNEUMONIA?

Mary Ann Jacob [1], Pei Pei Lim[1], Chiew Yee Yap [1] Nor Azmi [2]
1. Paediatric Department Hospital Shah Alam, Shah Alam, Malaysia
2. Otorhinolaryngology Department Hospital Shah Alam, Shah Alam, Malaysia

Respiratory distress is a common presentation in paediatric population. Majority of these cases are attributed to infections. However, a high index of suspicion for other causes is necessary in patients who do not show clinical improvement despite adequate medical treatment. We are describing a case who presented with symptoms of pneumonia but did not respond to conventional antibiotic therapy.

Our patient was a previously healthy 1 year old boy who presented with a week's history of chesty cough and fever. He was initially seen by Emergency team on the first day of illness and was discharged with syrup amoxicillin for 1 week. However, he presented again after 5 days as he showed no improvement. There was no history suggesting a prior choking episode. Clinical examination revealed mild respiratory distress with stable hemodynamic status. Lung auscultation revealed reduced air entry over the left side with tracheal deviation to the right. Other systemic examination was unremarkable.

Chest radiograph showed hyperinflation over the left side. Foreign body inhalation was suspected and intravenous antibiotic was started for concurrent pneumonia. .Rigid bronchoscopy was done and a 8mm x 5 mm crayon was found at left main bronchus with granulation tissue 2mm and patent airway. He was ventilated for a day and extubated the next day. He was admitted a total of 9 days and discharged well. This case report highlights the importance of having high index of suspicion in diagnosing foreign body aspiration as they can present with no apparent history. Accurate diagnosis and management is key to avoid long term sequalae leading to morbidity and mortality.

CR 70

ABCA3 GENE MUTATIONS- A RARE DISEASE.

N.Fafwati Faridatul Akmar[1], Adiratna Mat Ripen[2],Arni Talib[3], Che Zubaidah Che Daud[1], Hafizah Zainuddin[1], Noor Ain Noor Affendi[1], Asiah Kassim[1]

[1]Woman and Children Hospital Kuala Lumpur, Malaysia

[2]Primary Immunodeficiency Unit, Allergy and Immunology Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia

[3]Department of Pathology, Hospital Kuala Lumpur, Malaysia

ABCA3 gene mutations can lead to fatal surfactant deficiency in term newborn infants and chronic interstitial lung disease(ILD) in older children. We report a case of 2 year old, Indian boy who presented with recurrent pneumonia. He also had persistent cough, failure to thrive and evidence of chronic hypoxemia. He was born term via emergency lower segment caesarean section for poor progress with good birth weight. Antenatal care was uneventful and postnatally he was treated as transient tachypnea of newborn without any ventilation and he was discharged well on day 4 of life. He was a product of non-consanguineous marriage, no family history of ILD and he had history of cigarette smoke exposure.

Clinically, he was small for age and non-syndromic. He had cyanosis and clubbing with tachypnea and chest recession. Lung examination revealed hyperinflated chest, reduced breath sound with generalised crepitation. Chest x-rays showed hyperinflation with diffuse ground-glass appearance and we proceeded with high resolution CT thorax (HRCT) which showed diffuse ground-glass opacification involving both lung fields and presence of multiple small lung cysts and subpleural cysts which consistent with the diagnosis of ILD. Primary immunodeficiency screening showed evidence of isolated T-cell defect with negative HIV testing.

Our patient underwent open lung biopsy and histopathology report revealed evidence of chronic pneumonitis. He was treated with monthly pulses of intravenous methylprednisolone and intravenous Immunoglobulin.A repeat HRCT Thorax was performed after 8th courses of intravenous methylprednisolone and Immunoglobulin which showed evidence of progression of disease. In view of poor response to treatment, he was counselled for palliative care and discharged home with home oxygen therapy. Finally, the diagnosis of ABCA3 gene mutations was made by whole exome sequencing test.

CR 71

THE LESSER OF TWO EVILS : AN ESCAPE FROM LYMPHOMA

Nicholas Chang Lee Wen[1], Shangari Kunaseelan[1], N Fafwati Faridatul Akmar[1], Teh Kok Hoi[2], Sellymiah Adzman[3], Arni Talib[3], Zakaria Zahari[4], Che Zubaidah[5], Asiah Kassim[1]

1 Paediatric Respiratory Unit, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia
2 Paediatric Haemato-Oncology Unit, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia
3 Pathology Department, Hospital Kuala Lumpur, Malaysia
4 Paediatric Surgical Department, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia
5 Radiology Department, Hospital Wanita Dan Kanak-Kanak Kuala Lumpur, Malaysia

We report a 3 years old boy who was diagnosed with Burkitt's Lymphoma, involving the bone marrow and intestines. He underwent tumour resection and was started on chemotherapy UKCCSG NHL Group C protocol which included high dose methotrexate, cyclophosphamide, vincristine, doxorubicin, etoposide, cytarabine and prednisolone for 6 months. Upon completion of chemotherapy, he developed chronic dry cough which was associated with persistent chest recessions without fever. He was initially treated for recurrent monthly pneumonias with multiple courses of antibiotics. There were no positive isolation of pathogen including Tuberculosis. Chest radiographs showed persistent ground glass changes. Three months after the onset of symptoms, CT Thorax confirmed generalised ground glass appearance while bronchoscopy was normal except for copious secretions at bilateral lower airway. Tissue diagnosis was done via open lung biopsy which showed pulmonary fibrosis. Therefore, the diagnosis of methotrexate related lung injury was made and he received Methyl-Prednisolone without improvements. He was discharged with home oxygen therapy.

CR 72

RECURRENT TRACHEOESOPHAGEAL FISTULA IN AN ADOLESCENT WITH CONGENITAL OESOPHAGEAL ATRESIA

Shangari Kunaseelan[1], Nur Fafwati Faridatul Akmar[1], Hafizah Zainuddin[1], Fazila Mat Arifin[1], Zakaria Zahari[2], Asiah Kassim[1]

[1] *Paediatric Respiratory, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia*
[2] *Paediatric Surgery, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia*

Congenital oesophageal atresia and tracheoesophageal fistula (TOF) are common congenital anomalies that are treated effectively with early surgical intervention. However, acute and long term complications despite surgery can occur. Recurrent TOF usually presents before the age of 18 months old. However, in older individuals the symptoms may be vague. We present a case that illustrates the importance of long term follow up and investigations when indicated. A 15 years old boy who has learning disability with Tuberous Sclerosis was diagnosed to have congenital oesophageal atresia with TOF at birth. A successful primary anastomosis was done at day two of life. At 11 months of age, the child presented with recurrent pneumonia and failure to thrive. A repeat OGDS revealed that he had an oesophageal stricture, where a thoracotomy and excision of the stricture site was done. At the age of three years old, this unfortunate boy had an episode of coconut flesh aspiration. During the bronchoscopy procedure to remove the foreign body, the visualised TOF repair site was intact. At 15 years old, he was noted to have persistent cough with worsening lung signs of coarse crepitations. He did not have any admissions for recurrent chest infections and he had no feeding symptoms. This led to a battery of investigations. A HRCT thorax revealed bronchiectasis and an upper GI contrast study demonstrated oesophageal dysmotility and aspiration but a fistula was not confirmed. Eventually a flexible bronchoscopy revealed tracheomalacia and re-fistula at the previous repair site. A right thoracotomy and fistula repair was done. Following that, the child has gained weight and he is well. In summary, long term follow up and multidisciplinary approach with the surgical and radiology teams are necessary for our TOF survivors to recognize early complications before further damage has occurred.

CR 73

INVASIVE PNEUMOCOCCAL INFECTION WITH PLEURAL EFFUSION AND HEMOLYTIC UREMIC SYNDROME: HOSPITAL TUANKU FAUZIAH EXPERIENCE

Amanil `Ula Hassan
Hospital Tuanku Fauziah, Perlis, Malaysia

Invasive Streptococcus pneumoniae infection is a major cause of morbidity and mortality in children under 5 years old. Pleural effusion and haemolytic uremic syndromes are the recognised complications of streptococcal infection. We report a previously healthy 10 months old girl, presented with fever, cough and lethargy for 3 days. She was febrile and tachypneic (respiratory rate of 50 breaths/min), with chest recession, decreased breath sound on left side with coarse crepitations, SaO2 of 98% under face mask oxygen. The chest radiograph showed left lower lobe consolidation with pleural effusion. Other examinations were unremarkable. Parenteral antibiotics were administered.

In the next few hours, the child looked pale, and little urine output was observed. She had persistent fever, and her respiratory status worsened. The laboratory tests revealed hemoglobin dropped from 9.1 to 5.0g/dl, and platelet reduced from 130 to 9 x109/l. The renal profile worsen (urea 6.4 to 17mmol/l; creatinine 25 to 81µmol/l). Urinalysis showed hematuria and proteinuria. Noted APTT was slightly prolonged and LDH was high. Her blood culture grew Streptococcus Pneumoniae. Ultrasonography of kidneys unremarkable. Direct Coombs test was positive and both C3 C4 were low. She was transfused with packed cells and platelet. Urgent FBP suggestive of microangiopathic hemolytic anemia with thrombocytopenia. She was transferred to Paediatric Intensive Care Unit(PICU) for mechanical ventilation. Peritoneal dialysis(PD) was initiated due to worsening fluid overload, hyponatremia and anuria. After 48 hours on PD, the urine output improving and sodium level normalized and edema resolved. Repeated CXR, showed improved lung consolidations and pleural effusion. She was extubated after 5 days ventilation. She received parenteral antibiotics for 21 days. The girl was regularly been followed-up in out-patient clinic with normal blood pressure, urinalysis and renal function.

HUS is an unusual and serious manifestation of the invasive Streptococcus pneumoniae infection. Early institution of renal replacement therapy can reduce mortality and morbidity of Streptococcus pneumoniae induced HUS. Although empyema in children associated with pneumonia is uncommon, there has been an increase in reported cases.

CR 74

PULMONARY MANIFESTATION OF AUTOIMMUNE HEPATITIS CASE: HOSPITAL TUANKU FAUZIAH EXPERIENCE

Amanil `Ula Hassan, Siti Akma Ishak, Hospital Tuanku Fauziah, Perlis, Malaysia
Department of Paediatrics. Hospital Melaka. Jalan Mufti Haji Khalil. 75400. Melaka

Autoimmune hepatitis (AIH) is the commonest liver autoimmune disease and may associated with respiratory complications. We report a case of previously well 12 years old girl, who presented with 4 weeks history of lethargy, poor appetite, intermittent fever, pruritus and loss of weight. She sought medical attention and was treated as viral infection. A week prior to admission, she developed jaundice, hematuria and breathlessness. There were no known sick contacts. Family history and social history were non-contributory. She was not on any medications or supplement. Clinically she had generalised scaly hyperpigmented skin with scratch mark, jaundice sclera, and cachexic. She was febrile, and tachypneic with mild subcostal recession, SaO2 was 99% under facemask oxygen. Chest examination revealed decreased breath sounds on the left with crepitation and she had hepatomegaly. Other examinations were unremarkable. Chest radiograph revealed left lower zone haziness. Initial blood counts were normal but liver function test showed direct hyperbilirubinemia, elevated transaminases, gamma-glutamyltransferase(GGT) and high CRP and ESR. Parenteral antibiotic and oxygen were administered.

After a day, the respiratory status worsen and she required high setting mehanical ventilation. Repeated chest radiograph showed worsening generalised haziness. Her condition deteriorated necessitating inotropic support. The blood gases showed persistent type I respiratory failure and eventually progress to hypercapnia and hypoxemia. ECHO and ultrasound abdomen findings were unremarkable. Antibiotics were subsequently escalated. Repeated blood counts revealed thrombocytopenia, and worsening transaminases. Autoimmune markers sent revealed positive of ANA, rheumatoid factors, anti-smooth muscle, mitochondrial antibodies and ANCA. Other viral studies and cultures were negative.

She remained ill, and subsequently developed multiorgan failure. Peritoneal dialysis was started but no recovery of renal function. Liver biopsy was done suggestive of cholestatic and inflammatory pattern. She eventually succumbed to her illness.

Autoimmune diseases are one of the major causes of interstitial lung disease.The relationship between autoimmune liver diseases and lung lesions is not clear. It is possible that these diseases should be regarded as systemic with multiple organ manifestations.

CR 75

MALIGNANT PERTUSSIS WITH LEUCOCYTOSIS IN AN INFANT: A CASE REPORT

JY SEE, Siew Choo Su
Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Introduction:
Pertussis remains one of the world's leading cause of vaccine preventable death. It is known to provoke three different syndromes in non-immune infants requiring intensive care unit admission: (1) severe apnoeic/bradycardic pertussis; (2) pneumo-pertussis and (3) malignant pertussis with associated acute respiratory distress syndrome (ARDS), pulmonary hypertension, heart failure and multiorgan failure.

Case Report:
We report a 35 days old boy with malignant pertussis associated with pulmonary hypertension and ARDS. He presented to us with prolonged dry cough with facial congestion and rhinorrhoea for 2 weeks. On admission, he was in respiratory distress and compensated shock. After initial resuscitation, he was admitted to Paediatric High Dependency Unit and ventilated since day 2 of admission due to worsening respiratory distress. Baseline investigations showed leukocytosis with raised C-reactive protein, with his chest X-ray showing right upper lobe collapsed consolidation. His nasopharyngeal aspirate for Bordetella Pertussis PCR was positive. He developed pulmonary hypertension at day 4 of admission with refractory hypoxaemia despite high ventilator settings, inhaled nitric oxide and multiple inotropic support. His leukocytosis worsened (highest total white cell count was 84.2) requiring double volume exchange transfusion (ET) twice on day 4 and day 8 of admission. Unfortunately, he succumbed at day 10 of admission despite maximum inotropic support and high ventilator settings.

Conclusion:
Malignant pertussis with leukocytosis is associated with a high mortality rate in young infants. Thus, maternal vaccination in the third trimester should be advocated to prevent severe pertussis in young infants.

CR 76

DIAGNOSTIC CHALLENGE POSED BY THE CLINICAL PRESENTATION OF HYPOXEMIA IN AN OTHERWISE ASYMPTOMATIC INFANT

Ee Wei Ng[1], Yinn Khurn Ooi[1], Faizah Mohd Zaki[2], Dg Zuraini Sahadan[1]

[1]*Hospital Serdang, Selangor, Malaysia*

[2]*Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*

Introduction:

The culprit of hypoxemia in newborn is usually either lung or heart disease in origin. However, when a patient has had "normal" echocardiograms, lung disease is usually blamed as the etiology. Anomalous drainage of the Right Superior Vena Cava (RSVC) into the left atrium represents an extremely rare subset of cyanotic heart disease with fixed right-to-left shunting and is frequently missed on routine echocardiogram.

Case Report:

We described a 2-month-old full term boy who was referred to paediatric respiratory unit for oxygen dependency. He had short history of ventilation for meconium aspiration syndrome postnatally. Otherwise he was breathing comfortably without distress, however would desaturate whenever oxygen support was weaned off. Initial routine echocardiograms found only small Atrial Septal Defect (ASD). Serial chest X-rays and high-resolution computed tomography (HRCT) of the thorax showed no significant pulmonary disease. Left lower bronchus was mildly malacic from flexible bronchoscopy. Computed tomography pulmonary arteriogram (CTPA) revealed Sinus Venosus ASD with mild left atrial enlargement and non-specific ground glass lungs. A repeat detailed echocardiography showed anomalous RSVC draining into left atrium with mild enlargement of left sided chambers, an addition to previously described small high secundum ASD. A microcavitation study from the upper limb demonstrated brisk filling of "bubbles" in the left heart, confirming our diagnosis of cyanotic heart disease with fixed right-to-left shunting. Oxygen therapy was ceased upon diagnosis at 4 months old and he was discharged well soon after. He was followed up as outpatient and underwent surgical repair successfully at 1 year old.

Conclusion:

Awareness and high clinical suspicion is important for the early diagnosis of anomalous RSVC draining into left atrium to prevent prolonged hospitalization, inappropriate oxygen therapy or even ventilation. Surgical correction should be done once appropriate weight is achieved to prevent complications of cyanosis and the risk of systemic embolization.

CR 77

SELECTIVE IGA DEFICIENCY PRESENTING WITH SEVERE ADENOVIRUS PNEUMONIA COMPLICATED WITH SEVERE POST INFECTIOUS BRONCHIOLITIS OBLITERANS: A CASE REPORT

Gayathiri Pushparajah, Siew Choo Su
Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Introduction:
Selective IgA deficiency, though is the commonest type of primary antibody deficiency, remains undetected in most, as 85–90% of IgA-deficient individuals are asymptomatic. There is a wide spectrum of clinical presentation in IgA deficiency, ranging from asymptomatic to developing recurrent sinopulmonary infections, gastrointestinal disorders, allergies, autoimmune conditions, and malignancies.

Case Report:
We report a 14-month-old boy who had recurrent skin infections since he was 1 month old and acute suppurative otitis media at 6 months old. He presented with severe Adenovirus pneumonia at the age of 7 months, complicated with severe acute respiratory distress syndrome requiring invasive ventilation for 11 days and inotropic support. He was treated with broad spectrum antibiotics.
He had a protracted stay in the ward as he was dependent on non-invasive ventilation with high oxygen requirement, and had recurrent nosocomial infections during his hospitalization. He was subsequently referred to a paediatric respiratory physician. He underwent a high resolution computed tomography (HRCT) of the chest which showed severe bronchiolitis obliterans with bronchiectasis over both lungs. Due to his recurrent skin infections, ear infection and severe pneumonia, he was worked up for imuunodeficiency which showed persistently low IgA, with normal IgG, IgM and IgE levels and normal T and B cell enumeration and HIV serology was negative. He was diagnosed with selective IgA deficiency and managed with a paediatric immunologist. He was commenced on monthly intravenous immunoglobulin (IVIg) and pulsed intravenous methylprednisolone (IVMP) for his severe post-infectious bronchiolitis obliterans (PIBO). He showed remarkable improvement in his respiratory status (less tachypnoiec with marked reduction in oxygen requirement) and was successfully discharged home after 2 cycles of pulsed IVMP/IVIg.

Conclusion:
Even though selective IgA typically presents with only mild infections or asymptomatic in most, it may also present with recurrent and severe sinopulmonary infections complicated with severe chronic lung sequelae.

CR 78

BRONCHOGENIC CYST MASQUERADING AS LOCULATED PLEURAL EFFUSION

SH Tan[1], Mariana D[2], Fazila MA[3], Fairos AM[4]

[1,2,3] *Paediatric Respiratory Unit, 4 Radiology Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan, Malaysia*

Introduction: Bronchogenic cysts are rare congenital malformations, which arise from abnormal budding of the primitive tracheobronchial tube. The most common location is mediastinum (70%), followed by intrapulmonary. Intrapulmonary bronchogenic cysts have predilection of lower lobes. They are usually asymptomatic unless they become infected or are large enough to compress adjacent structures.

Methodology: We describe a case of a bronchogenic cyst mimicking as loculated pleural effusion in a 1 years old girl with symptom of cough for 2 months. She was referred for loculated left pleural effusion for further management. She had unresolved cough despite multiple courses of antibiotics and noted to have persistent haziness at the left heart border on serial chest radiographs within 2 months apart. The initial imaging which includes chest radiograph, ultrasound thorax and contrast enhanced computed tomography (CECT) thorax all reported as left loculated complex pleural effusion . She was managed conservatively with antibiotics as she remains afebrile, comfortable with very minimal lung findings. Further evaluation of the CECT revealed a large well defined fluid containing cyst at the left lower lobe consistent with intrapulmonary bronchogenic cyst. The parents opted for surgical removal at a later date.

Conclusion: Bronchogenic cysts are rare, and to be in the lung parenchyma is even rarer.. This case highlighted the importance of having a high index of suspicion in an unusual loculated pleural effusion which does not respond to antibiotic treatment.

CR 79

HYPERSENSITIVITY PNEUMONITIS PRESENTING WITH RECURRENT SEVERE CYANOSIS: A CASE REPORT

Hing Cheong Kok, Siew Choo Su
Tengku Ampuan Rahimah Hospital, Klang. Malaysia.

Background:
Hypersensitivity pneumonitis is an uncommon condition in childhood. It is an immunologic mediated hypersensitivity reaction to a variety of inhaled allergens that may cause interstitial pneumonitis.

Case presentation:
A 10-year-old Rohingya girl was admitted to our hospital for eight times in the span of seven months with acute onset of cough, breathlessness and chest pain. During each episode, she would present in severe respiratory distress with cyanosis (oxygen saturation of 50%) necessitating non-invasive ventilation or high-flow oxygen therapy. On average, she required oxygen support of 6.13 days. On examination, she was tachypnoeic with increased work of breathing and generalized crepitations. Her chest x-rays on admission always showed diffuse heterogenous opacities with bilateral hyperinflation, which would resolve almost completely in the span of a week or less. Her computed tomography (CT) of the chest revealed diffuse ground-glass opacities with mosaic attenuation, cystic lung changes and mediastinal lymphadenopathy. Bronchoalveolar lavage was positive for Aspergillus galactomannan, but negative for respiratory viruses, fungi, mycobacterium tuberculosis and bacteria. Her pulmonary tuberculosis workup and connective tissue screen were negative with a normal echocardiogram. Her spirometry showed a restrictive pattern.
As her results were non-specific and there appeared to be an obvious trigger at home, a home visit was done revealing a squatter house with damp wooden floor, which was highly suspicious of mould infestation. She was diagnosed with hypersensitivity pneumonitis based on her clinical presentation and CT findings. Though we did not confirm any environmental mould that could trigger her exacerbation, she has remained symptom-free after she was relocated to a refugee centre. Our diagnosis was almost confirmed when she presented again with an acute episode of breathlessness and cyanosis when she returned home for less than a day during the festive season, warranting another hospitalization requiring high flow oxygen.

Conclusion:
Hypersensitivity pneumonitis in children may be misdiagnosed as recurrent pneumonia or other forms of respiratory diseases. This under-recognized but clinically significant disease remains a diagnostic challenge.

CR 80

A NOISY PLEA FOR HELP

Karen Looi[1], 'Afifah Bt Mokhtar[1], Intan Nor Chahaya Shukor[1], Ahmad Hafiz Ali[2], Nik Mohd Syukra Bin Nik Ab Ghani[2]

[1]Department of Paediatrics, Hospital Segamat
[2]Department of ENT, Hospital Segamat

Introduction :
Vallecular cyst is a rare cause of stridor in infants, which can potentially be life threatening if missed and not managed promptly.

Case Report:
We describe a neonate who presented with severe upper airway obstruction in our center. MAA, is a term neonate who first presented at 2 weeks of life with noisy breathing but was discharged well with reassurance. He came back at 1 month old with severe respiratory distress and marked stridor, which required emergency tracheostomy. Direct laryngoscopy revealed a large vallecular cyst obstructing the airway. However, his management was further complicated with multiple cardiopulmonary resuscitations due to difficult airway. Marsupialization of the cyst was successfully done on his third visit to the operating theatre. Post marsupialization, he made a successful recovery and was discharged well with tracheostomy.

Conclusion :
Although laryngomalacia is the commonest cause of stridor among infants, vallecular cyst is a potential differential diagnosis following a thorough assessment by the ENT team. This case serves as a grim reminder of the potentially fatal consequences of upper airway obstruction in a neonate. A difficult airway algorithm involving a multidisciplinary team approach should be available in every hospital and emphasized to all health care providers.

CR 81

NEBULIZED AMIKACIN IN MYCOBACTERIUM ABSCESSUS PULMONARY DISEASE: SINGLE CENTRE EXPERIENCE.

Kah Shien T, Nur Syaza SM, Hafiz P, Suzila CS, Kasuma MN
Respiratory Unit, Hospital Melaka, Melaka, Malaysia

Introduction:
Current systemic therapy for non-tuberculous mycobacterium pulmonary disease is limited by poor clinical response rates, drug toxicities and side effects. The addition of nebulized Amikacin to standard oral therapy for Mycobacterium Abscessus infection pulmonary disease may improve treatment efficacy and clinical benefits without producing systemic toxicity.

Objective:
To share an experience in managing a patient with Non tuberculous; Mycobacterial Abscessus pulmonary disease with addition of nebulized Amikacin to standard oral therapy regime.

Methodology:
Medical record review. All results were analyzed including the laboratory and radiographic findings.

Results:
17 years old Chinese lady, presented with chronic cough for 6 months, hemoptysis, loss of appetite and loss of weight. Investigations revealed sputum AFB direct smear positive and initial Chest X- ray showed consolidation changes over the right upper and middle zones with right pleural effusion. She was treated as smear positive Pulmonary Tuberculosis and pleural TB. She was started on standard regime anti-tuberculosis. After two months of intensive phase, symptoms persistent with sputum AFB direct smear remained positive and repeated CXR not much improvement seen. We further investigated patient to rule out drugs resistance TB.CT Thorax showed consolidation, fibrosis and bronchiectatic changes over the right lung parenchymal. We proceeded with bronchoscopy which revealed bronchoalveolar washing MTB culture, grew Non tuberculous mycobacterium; Mycobacterium Abscessus Complex. Treatment regime was changed to Rifampicin, Ethambutol, Clarithromycin and intravenous Amikacin 15mg/kg (three times-weekly) for 1 month as guided by susceptibility results. Treatment was continued with nebulized Amikacin 250 mg twice daily with others three oral antibiotics in continuation phase. She responded well to the treatment regime without any side effects or toxicity with smear and culture conversion. Radiographically shown improvement with resolution of the consolidation.

Conclusion:
Adjunctive therapy with Amikacin inhalation may help to achieve symptomatic and radiographic improvement and to decrease the mycobacterial disease burden in patients with refractory NTM pulmonary disease with good tolerability without major side effects or toxicity.

CR 82

MANAGING LONG SEGMENT SEVERE TRACHEOMALACIA IN INFANTS FOLLOWING OESOPHAGEAL ATRESIA WITH TRACHEOESOPHAGEAL FISTULA

Shangari Kunaseelan[1], N Fafwati[1], Nicholas C[1], Fazila MA[1], Noor Ain NA[1], Rohazly I[2], Normawati[2], Che Zubaidah CD[2], Sahrir S[3], V Priatharisiny[3], Shifa Z[3], Mohd Yusof A[4], Z Zahari[4], A Kassim[1]

[1] *Paediatric Respiratory, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia*
[2] *Paediatric Radiology, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia*
[3] *Paediatric ENT, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia*
[4] *Paediatric Surgery, Kuala Lumpur Women and Children Hospital, Kuala Lumpur, Malaysia*

Persistent respiratory distress is a common symptom following repaired tracheoesophageal fistula (TOF) and oesophageal atresia (OA). Tracheomalacia may be one of the causes for the respiratory distress. We report two children who were ventilator dependent following repaired TOF and OA. CWL; a four-year old boy with TOF, OA and anorectal malformation. The TOF was repaired at day two of life but he only had a delayed primary anastomosis at 11 months old due to complications from the anorectal malformation surgeries. His long segment severe tracheomalacia was diagnosed via flexible bronchoscopy following ventilator dependency at 11 months old. He had a tracheostomy with an uncuffed, length adjustable silicone tracheostomy tube to overcome the tracheomalacia. He was finally discharged home at 15 months old. He progressed well with normal development and growth with no recurrent pneumonia. AN; a one-year old premature infant born with a birth weight of 1.36 kg, Respiratory Distress Syndrome, Patent Ductus Arteriosus, aberrant pulmonary vessel, double TOF and OA. The distal fistula was ligated at day two of life. Delayed primary oesophageal anastomosis was done at 4 months where a second proximal fistula was identified and repaired. At 9 months old, she was still ventilator dependent and flexible bronchoscopy confirmed the diagnosis of long segment severe tracheomalacia. She had tracheostomy with uncuffed, length adjustable silicone tracheostomy tube inserted. Currently, she is managed with no oxygen or ventilator dependency. Both young children showed marked improvement in respiratory symptoms, managed to be weaned off ventilator dependency following a tracheostomy using an uncuffed adjustable length silicone tracheostomy tube. It also allows them to achieve normal physical growth and developmental milestones.

R 83

THEIR CLINICAL PRESENTATIONS WERE DIFFERENT BUT BOTH OF THEM HAVE P.I.G

Asiah Kassim[1], Shangari K[1], Nur Fafwati FA[1], Rohazly I[1], Normawati[1], Che Zubaidah CD[1], Zakaria Z[1], Sellymiah A[2], Arni T[2]

[1] *Women and Children Hospital, Kuala Lumpur, Malaysia*
[2]*Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Pulmonary Interstitial Glycogenosis (PIG) is a children's interstitial lung disease (chILD). It was first described in 2002. It's a rare form of lung disease in children. This is a report of two cases of infant with different clinical presentations but both were confirmed to have diagnosis of PIG from lung HPE. First case; BS; was born at term with birth weight 3.0 kg. Parents were non-consanguineous but had two previous abortions. She developed severe respiratory distress at birth requiring prolonged ventilatory support including High Frequency Oscillation Ventilator. She required frequent blood transfusion due to anemia and pulmonary hypertension. A course of systemic steroid was given before she managed to be extubated at about two months old. Unfortunately, she had persistent tachypneic and dependent on oxygen therapy. Her series of chest radiograph showed persistent ground glass appearance and her HRCT Thorax suggestive of Interstitial Lung Disease. Open lung biopsy from Right Upper Lobe was done and the HPE confirmed diagnosis of PIG. Second case; MA, presented with pneumonia at 4 months old and remained tachypneic and oxygen dependent after 2 months of admission. He had failure to thrive, digital clubbing and tachypnea with chest recession. His series of Chest radiograph showed ground glass changes and consolidation. His HRCT Thorax was suggestive of Interstitial Lung Disease. Open Lung biopsy was done from Left Upper lobe confirmed diagnosis of PIG. Both infants confirmed to have PIG from lung biopsy. PIG is caused by an abnormal accumulation of glycogen in the interstitial cells of the lung. Excess glycogen deposition in the interstitial space causes thickening of the area leading to ventilation perfusion mismatch. The two cases illustrate that infant with persistent tachypnea required full investigations. Lung biopsy is required to confirmed certain Interstitial Lung Disease in children as certain tests like genetic studies are limited in Malaysia.