MALAYSIAN THORACIC SOCIETY
ANNUAL CONGRESS 2018

Organised by

12 - 15 July 2018

The Zenith Hotel, Kuantan, Malaysia

First Announcement

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WELCOME ADDRESS

Dear Colleagues and Friends,

On behalf of the Organising Committee, it is my great pleasure to invite all of you to the Malaysian Thoracic Society Annual Congress 2018, which will be held at Zenith Hotel, Kuantan from 12th to 15th July 2018.

It is an exciting time in Respiratory Medicine as there are a lot of new developments and advances in this field. With this in mind, we have put together a programme encompassing a wide variety of interesting topics.

We will start with three interesting workshops on pulmonary infections, interstitial lung diseases and difficult paediatric airway followed by two and half day Congress.

Esteemed speakers from the country and abroad have been invited to share their knowledge in various topics from orphan lung diseases, interventional pulmonology, and pulmonary rehabilitation to sleep disordered breathing and pleural diseases, not forgetting the common diseases, such as obstructive lung diseases, thoracic malignancy and respiratory infections. The Congress programme has been tailored to provide ample opportunities for delegates to network as well as visit the exhibition to explore the latest products and services.

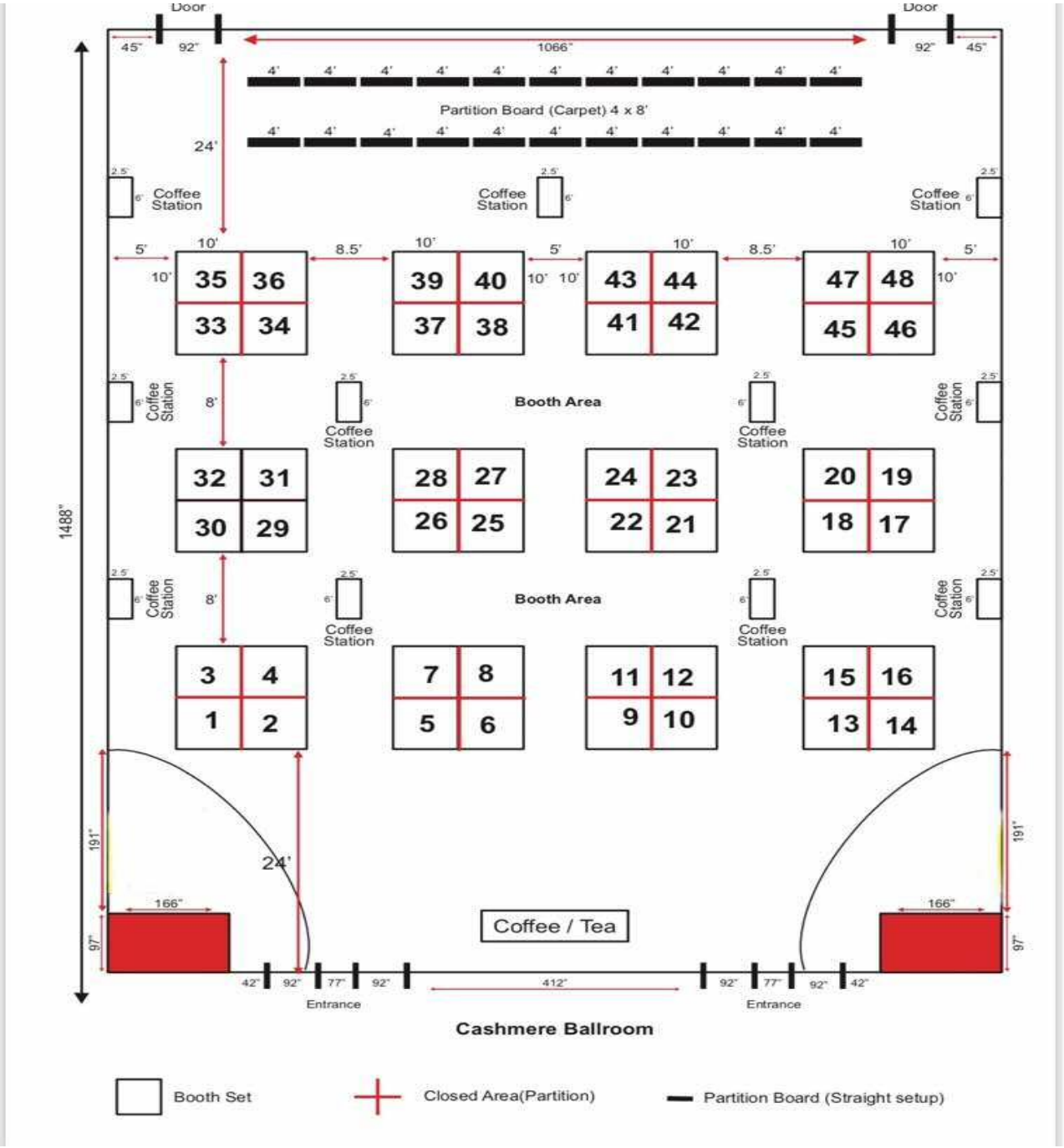
Beside this, I wish you can take some time off before or after the Congress, to visit nice beaches, hills, caves, rivers and museums around Kuantan. And remember to try our special durian, named “hijau” and a lot of other delicious local cuisine.

We thank you for your participation and look forward to seeing you in this important gathering in Kuantan.

Prof. How Soon Hin

Organising Chairman
MTS Annual Congress 2018

FLOOR PLAN & TRADE EXHIBITION



GLOSSARY OF EXHIBITORS

Name of Exhibitor	Booth(s) Number
GlaxoSmithKline Pharmaceutical Sdn Bhd	1 - 4
AstraZeneca Malaysia	5 - 8
Boehringer Ingelheim (Malaysia) Sdn Bhd	9 - 12
Merck Sharp & Dohme (Malaysia) Sdn Bhd	13 - 14
Pahang Pharmacy	15
Insan Bakti Sdn Bhd	16
Roche Diagnostic	17 and 19
Mundipharma	18
Roche Pharma	20 and 19
Sanofi	21
Bayer	22
Somnotec	23
AstraZeneca Malaysia	25
AstraZeneca Malaysia	26
Pfizer (Malaysia) Sdn Bhd	27 - 28
Novartis	29 - 32
Inova Pharmaceuticals	33
Symbiomed	34
H2H Care	35
A. Menarini Singapore Pte Ltd	37 - 38
DanMedik Sdn Bhd	40
Accord Healthcare	41
Pharmaniaga	42
Acucare	43
Olympus (Malaysia) Sdn Bhd	45
Orient EuroPharma (M) Sdn Bhd	46

PROGRAMME SUMMARY

Time	12 July 2018 Thursday	13 July 2018 Friday
0800 - 0810	**CONGRESS WORKSHOP** **The Difficult Paediatric Airway** (0830 - 1600) **Respiratory Infections** (0830 - 1300)	**WELCOME ADDRESS**
0810 - 0850		**PLENARY 1**
0850 - 1005		**SYMPOSIUM 1** S1A – Obstructive airway disease S1B – Orphan lung disease S1C – Sleep-disordered breathing in children
1005 - 1035		**Coffee Break**
1035 - 1150		**SYMPOSIUM 2** S2A – Respiratory infections S2B – Radiology/pathology/molecular correlation with Lung Disease S2C – Childhood interstitial lung diseases
1150 - 1240		**SPONSORED SYMPOSIUM 2** (Astra Zeneca)
1240 - 1430	**LUNCH** (1300 - 1430)	**LUNCH**
1430 - 1600	**Interstitial Lung Disease (ILD)** (1430 - 1730)	**SYMPOSIUM 3** S3A – Sleep-disordered breathing S3B – Rehabilitation and chronic care
1600 - 1650		**SPONSORED SYMPOSIUM 3A** (MSD) **SPONSORED SYMPOSIUM 3B** (Mundipharma)
1650 - 1845		MTS Annual General Meeting & Coffee break
1845 - 1935	**SPONSORED SYMPOSIUM 1** (TBC)	**SPONSORED SYMPOSIUM 4A** (GSK) **SPONSORED SYMPOSIUM 4B** (Astra Zeneca)
1935 - 2200		**DINNER**

PROGRAMME SUMMARY

Time	**14 July 2018** Saturday	**15 July 2018** Sunday
0700 - 0800	**SUNRISE SESSION**	**SUNRISE SESSION**
0800 - 0840	**PLENARY 2**	**PLENARY 3**
0840 - 1010	**SYMPOSIUM 4** S4A – Interventional pulmonology S4B – Non-invasive ventilation S4C – Recurrent wheezing in children	**SYMPOSIUM 7** S7A – Tuberculosis S7B – Palliative care in children with end-stage lung diseases
1010 - 1040	Coffee Break	Coffee break
1040 - 1210	**SYMPOSIUM 5** S5A – Lung cancer S5B – Pleural disease S5C – Current management of chronic suppurative lung disease in children	**Multi-disciplinary case discussions**
1210 - 1300	**SPONSORED SYMPOSIUM 5** (GSK)	**SYMPOSIUM 8** TBC
1300 - 1400	**LUNCH**	**CLOSING CEREMONY** (1300 - 1315)
1400 - 1500	**SYMPOSIUM 6** (Respiratory Diseases in Primary Care) **ORAL PAPER PRESENTATION** **POSTER PRESENTATION**	**LUNCH** (1315 - 1400)
1500 - 1550	**SPONSORED SYMPOSIUM 6** (BI)	
1550 - 1640	**SPONSORED SYMPOSIUM 7A** (Sanofi) **SPONSORED SYMPOSIUM 7B** (Pfizer)	
1640 - 1710	Coffee break	
1930 - 2200	**GALA DINNER**	

12 July 2018 (Thursday)

	Congress Workshop: Respiratory Infections **Chairperson: Dr. Ummi Nadira Daut**	
0830 - 0900	**The microbiome and microbial communities in healthy and diseased lung** - Prof. Mohammed Imad Al-Deen *(Malaysia)*	➢ *Zenith 1*
0900 - 0930	**Biomarkers in pneumonia** - Prof. Dato Dr Mohd Basri Mat Nor *(Malaysia)*	➢ *Zenith 1*
0930 - 1000	**Pulmonary infection in immunocompromised host** - Prof Tan Ban Hock *(Singapore)*	➢ *Zenith 1*
1000 - 1030	Tea-break	
1030 - 1100	**Diagnosis and management of fungal pneumonia** - Prof Tan Ban Hock *(Singapore)*	➢ *Zenith 1*
1100 - 1130	**Dealing with severe pneumonia - choosing the right bullet** - Prof. Dr. Suree Sompradeekul *(Thailand)*	➢ *Zenith 1*
1130 - 1200	**Radioimaging in pneumonia** - Dr. Zuhanis Abdul Hamid *(Malaysia)*	➢ *Zenith 1*
1200 - 1230	**Melioidosis** - Prof. Ploenchan Chetchotisakd *(Thailand)*	➢ *Zenith 1*
	Congress workshop - Interstitial Lung Disease	
1430 - 1500	**Idiopathic Pulmonary Fibrosis – Diagnosis approaches** - Dr. Sara Tomasetti *(Italy)*	➢ *Zenith 1*
1500 - 1530	**NSIP: Diagnosis and Management** - Dr. Syazatul Syakirin Sirol Aflah *(Malaysia)*	➢ *Zenith 1*
1530 - 1600	**Management of Idiopathic Pulmonary Fibrosis** - Dr. Low Su Ying *(Singapore)*	➢ *Zenith 1*
1600 - 1615	Tea-break	
1615 - 1645	**Radiology corner: How to identify different HRCT patterns in ILD** - Dr Ng Yuen Li *(Singapore)*	➢ *Zenith 1*
1645 - 1730	**Multidisciplinary discussion (MDD) - 4 cases with the panel of speakers** - Dr. Syazatul Syakirin Sirol Aflah *(Malaysia)*	➢ *Zenith 1*

	Congress workshop - The Difficult Paediatric Airway **Session 1: Chairperson: Dato' Dr. Ahmad Fadzil / Dr. Dayang Zuraini**
0800 - 0830	**Small airway - big problem?** ➢ *Zenith 4 & 5* - Dr N Fatwati Faridatul Akmar Mohammad *(Malaysia)*
0830 - 0900	**Assessment and the Role of Flexible Bronchoscopy in the Difficult Airway** ➢ *Zenith 4 & 5* - Dr Su Siew Choo *(Malaysia)*
0900 - 0930	**Anaesthesia Consideration in Difficult Airway** ➢ *Zenith 4 & 5* - Dr. Hamidah Ismail *(Malaysia)*
0930 - 1000	**Congenital Cardiac Anomalies Associated with Airway Disease. A Close Partnership** ➢ *Zenith 4 & 5* - Dr. Mohd Nizam Mat Bah *(Malaysia)*
1000 - 1030	Tea Break
	Congress workshop - The Difficult Paediatric Airway Session 2: Chairperson: Assoc. Prof Surendran Thavagnanam / Dr. Mariana Bt Daud
1030 - 1100	**Ventilation Strategies in Children with Difficult Airway** ➢ *Zenith 4 & 5* - Prof Dr. Tang Siew Fong *(Malaysia)*
1100 - 1130	**Surgical Intervention for Congenital Upper Airway Anomalies** ➢ *Zenith 4 & 5* - Dr. Norzi Dato' Ghazali *(Malaysia)*
1130 - 1200	**Surgical Intervention for Congenital Lower Airway Anomalies** ➢ *Zenith 4 & 5* - Dato' Dr. Zakaria Zahari *(Malaysia)*
1200 - 1230	**Long Term Complications and Medical Management of Children with Congenital Airway Anomalies** ➢ *Zenith 4 & 5* - Dr Asiah Kassim *(Malaysia)*
1230 - 1300	**Endoscopic or Open surgery for Laryngotracheal Stenosis.** ➢ *Zenith 4 & 5* - Prof Dr. Goh Bee See *(Malaysia)*
1300 - 1430	**Case discussions** ➢ *Zenith 4 & 5* Case 1 : University Malaya Medical Centre Case 2 : Institute Paediatric, Hospital Kuala Lumpur Moderator: Dato' Dr. Ahmad Fadzil
1430 - 1600	**Panel Discussion** ➢ *Zenith 4 & 5* Management of Patients with Difficult Airway Failing Extubation Panelist: Dr. Asiah Kassim Prof. Dr. Tang Siew Fong Prof. Dr. Goh Bee See Dato. Dr. Zakaria Zahari Moderator: Dr. Mariana Bt Daud

13 July 2018 (Friday)

0800 - 0810	Welcome Address	
0810 - 0850	**Plenary 1** What You Need To Know About Inhalers And How To Exploit The Best Of Them Speaker: David Price *(Singapore)* Chairperson: Datuk Dr. Aziah bt Ahmad Mahayiddin	*Silk*
0850 - 1005	**SYMPOSIUM 1 (S1)** **S1A – Obstructive airway disease** Chairperson: Dr. Fauzi bin Md. Anshar / Dr. Mohd Arif Mohd Zim 1. Approach to occupational Asthma in Malaysia - Dr. Siti Sara Bt. Yaacob *(Malaysia)* 2. Bronchiectasis in 2018: Emerging therapies and novel perspectives - Prof. Dr. Sanjay Haresh Chotirmall *(Singapore)* 3. Management of cystic fibrosis in Adults - Dr. Hilmi Lockman *(Malaysia)* **S1B – Orphan lung disease** Chairperson: Dr. Fauzi bin Md. Anshar / Dr. Mohd Arif Mohd Zim 1. Community Acquired Pneumonia: What is new? - Prof Suree Sompradeekul (Thailand) 2. Viral pneumonia in adults - A neglected aetiology! - Prof. Dr. Jamal I-Ching Sam *(Malaysia)* 3. Pulmonary infection in HIV patients - Prof. Ploenchan Chetchotisakd *(Thailand)* **S1C – Sleep Disordered Breathing In Children** Chairperson: Dr. Rus Anida Awang / Dr. Alison Ting Ying-Hua 1. Technologies Used in the Diagnosis of Sleep-Disordered Breathing - Dr. Dayang Zuraini Sahadan *(Malaysia)* 2. Management Of Complex Obstructive Sleep Apnoea - Dr. Arthur Teng *(Australia)* 3. Sleep Dysfunction in Children with Neuromuscular Disease - Dr. Mariana Daud *(Malaysia)* 4. Behavioural Sleep Problems In Adolescence - Dr. Arthur Teng *(Australia)*	*Silk* *Organza* *Zenith 6 & 7*
1005 - 1035	Coffee Break	
1035 - 1150	**SYMPOSIUM 2 (S2)** **S2A – Respiratory infections: Non TB** Chairperson: Dato Dr Abdul Razak Abdul Muttalif / Dr Rosmadi Ismail 1. Managing pulmonary manifestations of systemic sclerosis - Dr. Low Su Ying *(Singapore)*	*Silk*

	S2B – Radiology/pathology/molecular correlation with Lung Disease Chairperson: Dr. Hilmi Lockman / Dr. Zainuddin 1. Is Aspergillus important in defining the Asian phenotypes of respiratory disease? - Prof. Dr. Sanjay Haresh Chotirmall *(Singapore)* 2. Hypersensitivity pneumonitis - Dr. Tengku Saifudin Tengku Ismail *(Malaysia)* 3. Pulmonary alveolar proteinosis - Dr. Fauzi Md Anshar *(Malaysia)* **S2C - CHILDHOOD INTERSTITIAL LUNG DISEASES (chILD)** Chairperson: Assoc. Prof Anna Marie Nathan / Dr. Eg Kah Peng 1. Has this child got childhood interstitial lung disease? - Prof. Adam Jaffe *(Australia)* 2. chILD - What the Radiologist can Offered to Pulmonologist? - Assoc. Prof. Dr. Faizah Mohd Zaki *(Malaysia)* 3. Management of chILD – are there any recent advances? - Prof. Adam Jaffe *(Australia)*	➢ *Organza* ➢ *Zenith 6 & 7*
1150 - 1240	**Sponsored Symposium 2** Company: AstraZeneca Topic: TBA Speaker: TBA Chairperson: TBA	➢ *Silk*
1240 - 1430	Lunch	
1430 - 1600	**SYMPOSIUM 3 (S3)** **S3A – Sleep-disordered breathing** Chairperson: Dr. Megat Razeem bin Abdul Razak / Dr. Lalitha Pereirasamy 1. Current Evidence of OSA and Pregnancy - Dr. Naricha Chirakalwasan *(Thailand)* 2. Sleep disordered breathing and heart failure - Prof. Azarisman Shah bin Mohd Shah *(Malaysia)* 3. Preoperative evaluation and management in OSA - Dr. Naricha Chirakalwasan *(Thailand)* **S3B – Rehabilitation and Chronic Care** Chairperson: Dr. Muhammad Naimmudin Abdul Azih / Dr. Azlna Samsudin 1. Is community-based pulmonary rehabilitation feasible? - Dr Saari Mohamad Yatim *(Malaysia)* 2. Nutrition in chronic lung diseases - Miss Poh Kai Ling *(Malaysia)* 3. Communication in end-of-life care for patients with chronic lung diseases - Dr Richard Lim Boon Leong *(Malaysia)*	➢ *Silk* ➢ *Zenith 6 & 7*

	S3C- Respiratory disease in Primary Care 1 Chairperson: Dr. Kuan Yeh Chunn / Dr Ernest Poh Mau Ern ➢ *Organza* 1. Snoring Adults - Assoc. Prof. Dr. Ahmad Izuanuddin Ismail *(Malaysia)* 2. Management of (Paediatric) Mild Asthma - Dato Dr. Ahmad Fadzil Abdullah *(Malaysia)* 3. TB or Not TB -Active or Not active - Datuk Dr. Aziah Ahmad Mahayiddin *(Malaysia)*
1600 - 1650	**Sponsored Symposium 3A** ➢ *Organza* Company: MSD Topic: Raising the Bar in the Management of Advanced/ Metastatic NSCLC – Where are we heading? Speaker: Dr Adnan Nagrial Chairperson: Dr. Toh Lye Mun **Sponsored Symposium 3B** ➢ *Silk* Company: Mundipharma Pharmaceuticals Sdn Bhd Topic: Paradigm Shift in Assessing Asthma Outcomes: Evidence from RCTs to Real World Speaker: Assoc. Prof. Dr. Pang Yong Kek Chairperson: Dr Wong Jyi Lin
1650 - 1845	**MTS Annual General Meeting & Coffee break** ➢ *Zenith 6 & 7*
1845 - 1935	**Sponsored Symposium 4A** ➢ *Silk* Company: GlaxoSmithKline Pharmaceutical Topic: COPD Management: Which bronchodilator and inhaler device to choose? Speaker: Dr Celeste Mae Campomanes Chairperson: TBA **Sponsored Symposium 4B** ➢ *Organza* Company: AstraZeneca Topic: Rapid Anti-inflammatory Therapy: A New Era in Paediatric Asthma Exacerbation Speaker: Dr Kevin Robert Murphy Chairperson: Dr Patrick Chan
1935 - 2200	Dinner

14 July 2018 (Saturday)

0700 - 0800	**Sunrise Session** Acute exacerbation of IPF ➢ *Zenith 6 & 7* Speaker: Dr. Sara Tomasetti *(Italy)*
0800 - 0840	**Plenary 2** Chronic Lung Disease: The Malaysian Journey from Infancy to Adulthood ➢ *Silk* Speaker: Dr. Norzila Mohamed Zainudin *(Malaysia)* Chairperson: Dato' Dr. Azizi Hj. Omar
0840 - 1010	**SYMPOSIUM 4 (S4)** **S4A – Non-invasive ventilation** Chairperson: Dr. Goon Ai Khiang ➢ *Silk* 1. NIV in patients with neuromuscular disorders - Dr. Naricha Chirakalwasan *(Thailand)* 2. NIV in acute respiratory failure - how to select the right candidate - Prof. Dato' Dr. Mohd Basri Mat Nor *(Malaysia)* 3. Home NIV post-COPD Exacerbation - Dr. Norhaya Mohd Razali *(Malaysia)* **S4B - Interventional Pulmonology** Chairperson: Dr. Razul Md Nazri Bin MD Kassim / Dr Wong Jye Ling ➢ *Zenith 6 & 7* 1. Bronchial Thermoplasty - Dr. Jamalul Azizi Abdul Rahaman *(Malaysia)* 2. Endoscopic Lung Volume Reduction Procedures - Dr. Lee Pyng *(Singapore)* 3. Novel Approach to Lung Nodule - Dr. Tie Siew Teck *(Malaysia)* **S4C - Recurrent Wheezing In Children** Chairperson: Assoc. Prof Hasniah Abdul Latif / Dr. Hafiza Zainuddin ➢ *Organza* 1. I Have a Child with Recurrent Wheeze - What shall I do? - Dr. Rus Anida Awang *(Malaysia)* 2. Virus Infections and Recurrent Wheezing: Is There a Link? - Assoc. Prof. Jessie De Bruyne *(Malaysia)* 3. Long-term Sequelae - Who are at Risk? - Dr. Allison Ting Ying-Hua *(Malaysia)* 4. The Dilemmas in the Treatment of Recurrent Wheezers - Prof. Adam Jaffe *(Australia)*
1010 - 1040	Coffee Break

SYMPOSIUM 5 (S5)

S5A – Lung cancer
Chairperson: Prof. How Soon Hin / Dr Mat Zuki Mat Jaeb

➢ *Organza*

1. SRS vs Conventional Radiotherapy in NSCLC
   - Dr Tho Lye Mun *(Malaysia)*
2. Transforming Advanced Lung Cancer Into a Chronic Disease
   - Dr. Adnan Nagrial *(Australia)*
3. Biomarker and molecular profiling in NSCLC: a step toward personalized medicine
   - Prof. Pathmanathan Rajadurai *(Malaysia)*

S5B – Pleural Diseases
Chairperson: Dr Muhammad Redzwan S. Rashid Ali / Prof. Dr. Mohamed Faisal Abdul Hamid

➢ *Silk*

1. Approach to persistent air leak in pneumothorax
   - Dr. Lee Pyng *(Singapore)*
2. Unexplained pleural effusion - diagnostic approach
   - Dr. Rosmadi Ismail *(Malaysia)*
3. Ultrasound in pleural disease
   - Assoc. Prof. Anushya Vijayananthan *(Malaysia)*

1040 - 1210

S5C - Current Management Of Chronic Suppurative Lung Disease In Children
Chairperson: Dr. N Fatwati Faridatul Akmar / Dr. Su Siew Choo

➢ *Zenith 6 & 7*

1. Cystic Fibrosis
   - Prof. Adam Jaffe *(Australia)*
2. Protracted Bacterial Bronchitis
   - Assoc. Prof. Anna Marie Nathan *(Malaysia)*
3. Non-CF Bronchiectasis
   - Assoc. Prof. Hasniah Abdul Latif *(Malaysia)*
4. Optimising Pulmonary & Nutritional Rehabilitation
   - Assoc. Prof. Surendran Thavagnanam *(Malaysia)*

1210 - 1300	**Sponsored Symposium 5** Company: GlaxoSmithKline Pharmaceutical Topic: Asthma Management: Evolution of ICS/LABA in today's world Speaker: Dr Celeste Mae Campomanes Chairperson: Dr Ahmad Izuanuddin bin Ismail
1300 - 1400	Lunch
1400 - 1500	Concurrent Oral and poster presentation ➢ *Zenith 6 & 7*
1400 - 1500	**SYMPOSIUM 6 (S6)** **S6 - Respiratory Diseases in Primary Care 2** Chairperson: Dr. N Fatwati Faridatul Akmar / Dr. Su Siew Choo ➢ *Silk* 1. Approach to patients with chronic cough - Dr. Rozanah Abd Rahman *(Malaysia)* 2. ABC in CXR interpretation - Assoc. Prof. Radhiana Hassan *(Malaysia)*

1500 - 1550	**Sponsored Symposium 6** ➢ *Silk* Company: Boehringer Ingelheim Topic: Exacerbations in context : Targeted Management to Maximize Outcomes Speaker: Prof. Antonio Anzueto *(United States of America)* Chairperson: TBA
1550 - 1640	**Sponsored Symposium 7A** ➢ *Silk* Company: Sanofi Pasteur c/o Sanofi-Aventis (Malaysia) Sdn Bhd Topic: Quadrivalent Influenza vaccine: Broader Influenza protection in chronic respiratory patients Speaker: Dr. Lalitha Pereirasamy *(Malaysia)* Chairperson: Assoc. Prof. Dr. Pang Yong Kek **Sponsored Symposium 7B** ➢ *Zenith 6 & 7* Company: Pfizer Malaysia Sdn Bhd Topic: The role of ceftaroline in community acquired pneumonia Speaker: Dr. Asok Kurup *(Singapore)* Chairperson: TBA
1640 - 1710	Coffee Break
1930 - 2200	Gala Dinner

15 July 2018 (Sunday)

0700 - 0800	**Sunrise Session**	➢ *Zenith 6 & 7*
0800 - 0840	**Plenary 3** 2nd Malaysian Asthma CPG (New) Speaker: Dr. Andrea Ban *(Malaysia)*	➢ *Silk*
0840 - 1010	**SYMPOSIUM 7 (S7)** **S7A – Tuberculosis** Chairperson: Dr. Nurhayati Mohd Marzuki / Dr. Irfhan Ali Bin Hyder Ali 1. Latent TB in Malaysia - Opportunity & Dilemma - Assoc. Prof. Dr. Pang Yong Kek *(Malaysia)* 2. MDR and XDR TB - option of treatment - Dato' Dr Hj Abdul Razak Abdul Muttalif *(Malaysia)* 3. Management of adverse effects caused by anti-TB - Dr. Zamzurina Abu Bakar *(Malaysia)* **S7B - Palliative Care In Children With End-Stage Lung Diseases** Chairperson: Dr. Asiah Kassim / Ascc. Prof. Jessie De Bruyne 1. Sleep Breathing and Lung Disease - Dr. Arthur Teng *(Australia)* 2. The Malaysian Palliative Care Journey - Datuk Dr. Kuan Geok Lan *(Malaysia)* 3. When Everything Fail in CLD Children: Anything else can be Offered - Dr. Chong Li Ai *(Malaysia)*	➢ *Silk* ➢ *Zenith 6 & 7*
1010 - 1040	Coffee Break	
1040 - 1210	**Adult / Paediatrics Multidisciplinary Case Discussions** Paediatrics Multidisciplinary GR : Case 1: Kulim Case 2: Kuching Moderator: Dr Dayang Zuraini	➢ *Silk*
1210 - 1300	**Plenary 8** Smoking Cessation In Chronic Disease Patients: The good, the bad, the ugly Speaker: Prof Dr Amer Siddiq Amer Nordin *(Malaysia)*	➢ *Silk*
1300 - 1315	**Closing Ceremony**	➢ *Silk*
1315 - 1400	Lunch	

Congress Workshop: Respiratory Infections

THE MICROBIOME AND MICROBIAL COMMUNITIES IN HEALTHY AND DISEASED LUNG

Mohammed Imad Al-Deen
International Islamic University Malaysia
Malaysia

The respiratory mucosal ecosystem is quite different from other mucosal sites such as that of the gut, both anatomically and physiologically with major differences in the constituents and population dynamics of their microbiomes. The respiratory tract microbiome comprises both normal commensal organisms as well as those that may cause respiratory infections. Although it has long been taught and written in textbooks that only the upper regions of the respiratory tract harbours microorganisms while the lower airways in the lungs are sterile, has recently proven by molecular studies to be incorrect as organisms may reach there in normal healthy individuals by micro-aspiration as well as by inhalation and direct mucosal migration. Humans' exposed surfaces are principally colonized by 6 bacterial phyla: Proteobacteria, Actinobacteria, Firmicutes, Bacteroidetes, Fusobacteria and Cyanobacteria; the gut being the most densely populated system. Conversely, the lower respiratory tract has a much lower level of colonization, but the predominant bacteria in both the lungs and gut of healthy humans are the Firmicutes and Bacteroidetes while Actinobacteria, Proteobacteria and Fusobacteria are present in small numbers. The mucosal lining of the trachea and bronchi is covered by secreted mucus containing glycosylated proteins while most of the pulmonary surface area is lined with lipid-rich surfactant, which has inhibitory effects on bacteria. The role of perturbation in the respiratory microbiome in health and disease will be discussed in this presentation.

PULMONARY INFECTION IN IMMUNOCOMPROMISED HOST

Tan Ban Hock
Singapore General Hospital
Singapore

Infections is a common complication of immunosuppression. Pulmonary infections are among the most common infections afflicting the compromised host. The likely organisms causing pneumonia in a particular host, however, vary, depending on an interplay of factors. These factors include the type of immune compromise, the patient's epidemiologic exposures and his/her endogenous flora. Apart from considering possible microbial aetiologies, it is also important to appreciate that pulmonary infiltrates in compromised patients may be due to non-infectious causes. These non-infectious causes themselves depend on a variety of factors such as type of immune compromise and patient co-morbidities.

DIAGNOSIS AND MANAGEMENT OF FUNGAL PNEUMONIA

Tan Ban Hock
Singapore General Hospital
Singapore

Fungal pneumonias are uncommon in general hospital practice, but they may be devastating. Making the diagnosis of fungal pneumonia, down to at least genus (and preferably species) level could prove life-saving. This is even more important nowadays, as the anti-fungal armamentarium has expanded. The clinician should employ as many methods as possible quickly to achieve a diagnosis. In this talk, current topics relating to CT imaging and microbiological tests in the diagnosis of fungal (particularly aspergillus) pneumonia will be covered.

RADIOIMAGING IN PNEUMONIA

Zuhanis Abdul Hamid
National Cancer Institute
Malaysia

Chest Radiograph is the most commonly used imaging tools in pneumonia. It gives good platform in diagnosing and detecting complication subsequently, can be offered as treatment response monitoring. Computed tomography is more useful and mandatory if pneumonia behaviour is following atypical path or development of complication is suspicious. We will review multiple signs and pattern that can be found in pneumonia cases. Radiographic pattern according to classification of pneumonia sometimes will be discuss as well. By the end of this talk, we should understand on how to approach imaging in pneumonia cases , interpret the images, recognised imaging signs and suggest the most likely diagnosis. Treatment progress and early detection of complication will be the aim in follow up images.

MELIOIDOSIS

Ploenchan Chetchotisakd
Khon Kaen University
Thailand

Melioidosis is an infection caused by environmental gram negative bacilli, *Burkholderia pseudomallei*. This tropical disease is endemic in Southeast Asia and northern Australia, however with a recent report; the greatest burden is predicted in South Asia. Majority of melioidotic patients have underlying diseases, especially diabetes. The organism can infect any organ system, although the lung is the most common organ affected. Pulmonary melioidosis presents either as an acute fulminant pneumonia with multilobar involvement or as an indolent cavitary disease which mimics tuberculosis both clinically and radiologically. Melioidosis pneumonia can be the primary presenting feature, can develop secondary to initial illness at a distant site, and can develop in patients with bacteremia without an initial evident focus. Most of the patients presents with acute/subacute pneumonia and is associated with bacteremia, septic shock and mortality especially in multilobar infiltrations.

B. pseudomallei is an important cause of severe community-acquired pneumonia in endemic areas and should be considered in patients with risk factors. The clinical features cannot be distinguished reliably from pneumonia caused by other pathogens. It is therefore important to empirical treat with antibiotics effective against *B. pseudomallei*.

NSIP: DIAGNOSIS AND MANAGEMENT

Syazatul Syakirin Sirol Aflah
Institute Respiratory Medicine
Malaysia

Non-specific interstitial pneumonia (NSIP) was originally defined as a histopathological pattern that can be found in the presence of a wide range of clinical presentation and with

a uniform high resolution CT appearance of NSIP. NSIP must be distinguished from other parenchymal lung diseases including idiopathic pulmonary fibrosis and hypersensitivity pneumonitis. It has very high association with collagen vascular diseases and it also can be observed in toxic effects of drugs, occupational and environmental exposure, smoking related ILD, viral infection, graft versus host disease (GVHD), hypersensitivity pneumonitis and rare conditions (familial pulmonary fibrosis and immunoglobulin G4 related disease). Idiopathic NSIP is a rare diagnosis and requires exclusion of these other possible causes.

Profile of patients are female predominance and more than 50% have never smoked. A detail exposure history and assessment for underlying connective tissue diseases are crucially important as positive history would likely indicate a case of secondary NSIP.

High-resolution computed tomography, the most common findings suggestive of NSIP are lower lobe peripherally predominant ground-glass opacity with reticular abnormality, traction bronchiectasis, and lower lobe volume loss. A firm diagnosis required a pathological evaluation which showed a temporal uniform pattern of alveolar and interstitial mononuclear cell inflammation and fibrosis with preserved underlying alveolar architecture. The multidisciplinary discussion in reaching a consensus diagnosis.

The main reason for making an accurate diagnosis of NSIP because the survival rate faraway better than of other interstitial lung diseases especially idiopathic pulmonary fibrosis. Patients with cellular pattern NSIP have 5- and 10-yr survival rates, whereas those with fibrotic pattern NSIP have a worse 5-yr survival rate.

Serial monitoring of symptoms and pulmonary function may be recruited in mild or asymptomatic disease. Treatment should be initiated in patient with disease progression. The overall response to glucocorticoid therapy is generally favourable in patients with NSIP but not all will respond well to it. Relapse can occur when steroids are tapered or stopped in some

patients. For patients with inadequate response to glucocorticoid, the therapy is usually expanded to include additional other immunosuppressive agents.

MANAGEMENT OF IDIOPATHIC PULMONARY FIBROSIS

Low Su Ying
Singapore General Hospital
Singapore

Idiopathic pulmonary fibrosis (IPF) is a specific form of chronic progressive fibrosing interstitial pneumonia of unknown aetiology, occurring primarily in older adults, limited to the lungs, and associated with the histopathologic and/or radiologic pattern of usual interstitial pneumonia (UIP).

Diagnosis is often fraught with difficulty and uncertainty, and this talk aims to help overcome these challenges, particularly highlighting various pitfalls and limitations of investigations, and emphasizing the benefits of multidisciplinary discussions.

Latest treatment options including disease-modifying drugs and symptom control for both early and advanced disease will also be discussed.

MULTIDISCIPLINARY DISCUSSION (MDD) - 4 CASES WITH THE PANEL OF SPEAKERS

Syazatul Syakirin Sirol Aflah
Institute Respiratory Medicine
Malaysia

Interstitial lung disease (ILD) is a challenging group of disorders with varied management perspectives and prognoses. The diagnosis required an integrated and dynamic approach involving clinician, radiologist and pathologist will be involved when there is lung biopsy performed which known as multidisciplinary team (MDT) diagnosis. The discussion consists a constellation data from clinical, radiology and with or without histology to improve diagnostic confidence in ILD. The MDT diagnosis is considered as the standard diagnostic reference for ILD. The joint statement from the American Thoracic Association (ATS) and European Respiratory Society (ERS) on the classification of idiopathic interstitial pneumonia (IIP) 2002 recommended this approach to diagnose ILD and the 2013 ATS/ERS IIP update statement reinforced this recommendation. This session, there will be 4 cases to discuss with the panel of experts.

Congress Workshop: The Difficult Paediatric Airway

SMALL AIRWAY - BIG PROBLEM?

N Fafwati Faridatul Akmar Mohammad
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. This lecture will explore the special characteristic of the paediatric airways and its clinical significance.

ASSESSMENT AND THE ROLE OF FLEXIBLE BRONCHOSCOPY IN THE DIFFICULT AIRWAY

Su Siew Choo
Hospital Tengku Ampuan Rahimah
Malaysia

Difficult airway is classically defined as the clinical situation in which a conventionally trained anesthesiologist experiences difficulty with facemask ventilation of the upper airway, difficulty with tracheal intubation, or both. For paediatric respiratory physicians, difficult airway may be due to upper airway or lower airway disorders. Predictive factors for difficult airway include signs of upper airway obstruction, multiple attempts at failed extubation, history of difficult airway as well as congenital or genetic syndromes with altered airway anatomy. The best modality for assessment of the difficult airway is via bronchoscopy, either flexible or rigid, or both. Common indications for flexible bronchoscopy include unexplained stridor or wheeze, chronic cough, recurrent pneumonia, suspected structural anomalies or endobronchial lesion, foreign body inhalation, persistent or recurrent radiographic abnormality, haemoptysis and pulmonary haemorrhage. Flexible bronchoscopy is not only diagnostic but also therapeutic in the treatment of atelectasis, removal of foreign body, control of haemorrhage in pulmonary haemorrhage, bronchoscopic intubation in difficult airway cases as well as dilatation of stenotic airways. Urgent airways that require urgent bronchoscopic evaluation include foreign bodies, airway compromise (stenosis or atresia), airway trauma, pulmonary toilet, and pulmonary haemorrhage.

ANAESTHESIA CONSIDERATION IN DIFFICULT AIRWAY

Hamidah Ismail
Hospital Kuala Lumpur
Malaysia

Difficulty with airway management for anaesthesia has potentially serious implication as failure to secure a patent airway can result in hypoxic brain injury or death in a matter of minutes. The successful management of children undergoing operative procedures for complex congenital and acquired airway anomalies requires a high level of skill and cooperation between clinician and anaesthetist. Difficult Airway in anaesthesia defined as ` the clinical situation in which conventionally trained anaesthetist experience difficulty with face mask ventilation, difficulty with tracheal intubation or both'. Failure to assess and identify predicted difficulty in airway management and the failure to incorporate these findings into a management strategy can contribute to poor outcome. Communication between clinician and anaesthetist is paramount.

Paediatric Difficult Intubation Registry has reported an incidence of unexpected difficult bag-mask ventilation was 6.6% and incidence of difficult intubation was 1.2% (Lancet2015) .Predictors of a difficult intubation that are useful in adults do not apply to children. Hence early recognition that a patient`s airway may be difficult to manage allows anaesthetist to plan to minimize the potential serious airway related morbidity.

Airway Assessment

Airway assessment forms the first part of any airway management strategy leading to planning of the drugs, equipment and technique to be used. Ability to identify problem in each facet of airway management and plan a strategy will bring about good outcome. Unfortunately there is no ideal assessment tool or in combination is diagnostic. Clinical history , previous medical record ,airway pathology, specific syndromes and recent assessment particularly the airway and breathing and other imaging are useful tools to be used.

Anaesthesia Technique

Anaesthesia technique for airway surgery/procedure must take into account the modes of ventilation and anaesthesia and the need for surgical access. Anaesthesia technique also may be dictated by coexisting medical problem. A spontaneous ventilation technique is the

preferred initial technique and allows for diagnosis of dynamic airway obstruction. However one must take into account potential severe narrowing of the airway, difficult ventilation and oxygenation or difficult intubation. Need to maintain muscle tone to help in maintaining gas exchange. Supraglottic airway devices usage become more acceptable in paediatric anaesthesia practice.

There are three common ways in providing anaesthesia without the need to intubate the trachea as listed below:

1. Inhalational induction and maintenance with volatile anaesthetic agent with spontaneous respiration
2. Total Intravenous Anaesthesia (TIVA) with spontaneous respiration
3. High Frequency Jet Ventilation

Postoperative care

Close observation for worsening airway obstruction due to swelling or secretion must be carried out in all patients. It can be done in intensive care unit or in post anaesthesia care unit. Nebulized adrenaline , repeated dose of dexamethasone or postoperative ventilation might be necessary for various reason.

CONGENITAL CARDIAC ANOMALIES ASSOCIATED WITH AIRWAY DISEASE.

A CLOSE PARTNERSHIP

Mohd Nizam Mat Bah
Hospital Sultanah Aminah Johor Bahru
Malaysia

Congenital heart disease (CHD) is the most frequent anomalies in children birth prevalence range from 6-10 per 1000 live birth. Majority are mild lesion and require no intervention. For moderate to severe lesions, they may be asymptomatic at birth and only presented later with cardiorespiratory compromise state.

CHD may cause airway disease in many ways. Vascular rings and slings such as double aortic arch, left pulmonary artery sling and aberrant right subclavian artery may directly cause airway compression. Another lesion such as severe Ebsteins anomaly may cause under-developed airway and lung in utero. Meanwhile, enlarge main or branch pulmonary artery, left or right atrium may also cause airway compression leading to signs of symptoms of airway compression.

In most cases, 2d-echocardiogram can easily diagnose the cardiac lesions which causing airway compression. However, some require more detail investigation such as cardiac CT angiogram (CTA) to delineate the type of cardiac lesion and severity of compression.

CHD associated with airway disease require multidiscipline management. Early discussion with the radiologist, pediatric respiratory physician and surgeon are essential to optimize the outcome.

In conclusion, CHD associated airway disease is uncommon. However, early diagnosis and close partnership with various sub-discipline are needed to improve the outcome.

Keywords: Congenital heart disease, Vascular ring, and sling, airway disease

Congress Workshop: The Difficult Paediatric Airway

VENTILATION STRATEGIES IN CHILDREN WITH DIFFICULT AIRWAY

Tang Swee Fong
Universiti Kebangsaan Malaysia Medical Centre
Malaysia

A difficult airway is generally defined as a situation in which a clinician experiences difficulty with face mask ventilation, laryngoscopy or intubation. There are many reasons that can lead to a difficult airway ranging from congenital anatomic abnormalities to acquired causes like infections or previous airway interventions. Although difficult ventilation in a child with a difficult airway is not common, the recognition of the possible causes is important to prevent life-threatening hypoxia.

This presentation will consider two groups of patients who may present with ventilation issues after management of a difficult airway. The first, are those who are successfully intubated but cannot be ventilated, and the second, are those with difficult airways who have had airway reconstructive surgery who require ventilation post-operatively. A difficult airway is not always defined by a patient's anatomy. Airway management also does not necessarily end with successful placement of an endotracheal tube. The inability to ventilate a patient after successful intubation is a rare but emergent situation. Causes for this include obstruction of the endotracheal tube, bilateral tension pneumothorax, oesophageal intubation, severe bronchospasm, or mainstream bronchus intubation. Therefore, vigilance is required to ensure that the airway is still patent once an endotracheal tube (ETT) is placed. This requires confirmation of tracheal ETT placement through observation of it passing through the vocal cords during laryngoscopy, observing symmetrical chest expansion, auscultation, and more recently with capnography. Endotracheal tube obstruction after initial placement should be considered when increases in airway pressure are observed. Congenital abnormalities such as severe tracheal stenosis may lead to a critical airway event. Unfortunately, there is a scarcity of experience as to the ventilation of these cases and extracorporeal membrane oxygenation may be the only life-saving bridge to definitive surgery.

The second group of patients are those post-airway reconstructive surgery that is complex.

These patients require meticulous postoperative care in the paediatric intensive care unit to ensure success. A lung protective ventilation strategy, meticulous titration of sedation and adequate nutritional support are important aspects of care.

SURGICAL INTERVENTION FOR CONGENITAL UPPER AIRWAY ANOMALIES

Norzi Dato' Ghazali
Hospital Sultanah Bahiyah
Malaysia

Managing infant and pediatric upper airway problems requires planning, preparation, and teamwork. Understanding the differences between the infant upper airway and the adult upper airway is important in the infant and pediatric upper airway management. Congenital upper airway anomalies include nasal, laryngeal, tracheal anomalies, congenital neck mass obstructing the upper airway and congenital craniofacial syndromes associated with difficult airways pose a unique set of challenges. Surgical intervention remain the mainstay of treatment for majority of these conditions which can start as early as during the intrapartum period. Management will include proper history, physical examination, fiberoptic nasolaryngoscope, rigid laryngoscopes and bronchoscopic evaluation apart from selection of the appropriate endotracheal tubes, LMAs, as their key steps concomitantly or preceding any form of endoscopic or open surgical intervention

SURGICAL INTERVENTION FOR CONGENITAL LOWER AIRWAY ANOMALIES

Zakaria Zahari
Hospital Kuala Lumpur**,**
Malaysia

Congenital lower airway anomalies cover a spectrum of diseases related to the abnormal development of the trachea, which usually result in respiratory issues. They are often inter related to congenital abnormalities of the oesophagus eg Tracheo oesophageal fistula , great vessels in the mediastinum eg pulmonary slings and Congenital Heart diseases.

Examples of the anomalies include Tracheal stenosis, Tracheomalacia and Pulmonary sequestrations.

In view of the rarity of these conditions, it is important for all clinicians dealing with newborns and children to have an understanding of these conditions and refer to the appropriate centres for further management.

Surgical intervention for these anomalies may be required in some conditions. In this presentation, emphasis will be given on the types of surgical intervention and the importance of a Multi-disciplinary Team approach to ensure the optimal result possible.

LONG TERM COMPLICATIONS AND MEDICAL MANAGEMENT OF CHILDREN WITH CONGENITAL AIRWAY ANOMALIES

Asiah Kassim
Hospital Kuala Lumpur
Malaysia

Long Term medical management of children with Congenital Airway Anomalies involves multidisciplinary approach. The team usually involves Paediatrician, ORL, Paediatric Surgery, Paediatric anaesthetist, Paediatric Intensivist, Speech therapy, Audiologist, Physiotherapist, Radiologist etc. The type of medical management required by each patient is depending on several factors like syndromic children, co-morbidities during diagnosis, social and family background, complications during follow up and resources available in each centre.

ENDOSCOPIC OR OPEN SURGERY FOR LARYNGOTRACHEAL STENOSIS.

Goh Bee See
Universiti Kebangsaan Malaysia
Malaysia

Laryngotracheal atenosis (LTS) refers to abnormal narrowing of the airway that can occur at larynx, trachea, carina or main bronchi. The incidence and outcome of LTS in the pediatric population has increased with advances in obstetric and neonatal care. Laryngotracheal stenosis can be classified into congenital, mixed or acquired types but most cases are acquired as a result of intubation injury. While the subglottis is the most commonly affected subsite, glottic and tracheal stenosis is also frequently identified, and some patients have multilevel narrowing in which treatment can be challenging. Clinical features of LTS include inspiratory or biphasic stridor, respiratory distress, coughing, difficult breathing and voice changes. Those symptoms may develop slowly and gradually and even can be misdiagnosed as asthma or croup. The gold standard in diagnosing laryngotracheal stenosis is direct laryngoscopy and tracheobronchoscopy under general anesthesia. The treatment for laryngotracheal stenosis can be endoscopic surgery (dilatation, laser or steroid injection) or open surgery (expansion, augmentation with costal cartilage graft or resection and anastomosis). Endoscopy technique offers less operative risks, a shorter hospital stay and possibly less emotional and financial burden on family. Retrospective review of UKMMC paediatric LTS showed that majority of the cases were acquired type (86.7%) and majority was grade III (43.3%) of Cotton Myer grading. Subglottic was involved in 70% of the cases. Of all the cases, 80% were treated endoscopically. Average of 3 times endoscopic treatment is the norm before decided to perform open surgery. Majority of the severe grade III and grade IV cases underwent cricotracheal resection with good decannulation rate (50% at 6 months and 100% after 2 years) but required longer hospital stay and one case had unilateral vocal cord palsy. In conclusion, our centre recommended repeated endoscopic treatment for lower grade LTS stenosis with thin segment of less than 1cm as it has high success rate. Open surgery is reserved for failed endoscopic treatment and high grade LTS as well as those with framework pathology as it carries higher morbidity and required fasilities and good post operative care at tertiary care hospital. Endoscopic treatment also has the value as “touch up” surgery to compliment open airway surgeries. Hence, a successful surgery requires careful evaluation and

understanding of entire airway and decision need to be made with the team.

PLENARY 1

WHAT YOU NEED TO KNOW ABOUT INHALERS AND HOW TO EXPLOIT THE BEST OF THEM

David Price
Observational & Pragmatic Research Institute
Singapore

There is a variety of inhaler devices available today for asthma management. The proliferation of new devices in the market has resulted in a confusing number of choices for healthcare practitioners trying to prescribe the right device for the right patient. Moreover, studies have shown that majority of healthcare practitioners have poor knowledge of the inhaler devices and inhalation techniques.

This presentation covers the different types of devices available – namely pressurised metered dose inhalers (pMDIs), dry-powder inhalers (DPIs), soft mist inhalers (SMIs), and nebulisers – the theory behind how each of these devices work, and the pros and cons of different device types.

Correct use of inhaler devices is also key to effective asthma management but is often challenging for patients. This presentation discusses important study data on real life inhaler device use, such as the CRITical Inhaler mistaKes and Asthma controL (CRITIKAL) study which showed the errors that matter with MDIs and DPIs in relation to asthma control, and a study which showed that patients prescribed the same device are more likely to achieve asthma control and experience lower severe exacerbation rates than those prescribed mixed devices, amongst others.

SYMPOSIUM 1

S1A - Obstructive Airway Disease

APPROACH TO OCCUPATIONAL ASTHMA IN MALAYSIA

Siti Sara Yaacob
Hospital Shah Alam
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). Examples of occupational lung disease are occupational asthma, pneumoconiosis, organic pneumonitis, inhalation fever, lung cancer and others.

Occupational asthma is the most common occupational lung disease in industrialised countries, and the second most common occupational lung disease reported after pneumoconioses in developing countries (Jeebhay, M. & Quirce, S., 2007). A global burden study endorsed by WHO in 2005 found that annual number of deaths worldwide due to occupational lung disease were 38,000 for asthma, 30,000 for pneumoconiosis, 102,000 for lung cancer and 43,000 for malignant mesothelioma

There are two types of asthma related to work; occupational asthma and work aggravated asthma. History taking is very crucial, especially work history in order to come into the diagnosis of occupational asthma. 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 equipments.

While occupational asthma remains under-recognised, especially in developing countries, it remains poorly diagnosed and managed and inadequately compensated worldwide. Prevention and control based of hierarchy of hazard controls are very important. Job modification and relocation are other options available if elimination of the hazard is not possible. Primary and secondary preventive strategies should be directed at controlling workplace exposures,

accompanied by intense educational and managerial improvements. Appropriate treatment remains early removal from exposure to ensure that the worker has no further exposure to the causal agent, with preservation of income. However, it was found that there were workers with occupational asthma continue to remain exposed to the causative agent or suffer prolonged work disruption, discrimination and risk of unemployment

BRONCHIECTASIS IN 2018: EMERGING THERAPIES AND NOVEL PERSPECTIVES

Sanjay Haresh Chotirmall
Nanyang Technological University
Singapore

Bronchiectasis remains one of the most neglected respiratory diseases of modern times. Consequently, no clear definitions or classification exists and little is known about its true prevalence, particularly in Asia where it appears frequently with an aggressive phenotype. Asian prevalence however is described as four times higher than that in both Europe and the Americas (1). The recently published European Guidelines for the Management of Bronchiectasis in adults highlight the limited treatment options available for these patients. There remain no therapies licensed by regulatory agencies worldwide and most therapies used in clinical practice have very limited evidence. There is an urgent need to develop new therapies. In this talk, emerging therapies for bronchiectasis will be discussed in the context of our existing treatment approaches. In addition, novel perspectives on this disease including potential future directions will also be presented.

MANAGEMENT OF CYSTIC FIBROSIS IN ADULTS

Hilmi Lockman
Prince Court Medical Centre
Malaysia

Cystic fibrosis is a multisystem disorder that affects children significantly and with good management and medical advances, some of them live quote well into adulthood. The disease itself is not commonly seen in these shores, is so they are still mainly managed by paediatricians. The transfer of care to adult respiratory service can be challenging as by this time some of these patients would have developed significant respiratory problems and even on the verge of needing lung transplantation.

A multidisciplinary care approach is extremely important in managing and providing such service. Some of the approach are even non-conventional but this can certainly be achieved with dedication and perseverance.

VIRAL PNEUMONIA IN ADULTS - A NEGLECTED AETIOLOGY!

Jamal I-Ching Sam
Universiti Malaya
Malaysia

Viruses cause a significant proportion of respiratory infections, and are routinely tested for in paediatrics. However, respiratory viruses have historically been underdiagnosed in adults, mainly due to lack of diagnostics and awareness. With recent emergence of viral pneumonias caused by SARS-CoV, MERS-CoV and pandemic H1N1, and the increasing availability of highly sensitive and specific molecular tests, there has been more interest in diagnosis of respiratory viruses in adults. With molecular testing, viruses have been detected in up to 30% of adult community-acquired pneumonia, suggesting a heavy burden of morbidity and mortality. This talk will cover the main viral epidemiology of pneumonia and available diagnostic assays.

PULMONARY INFECTION IN HIV PATIENTS

Ploenchan Chetchotisakd
Khon Kaen University
Thailand

From the first descriptions of HIV/AIDS, lung has been the most common site of affected by the disease, mainly of infectious etiology. In developing countries, the most common cause of pulmonary infections in HIV-infected patients is tuberculosis; follow by Pneumocystis pneumonia (PCP) and other opportunistic infections. In developed countries, PCP was the most common cause in the past. However, with the introduction of highly active antiretroviral therapy (HAART) and the current practice of PCP prophylaxis, the most frequent diagnosis of pulmonary infection is bacterial pneumonia, especially pneumococcal infection, the second most frequent is PCP and the third is tuberculosis.

Making diagnosis of pulmonary infections in HIV-infected patients needs meticulous clinical approach, based on clinical manifestations, extra-pulmonary involvement, chest radiographic findings and sputum examination of all possible pathogens. Empirical treatment for PCP might be an option for patients who had progressive dyspnea, non-productive cough, high alveolar-arterial gradients, and bilateral interstitial infiltration. Bronchoscopic examination is needed in patients with no diagnosis and no improvement of initial treatment to make definite pathogen and rule out of co-infection, IRIS and non-infectious diseases condition.

S1C - Sleep Disordered Breathing In Children

TECHNOLOGIES USED IN THE DIAGNOSIS OF SLEEP-DISORDERED BREATHING

Dayang Zuraini Sahadan
Hospital Serdang
Malaysia

Sleep disordered breathing (SDB) describes a family of disorders characterized by frequent partial or complete cessations of breathing during sleep. Childhood SDB has been known to be associated with health and cognitive impacts. In-laboratory diagnostic polysomnography has traditionally been the gold standard for OSA diagnosis, but the high prevalence of disease and the massive number of children at risk of disease cannot reasonably be diagnosed at in-laboratory facilities.

Overnight pulse oximetry can be used to estimate the severity of OSA and helpful in the risk stratification for post adenotonsillectomy complications. Heart rate variability (HRV) and Pulse Rate parameters is a potentially simple, non-invasive diagnostic screening tool for OSAS. The use of new technology to detect respiratory events (without the need for cumbersome and expensive in-laboratory testing) is an important step forward. Home sleep testing provides acceptable diagnostic sensitivity and specificity, although most technologies cannot distinguish wake from sleep, NREM from REM sleep or supine from lateral posture. In Europe, the vast majority of laboratories perform cardio-respiratory polygraphy to diagnose SDB in uncomplicated children.

Watch peripheral arterial tonometry (PAT) is another technology that have recently been developed to facilitate the ambulatory diagnosis of OSA have yielded impressive results compared with the results of PSG. It is a portable wrist-worn OSA diagnostic device that incorporates actigraphy to differentiate between wake and sleep stages and a PAT signal probe that measures arterial volume change in the fingertip that corresponds with sympathetic activation.

Over the years, a vast of new ideas and advances in technology have the potential to reshape the way clinical sleep medicine is practiced.

MANAGEMENT OF COMPLEX OBSTRUCTIVE SLEEP APNOEA

Arthur Teng
Sydney Children's Hospital
Australia

Obstructive Sleep Apnoea (OSA) in children is characterised by the complete or partial closure of the upper airways in sleep that disrupts normal sleep architecture and/or blood gas exchange. This results in a wide array of inter-related problems including negative impacts on cardiovascular and metabolic health, neurocognition and behaviour. Symptoms of sleep-disordered breathing, of which OSA is part of the spectrum, should be part of a routine child-health review and screen. Symptoms include snoring or loud heavy breathing, witnessed apnoeas and increased work of breathing. Daytime symptoms include difficult behaviour, failure to thrive, deficits in attention, concentration and academic underachievement. The clinician should have a low threshold of suspicion in identifying children at high risk of OSA, such as those with neuromuscular disease, craniofacial anomalies, other congenital syndromes and an increasing population of obese children. In "simple OSA" the usual cause is large adenoids and tonsils, with a peak incidence between age 2 and 4 years, coinciding with the relatively small size of the pharynx. The majority of children will improve with adenotonsillectomy. OSA becomes complex in two selected scenarios:

1. The very young infant.

2. The child at inherent high risk of OSA, its complications treatment failure, such as in morbid obesity and Down Syndrome.

The management of complex OSA involves accurate diagnosis, treatment prioritisation, minimisation of complications of treatment, including the risks from anaesthesia, and the recruitment of different modalities of short and long-term respiratory support.

SLEEP DYSFUNCTION IN CHILDREN WITH NEUROMUSCULAR DISEASE

Mariana Daud
Hospital Raja Perempuan Zainab II
Malaysia

Neuromuscular disorders (NMD) in children include a diverse group of diseases with different etiologies. Patients with NMD are particularly vulnerable to sleep-related dysfunction resulting from combination of respiratory muscle weakness and decreased lung and chest wall compliance.

Sleep-disordered breathing (SDB) is a significant cause of morbidity and mortality among patients with neuromuscular disorders.It encompasses obstructive sleep apnea syndrome (OSAS, a disorder characterized by obstructive apneas and hypopneas) , sleep related nocturnal hypercapneic hypoventilation and infrequently central sleep apnea (CSA) in certain NMD. The most common form of SDB in NMD is nocturnal alveolar hypoventilation that typically first develops during Rapid Eye Movement (REM) sleep. This is due to inhibition of major muscles of respiration during REM. Other compounding factors are common associated co-morbidities in NMD patients such as kyphoscoliosis, weak cough reflexes, restrictive lung diseases and impaired central respiratory control.

BEHAVIOURAL SLEEP PROBLEMS IN ADOLESCENCE

Arthur Teng
Sydney Children's Hospital
Australia

Sleep problems are common in children and adolescents, reported to affect between 25 and 40% of that population. If there are coexistent developmental and behavioural problems, this figure is doubled. There is increasing awareness of the important bi-directional role that sleep plays in many physiological processes including physical growth, immune function, neurocognition, emotional regulation and behaviour. Yet there is evidence that sleep times are declining in the youth across different cultures. Already faced with biological disadvantages in regard to sleep, adolescents of today face unprecedented societal challenges in the context of the relentless technological advances that seek to define their generation. The case is presented of a teenage girl with symptoms suggestive of obstructive sleep apnoea. When a full history is obtained, underlying issues that further impact on symptomatology include the following:

1. Circadian rhythm disorder
2. Probable restless legs syndrome and periodic limb movements
3. Poor sleep hygiene
4. Sub-optimally controlled asthma
5. Poor academic performance with features of attention deficit disorder

To provide optimal care, the physician should be equipped with the knowledge of the important role that sleep plays across a range of common respiratory and general paediatric problems. Yet there is global evidence that both undergraduate and post-graduate training in sleep physiology and sleep disorders is not addressing this knowledge gap in the medical curriculum. It is only with the will and knowledge to address these issues that holistic care can be provided to this vulnerable group of children.

SYMPOSIUM 2

S2A - Respiratory Infections: Non TB

MANAGING PULMONARY MANIFESTATIONS OF SYSTEMIC SCLEROSIS

Low Su Ying
Singapore General Hospital
Singapore

Systemic sclerosis (SSc) is a heterogeneous autoimmune disease characterized by vasculopathy and progressive fibrosis with multiorgan involvement. Interstitial lung disease (ILD) & pulmonary arterial hypertension (PAH) are the most common forms of lung involvement, and are leading causes of mortality in SSc. Screening and early detection are important aspects of care and can help improve outcomes.

This talk aims to cover the current investigation strategies and treatment options available for this complex group of patients.

ADDRESSING PSYCHOSOCIAL NEEDS OF PATIENTS WITH RARE LUNG DISEASES

Hatijah Ayob
Malaysia Rare Disorders Society
Malaysia

Patients of Rare Diseases may have different symptoms and treatment but the issues and challenges faced by patients and family are the same especially the psycho-social challenges. Some of them included the following –

a. Parents feel alone to face the challenges

b. Lack of respite care for caregivers.

c. Dealing with feeling of guilt, shame and blame.

d. Dealing with uncertainties – healthcare needs of affected patients

e. Marital problems and sibling issues.

f. Hospice and palliative care issues

g. Health Maintenance – routine care e.g. vaccination, growth development, nutrition.

H. Health surveillance - hearing , sigh, dental, mental, personal hygiene

APPROACH TO CYSTIC LUNG DISEASES

Silvia Puglisi
GB Morgagni Hospital,
*Italy*i

The diffuse cystic lung diseases are a group of entities characterized by the presence of multiple thin-walled, air-filled spaces within the pulmonary parenchyma. Although the mechanisms of cyst formation remain incompletely defined in most cases lung remodeling associated with inflammatory or infiltrative processes results in displacement, destruction, or replacement of alveolar septa, distal airways, and small vessels within the secondary lobules of the lung.

The cystic lung diseases can be classified on the basis of etiology as those caused by low-grade or high-grade metastasizing neoplasms, polyclonal or monoclonal lymphoproliferative disorders, infections, interstitial lung diseases, smoking, and congenital or developmental defects.

S2B - Radiology/Pathology/Molecular Correlation With Lung Disease

IS ASPERGILLUS IMPORTANT IN DEFINING THE ASIAN PHENOTYPES OF RESPIRATORY DISEASE?

Sanjay Haresh Chotirmall
Nanyang Technological University
Singapore

Aspergillus moulds are ubiquitous and their spores inhaled daily in large numbers into the airway. Removed by intact anatomical barriers and an effective immune response, disease occurrence is dictated by the state of the host immune system and the virulence of the infecting fungal strain. Patients with chronic respiratory disease are therefore at risk of acquisition, colonization and infection by this fungus. Using bronchiectasis as a model of disease, this talk will summarize ongoing work performed by our group illustrating the importance of this fungus in the Asian phenotype of bronchiectasis. In an international multi-centre study, including Asians and Europeans; the mycobiome and allergic sensitization state was determined as part of the CAMEB study: a cross-sectional Cohort of Asian and Matched European Bronchiectasis. The bronchiectasis mycobiome is distinct, and characterised by specific-fungal genera including *Aspergillus*, particularly in Asians. High frequencies of *Aspergillus*-associated disease including sensitization and allergic bronchopulmonary aspergillosis (ABPA) were detected each revealing a unique mycobiome 'fingerprint'. High frequencies of sensitization occur and associate with poor clinical outcomes. 'Sensitized-bronchiectasis' is a clinically significant state which can be classified into distinct immunological clusters, some of which are fungal-driven. This represents a potentially 'treatable trait' permitting relevant therapeutic interventions in appropriately selected patients.

HYPERSENSITIVITY PNEUMONITIS

Tengku Saifudin Tengku Ismail
KPJ Tawakal Hospital
Malaysia

Hypersensitivity Pneumonitis (HP) is a complex syndrome caused by exposure to a wide variety of organic particles including fungi, bacteria, animal proteins and low molecular weight chemical compounds small enough to reach the alveoli. In susceptible individuals, these antigens provoke an exaggerated immune response of the small airways and lung parenchyma with or without systemic manifestations such as fever and weight loss.

Exposure and sensitization alone in the absence of symptoms do not define the disease, as many exposed subjects develop an immune response manifested by the presence of serum IGg antibodies to the antigen and often by the presence of large number of lymphocytes in their lungs but never develop lung disease.

PULMONARY ALVEOLAR PROTEINOSIS

Fauzi Mohd Anshar
Prince Court Medical Centre
Malaysia

Pulmonary alveolar Proteinosis (PAP) is a diffuse lung disease due to accumulation of lipoproteinaceous material in distal air spaces. The lung architecture is preserved and this condition doesn't cause any pneumonitis. The pathogenesis is related to granulocyte-macrophage colony-stimulating factor (GM-CSF) dysfunction or reduction in its production and/or dysfunction in surfactant. Typical age of presentation is 40-50 years old with male preponderance and in smokers who have autoimmune PAP. A third of patients are asymptomatic; the commonest symptoms are insidious dyspnoea on exertion and cough. Chest examination is typically normal although crepitations and finger clubbing may be found. Chest x-ray usually shows bilateral symmetrical alveolar opacities in mid and lower zones with bats' wings distribution. High resolution CT thorax is preferred, revealing homogenous ground-glass opacities termed "crazy-paving". The pattern is not pathognomonic of PAP. A reduced diffusing capacity in carbon monoxide is found on lung function testing and may or may not be accompanied by a decrease in forced vital capacity and restrictive lung pattern. Bronchoscopy and lavage can help diagnose the problem. An anti-GM-CSF antibody titre and lung biopsy may aid making the diagnosis. Treatment depends on disease severity. Mild cases are managed conservatively whereas moderate to severe cases are treated with whole lung lavages. Long term prognosis has not been well described.

S2B - Childhood Interstitial Lung Disease

HAS THIS CHILD GOT CHILDHOOD INTERSTITIAL LUNG DISEASE?

Adam Jaffe
Sydney Children's Hospital
Australia

Childhood interstitial lung disease in children (chILD) is a heterogenous group of rare chronic respiratory disorders, most prevalent in early infancy. They are often not diagnosed because the presentations are varied and non-specific. Because the interstitium is not always involved, the term diffuse lung disease is often used. The causes are multifactorial and include genetic, developmental, inflammatory and infectious determinants. The more common causes of diffuse lung disease such as cystic fibrosis, primary ciliary dyskinesia, immunodeficiency, congenital heart disease and recurrent aspiration should be excluded initially1. chILD syndrome is typically characterized by, tachypnoea, dyspnoea, crackles, hypoxaemia and failure to thrive. Further investigations to confirm a specific chILD diagnosis include HRCT of the chest, flexible bronchoscopy and lavage and lung biopsy. Neuro-endocrine hyperplasia of infancy has typical HRCT findings. Genetic testing for surfactant genes SFTPB, SFTPC, and ABCA3 should be considered, particularly in rapoidly deteriorating neonates although the presentations do vary in severity. In the presence of hypothyroidism and hypotonia, genetic testing for NKX2.1 (thyroid transcription factor) mutations or deletions should be undertaken. Despite this approach, many children remain undiagnosed. Future next generation genetic testing as well as multidisciplinary international collaboration will likely lead to an improved diagnostic yield.

CHILD - WHAT THE RADIOLOGIST CAN OFFERED TO PULMONOLOGIST?

Faizah Mohd Zaki
Hospital Canselor Tunku Mukhriz
University Kebangsaan Malaysia Medical Centre
Malaysia

Childhood Interstitial lung disease (chILD) is a rare disease entity but results in significant morbidity and mortality. Like some other pathologies in children, the variety of lung pathologic conditions which are unique to children as compared to adults results in different spectrum of radiological pattern which is challenging to radiologist. This lecture will discuss briefly on the classification of chILD based on the updated child Research Network classification system 2013 which has helped in the radiologic diagnosis of chILD. In the nutshell, chILD is best classified by age of presentation from infancy (diffuse developmental disorders, lung growth abnormalities, specific conditions of unknown origin, surfactant dysfunction mutations) to later childhood (disorders of the normal host, disorders related to systemic disease processes, disorders related to immunocompromise). Understanding the secondary lobular anatomy in interpretation of thin-section computed tomographic images is important to comprehend the radiological patterns of ILD and help to narrow down the differential diagnosis. We will also discuss the pitfalls in imaging children with suspected chILD and last but not least, highlight the issue of radiation protection in imaging this group of patients.

MANAGEMENT OF CHILD – ARE THERE ANY RECENT ADVANCES?

Adam Jaffe
Sydney Children's Hospital
Australia

The management of chILD includes excluding treatable conditions which cause diffuse lung disease. The most recent diagnostic advances have been the development of next generation sequencing, either using whole exomes or whole genomes which have increased the genetic diagnostic yield in patients who have interstitial lung disease as a manifestation of an underlying disorder, such as an immunological or inflammatory systemic disorder. Multidisciplinary peer review helps with the clinical assessment of chILD. Supportive therapy includes ensuring adequate nutrition, respiratory support and prevention of infection. Given the rarity of chILD, no controlled trials of therapeutic interventions exist. Clinical expertise and choice of specific treatment options come from case series publications to ascertain the natural history of chILD diseases and response to therapy. These include the use of systemic corticosteroids, hydroxychloroquine and azithromycin and, less frequently, other immunosuppressive therapies. A Delphi consensus process undertaken by chILD-EU attempted to harmonise treatment protocols and set physiological parameters to define a treatment response[1]. The first prospective placebo-controlled study of hydroxychloroquine is currently underway in Europe.

SYMPOSIUM 3

S3A – Sleep-Disordered Breathing

CURRENT EVIDENCE OF OSA AND PREGNANCY

Naricha Chirakalwasan

Pregnancy is associated with weight gain, fluid retention, and upper airway edema which may predispose patients to an increased risk of developing maternal sleep-disordered breathing (SDB) primarily OSA. Among prospective studies using sleep recordings with EEG (level 1 or 2), OSA prevalence estimates ranged between 17% and 45%. Standard in-lab polysomnography is a gold standard since inspiratory flow limitation may be primarily respiratory events. Maternal OSA is also associated with hypertensive disorders of pregnancy, gestational diabetes mellitus, and an increased risk of preterm birth. There are various treatments for OSA including continuous positive airway pressure (CPAP), oral and dental appliances (eg, dental arches to reposition the mandible), and surgery (eg uvulopalatopharyngoplasty). CPAP is usually the first line treatment for OSA. However, auto adjusting PAP (or APAP) also recently gained more supportive evidence.

PREOPERATIVE EVALUATION AND MANAGEMENT IN OSA

Naricha Chirakalwasan

OSA prevalence in general population is ranging between 24% in men and 9% in women. Questionnaire such as STOP-Bang can be used as screening tool during preoperative evaluation. OSA is known to increase postoperative complications particularly pulmonary and cardiac complications. Preoperative, perioperative, and postoperative management of OSA are important in order to improve outcome. Preoperative management includes the use of continuous positive airway pressure (CPAP) prior to surgery. Perioperative management includes preference of local anesthesia or peripheral nerve blocks when applicable, secure airway if general anesthesia warrants, and extubation after complete reversal of neuromuscular blockage. Post operative management include avoidance of systemic opioids, non-supine position, and continuous pulse oximetry monitoring during recovery.

S3B – Rehabilitation and Chronic Care

IS COMMUNITY-BASED PULMONARY REHABILITATION FEASIBLE?

Saari Mohamad Yatim
Ministry of Health
Hospital Serdang
Malaysia

Pulmonary rehabilitation is an evidence-based, multidisciplinary and comprehensive intervention for patients with chronic lung disease who are symptomatic, and often have decreased daily life activities. The aims of pulmonary rehabilitation are to reduce the symptoms and disability for people with lung disease with the overall goal of optimizing their functional status. Pulmonary rehabilitation plays an essential role in the management of individuals with COPD. Worldwide, COPD is a common and costly disease, and the burden associated with this disease is projected to rise as a result of the ageing population. The benefits include a decrease in symptoms (dyspnoea and fatigue) and improvements in exercise tolerance and health-related quality of life (HRQoL).

Pulmonary rehabilitation programs (PRPs) are most commonly provided in hospital settings which present barriers to attendance such as long distances or travel times. However, these programs may have limited availability due to the high costs, or funding and referral restrictions. Community-based settings include in primary healthcare clinic, home-based or non-healthcare facilities have been used in an attempt to alleviate the travel burden. PRP based in a hospital outpatient physiotherapy department has been reported program uptake and completion rates of 49% and 73%, respectively, with transport difficulties and medical problems being important barriers to attendance.

Offering a PRP in a community-based non healthcare setting may be a strategy to increase availability and alleviate the travel burden, and thereby improve uptake and completion. Studies have shown that pulmonary rehabilitation is safe, feasible and effective when conducted with clear guidelines in non-healthcare facilities. Planning for service delivery should consider community-based pulmonary rehabilitation in non-healthcare facilities to compliment hospital-based service and improve availability for individuals with chronic

respiratory diseases who are likely to benefit.

NUTRITION IN CHRONIC LUNG DISEASES

Poh Kai Ling
Universiti Malaya Medical Centre
Malaysia

Patients with chronic lung diseases always suffered from chronic cough, excessive mucous production, wheezing, shortness of breath, tightness in the chest, and a decrease in exercise capacity. Due to this added effort in breathing, patients with chronic lung diseases often have higher resting energy expenditure (REE) due to the disease conditions. In addition to increased REE, many patients lose weight due to decreased dietary intake as a result of an inherent inability to eat rather than a lack of appetite.

Weight loss in chronic lung disease patients is a consequence of increased energy requirements unbalanced by dietary intake. The majority of the patients with chronic lung diseases have high risk of getting malnourished or undernourished state. Malnutrition can impair pulmonary function, increase susceptibility to infection, lower exercise capacity, and increase the risk for mortality and morbidity. Therefore, it is very important to ensure patients are well nourished by incorporating nutrition therapy in order to improve patients' nutritional status.

The purpose of nutrition care for this population is to provide adequate energy to minimize the risk of unwanted weight loss, avoid loss of fat-free mass (FFM), prevent malnutrition, and improve pulmonary status. This symposium discusses the role of nutritional supplement therapy in the treatment of chronic lung diseases. Apart from that, nutritional advises and nutrition tips to nourish this population will also be discussed further.

COMMUNICATION IN END-OF-LIFE CARE FOR PATIENTS WITH CHRONIC LUNG DISEASES

Richard Lim Boon Leong
Hospital Selayang
Malaysia

Patients with chronic lung disease are not unlike any other patients with life-limiting illnesses. While the trajectory and the prognosis of these patients is indeed longer than patients suffering from conditions such as lung cancer, there are indeed indicators that may suggest when a patient may be facing the terminal phase of their illness. Since the late 1970s, in the United States, families of patients had begun to challenge paternalistic practices in medicine and had begun to demand for the right to refuse futile or distressing life-prolonging therapies. With that came the concepts of advance care planning and patient self-determination. In patients with chronic lung disease, when the likelihood of a fatal exacerbation of respiratory failure becomes more apparent, it would be prudent to initiate honest discussions with patients and their families to determine what the patient's values and preferences for care at the end of life would be. Having such discussions early have proven in some cases to be useful in order to assist difficult decision making and to reduce the burden of surrogate decision making among the family members.

Such discussions however do require an element of tact and empathy in order to ensure patients do not perceive such discussions as a sign of abandonment. While many clinicians shy away from such discussions for fear of causing distress and depression to patients and their families, evidence suggests that patients and families actually welcome discussions on prognosis and advance care planning. It is also seen that patients who make their preferences for care at the end of life known to their doctors tend to receive better overall care at the end of life. Therefore it is important for clinicians to know how to communicate these end of life issues to patients with chronic lung disease.

S3C – Respiratory Disease in Primary Care 1

SNORING ADULTS

Ahmad Izuanuddin Ismail
Universiti Teknologi Mara (UiTM)
Malaysia

Snoring occur because of the vibrations in pharynx during sleep as the muscles relax. It is more common in men, occurring more frequently in the middle age group, whilst being overweight increases the risk of snoring. For a lot of families, snoring is a big problem. Often, the snorer has to sleep alone in another room. It also has a strong link to sleep apnoea, which poses multiple cardiometabolic consequences. During my talk, I shall focus on the approach and management to snoring adults especially when to refer such cases to appropriate specialists.

MANAGEMENT OF (PAEDIATRIC) MILD ASTHMA

Ahmad Fadzil Abdullah
Fellow of Paediatric Respiratory (MMC, Australia)

Mild asthma includes intermittent asthma, mild persistent asthma and infrequent episodic asthma. This group of asthma patients contribute more that 60 percent of total asthmatic patients. By it sheer numbers it create quite a burden to the health system in any country. Majority of these patients were treated by the general practitioner and the primary health care team mainly due to the infrequent of the asthmatic attack in this group of patients. However these patients also contribute significant number of cases that were admitted to hospital.

Management of this patients are to gain a good control and that include minimal symptoms at daytime , no symptom at night time, no exercise induce symptoms, minimal use of B2 agonist and no acute exacerbation. Management include trigger factors avoidance, intermittent use B2 agonist or prescribing preventer medication when necessary. The preventer includes the ICS or LRA. Other options such as short use of ICS were also explore.

TB OR NOT TB -ACTIVE OR NOT ACTIVE

Aziah Ahmad Mahayiddin
Perdana University Royal College of Surgeon of Ireland

Tuberculosis (TB) is well known for its ability to masquerade as other infectious diseases. Conditions with a presentation that may resemble pulmonary TB include pulmonary fungal infections,other bacterial infections, atypical mycobacterium infections and lung malignancy. Prompt diagnosis of active pulmonary TB is a priority for TB control, both for treating the individual and for public health intervention to reduce further spread in the community. People suspected of having TB should be referred for appropriate medical evaluation to ensure rapid appropriate treatment. An early and accurate diagnosis of pulmonary TB should be established by using chest X-ray, sputum microscopy, culture in both liquid and solid media, and if necessary nucleic acid amplification. Chest computed tomography, histopathological examination of biopsy samples, and new molecular diagnostic tests can be used for earlier and improved diagnoses, especially in patients with smear-negative pulmonary TB or clinically-diagnosed TB.In clinical practice, early pulmonary TB detection continues to be challenging. Chest X-ray is the primary radiologic evaluation of suspected or proven pulmonary TB. Radiological presentation of TB may be variable but in many cases is quite characteristic, but can be normal even in active disease and post-primary disease activity cannot be accurately assessed by chest radiography. Chest CT is an effective diagnostic method when plain films are normal or inconclusive, and is quite helpful in assessing activity. Direct sputum smear microscopy is the most widely used method for diagnosing pulmonary TB. Guideline for TB recommends that presumptive TB patients should have multiple sputum samples, in settings with appropriate external quality assurance and documented high-quality microscopy. Liquid systems are more sensitive for detecting mycobacterium and may increase the case yield by 10% over solid media. With increased sensitivity and reduced delays, liquid systems may contribute significantly to improved patient management. NAA tests can rapidly confirm TB diagnosis and distinguish *M. tuberculosis* from NTM in a sputum smear-positive person. The Xpert MTB/RIF assay is a novel, rapid, automated, and cartridge-based NAA test that can detect TB along with rifampicin resistance directly from sputum within 2 hours of collection,

this test may be valuable as an add-on test following smear microscopy in patients previously found to be smear-negative.

SUNRISE SESSION

ACUTE EXACERBATION OF IPF

Silvia Puglisi
GB Morgagni Hospital,
Italy

The natural history of IPF is heterogeneous with an impredicatble course: dmost patients follow a slowly progressive clinical course after diagnosis, while a significant minority experience episodes of acute respiratory worsening, namely acute exacerbations (AEs) [2]. AE-IPF attracts attention because of its prognostic impact and its inability to be predicted or prevented. The definition and diagnostic criteria for acute exacerbation of idiopathic pulmonary fibrosis (AE-IPF) have been recently updated. The new criteria require a previous or concurrent diagnosis of IPF, an acute worsening or development of dyspnoea typically less than 1 month in duration, chest imaging evidence on computed tomography (CT) of new bilateral ground-glass opacity and/or consolidation superimposed on a background imaging pattern of usual interstitial pneumonia not fully explained by cardiac failure or fluid overload. Few studies are present in literature concerning the AEIPF treatment.

PLENARY 2

CHRONIC LUNG DISEASE: THE MALAYSIAN JOURNEY FROM INFANCY TO ADULTHOOD

Norzila Mohamed Zainudin
Hospital Kuala Lumpur
Malaysia

Bronchopulmonary dysplasia is the commonest cause of chronic lung disease in infancy. It evolves after premature birth and respiratory distress syndrome due to surfactant deficiency. Other risks factors are mechanical ventilation, barotrauma and oxygen toxicity. These factors may cause the imbalance production of pro and anti-inflammatory cytokines, which activates the death cell pathway. These resulted in healing (resolution of the injury) or lung repair
There is significant pulmonary morbidity associated with BPD. High resolution CT scans in survivors of BPD shows persistent radiological abnormalities with structural changes. Survivors of BPD continue to have respiratory morbidity requiring medications into adulthood. These children continue to have recurrent admissions for respiratory symptoms in the first two years of life. They may continue to have asthma like symptoms that are less likely to respond to bronchodilators. Lung function abnormalities persist into adulthood with evidence of airway obstruction.

Other common forms of chronic lung disease that can develop beyond infancy are post infectious bronchiolitis (BO) and bronchiectasis.

Post-infectious BO is a severe respiratory disorder following lower respiratory tract infection among infants and young children. Common organisms are Adenovirus, measles virus, Influenza and Parainfluenza. Initially, these patients present with symptoms that do not differ from severe bronchiolitis. BO is clinically characterized by tachypnoea, hyperinflation, crepitations, wheezing and hypoxaemia for at least 30 days after the initial injury. Pulmonary function shows severe and fixed airway obstruction. High-resolution chest CT scan shows characteristic mosaic patterns and bronchiectasis. A 12-year follow-up study of pulmonary function showed severely impaired pulmonary function with an obstructive pattern with severe air trapping.
The clinical presentation of bronchiectasis in children is similar around the world. Usually the

clinical presentation is recurrent pneumonia and chronic cough. Post infectious is a common cause particularly tuberculosis in this part of the world. Other causes are underlying immunodeficiency syndromes and aspiration syndromes. Although less common than in the western world, Cystic fibrosis has been diagnosed in children with bronchiectasis.

The management of these children requires a multidisciplinary approach consisting of pediatric pulmonologist, physiotherapist, dietitian and social worker. Depending on the underlying aetiology of the disease, these children may require other forms of support such as chemo port for long term or recurrent antibiotics prescriptions, gastrostomy care for nutritional support, long term oxygen and ventilatory support. These children will be closely follow up till they reached 18 years old before they will be transferred to the adult pulmonologist.

SYMPOSIUM 4

S4A – Non-invasive ventilation

NIV IN PATIENTS WITH NEUROMUSCULAR DISORDERS

Naricha Chirakalwasan

NIV is considered as one of the important management of neuromuscular disorders. The early introduction of NIV was found to have positive effects on patients' outcome. In general, NIV settings are set empirically during wakefulness. However, sleep study preferably with CO2 monitoring will confirm the optimal NIV settings during sleep in these patients. Sleep study is also an important tool to diagnose sleep-related breathing disorders which can be observed in patients with neuromuscular disorders including obstructive sleep apnea, sleep-related hypoventilation, central sleep apnea/pseudocentral sleep apnea, and periodic breathing and Cheyne-Stokes Breathing (CSB).

HOME NIV POST-COPD EXACERBATION

Norhaya Mohd Razali
Hospital Sultanah Nur Zahirah
Malaysia

The role of positive pressure NIV as first-line therapy in patients with hypercapnic respiratory failure due to acute exacerbation of COPD has been well established. In these situations, patients who do not have contraindications to NIV are usually managed in the high dependency wards (HDW) or intensive care units (ICU). Non-invasive ventilation reduces the need for intubation, mortality, complications, and length of stay in patients with COPD complicated by respiratory failure.[1,2] However, after discharge, these patients has poor outcomes and there are few treatments to prevent readmission and death.

The question lies whether the addition of home mechanical NIV (HMV) to home oxygen therapy (HOT) confer any benefit. Does HMV prolong time to readmission or deaths in these patients ? Over the last two decades, the indication for HMV in the subgroup of COPD patients with stable chronic hypercapnic COPD has been a controversial.[3] An online survey of physicians involved in the provision of HMV revealed that COPD patients on HMV had a reduction in hospital admission and better quality of life.[4] Choosing the suitable COPD patients for HMV is essential and studies has shown that patients with severe and persistent hypercapnia appears to benefit more from HMV.[3] The utilisation of optimal standard care treatment for example a well organised rehabilitation program can further enhance the positive outcomes that are associated with HMV.[5]

S4B – Interventional Pulmonology

BRONCHIAL THERMOPLASTY

Jamalul Azizi Abdul Rahaman
Ministry of Health
Hospital Serdang
Malaysian Association for Bronchology & Interventional Pulmonology
Malaysia

The classification of "severe asthma" refers to patients who require high dose inhaled corticosteroid or continuous or near continuous oral corticosteroid to maintain asthma control. Severe persistent asthma is common in Asia-Pacific and some patients remain symptomatic despite maximal medical treatment. Therefore, additional therapeutic options are needed beyond pharmacological therapy.

Bronchial thermoplasty (BT) is a technique of applying heat (via a device that delivers localized controlled radiofrequency energy) to the airways during bronchoscopy. The idea was based on a ‘proof of concept’ study in canine model in 2004 that showed that BT led to reduction in the airway smooth muscle mass and airway hyperresponsiveness associated with asthma. This paved the way for 3 human studies in 2006 and 2007. These preliminary studies were followed by the pivotal AIR2 trial in 2010 and AIR2 Extension study leading to the procedure being approved by the FDA on April 2010 for treatment of severe persistent asthma. The procedure typically entails three separate bronchoscopies under moderate sedation or general anaesthesia about three weeks apart. All accessible airways distal to the main carina that are 3 to 10 mm in diameter are treated once, except those in the right middle lobe, which are left untreated. The details of the AIR2 trial and AIR2 Extension study will be presented in my talk.The classification of "severe asthma" refers to patients who require high dose inhaled corticosteroid or continuous or near continuous oral corticosteroid to maintain asthma control. Severe persistent asthma is common in Asia-Pacific and some patients remain symptomatic despite maximal medical treatment. Therefore, additional therapeutic options are needed beyond pharmacological therapy.

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airway smooth muscle mass and airway hyperresponsiveness associated with asthma. This paved the way for 3 human studies in 2006 and 2007. These preliminary studies were followed by the pivotal AIR2 trial in 2010 and AIR2 Extension study leading to the procedure being approved by the FDA on April 2010 for treatment of severe persistent asthma. The procedure typically entails three separate bronchoscopies under moderate sedation or general anaesthesia about three weeks apart. All accessible airways distal to the main carina that are 3 to 10 mm in diameter are treated once, except those in the right middle lobe, which are left untreated. The details of the AIR2 trial and AIR2 Extension study will be presented in my talk.

So far, we know that BT is effective in carefully selected adult patients with moderate to severe asthma in reducing the frequency of exacerbations, reducing days lost from school or work, improving asthma-related quality of life and reducing medication needs. We also know that BT effects are sustained for at least 5 years, if not more. BT is also associated with short-term increase in asthma-related symptoms in the immediate post-procedure period.

However, there are some unknown and unmet needs that require further studies. The exact mechanism is still poorly understood beyond the mechanical effect on the airway smooth muscle. The airway smooth muscle is not a mechanical bystander in the lungs. There's a big push towards phenotyping asthma and precision medicine and we are still unclear as to whom we should offer this procedure. The safety effects beyond 5 years are still unknown. It's also unclear whether we should offer BT to asthmatics with poor FEV_1, on high dose maintenance oral steroids, very frequent exacerbations and history of life-threatening asthma.

Several international asthma guidelines and respiratory societies such as ACCP, GINA, ATS/ERS, BTS and most recently the Malaysian CPG on the management of asthma in adults have made statements with regards to BT. Although these guidelines and societies differ in the fine details, the overarching consensus is BT is a possible treatment option. The Health Technology Assessment Unit (HTA), Ministry of Health Malaysia had also analysed all the evidences and concluded that there's a role for BT in difficult to control asthma although the evidences are limited to 5 years.

In conclusion, BT is a viable treatment option for patients with difficult to control asthma that is inadequately controlled with high dose inhaled steroids and long acting bronchodilator. However, the diagnosis of severe asthma should be confirmed and other causes of 'lack of control' evaluated (asthma mimics, co-morbidities, inhaler technique etc). BT should be

performed at centres with expertise in asthma management and complex bronchoscopy. Additional studies are needed to establish accurate phenotyping of positive responders.

ENDOSCOPIC LUNG VOLUME REDUCTION PROCEDURES

Lee Pyng
National University of Singapore
Singapore

Chronic Obstructive Pulmonary Disease (COPD) is a major cause of mortality and morbidity worldwide, and is the 4th leading cause of death. Tobacco smoking accounts for 80-90% of COPD with more than 2 million people in the United States afflicted with emphysema. Although an overall decline in tobacco smoking is apparent in the West, smoking prevalence rates in Asian countries continue to rise. It is estimated that the number of COPD cases in Asia exceeds three times the total number of COPD cases for the rest of the world. Inhaled cigarette smoke and other noxious particles cause lung inflammation, a normal response that is amplified in patients who develop COPD. Airway inflammation and loss of elastic recoil from lung parenchyma destruction cause airflow limitation in COPD, resulting in premature closure of small airways, air-trapping and hyperinflation. Hyperinflation impairs exercise tolerance as it forces the respiratory muscles to operate at mechanical disadvantage, and flattening of the diaphragm further affects its effectiveness for a given neural stimulus. Medical treatment of emphysema offers symptom palliation but does not halt disease progression. Smoking cessation, oxygen therapy and lung volume reduction surgery (LVRS) have shown to impact mortality. The National Emphysema Treatment Trial (NETT), a randomized controlled study involving 17 centers in North America showed distinct survival advantage in the group with predominantly upper lobe disease (PULD) and low baseline exercise tolerance over medical treatment. More than half suffered cardiopulmonary complications within 30 days of LVRS, and 90 day mortality ranged between 5 to 10%. This led to the conclusion that LVRS impacted on a small group of patients, costly, irreversible and associated with high morbidity and mortality. Endoscopic approaches have been developed to reproduce the effects of LVRS: 1) valves that allow unidirectional airflow in exhalation to collapse target lung lobe, 2) biologic lung volume reduction with biodegradable gel into bronchi, 3) creation of airway bypass tracts, 4) coils, and 5) thermal vapor ablation.

In this lecture different techniques will be presented with appropriate patient selection criteria and algorithm to assist physicians

NOVEL APPROACH TO LUNG NODULE

Tie Siew Teck
Sarawak General Hospital
Sarawak

Pulmonary nodule is defines a rounded opacity, well or poorly defined, measuring up to 3 cm in diameter, mostly surrounded by aereated lung without other abnormalities in the lung[1]. One of the major differential diagnosis of pulmonary nodule is lung cancer. Pulmonary nodule is very commonly encountered in clinical practice. This is due to the increasing yield of CT thorax and an enthusim in the medical community to detect lung cancer at early stage.

However biopsy of pulmonary nodule remains a challenge. The yield using conventional bronchoscopy for the diagnosis of pulmonary nodule can be as low as 15%[2]. Computer Tomography guided Transthoracic Needle Aspiration (CT-TTNA) of the pulmoanry nodule has a high yield of 90% or greater, however it is limited by high pneumothorax rate of 15-20.5%[2]. It is also of limited usefullness in dealing with non-solid PPL as obtaining histology can be more difficult.

The advancement of technology in the past decade has led to development of image-guided bronchoscopy in dealing with pulmonary nodule. This includes radial endobronchial ultrasound probe with guide sheath (R-EBUS-GS) bronchoscopy, Virtual Bronchoscopic Navigation, Electromagnatic Navigational Bronchoscopy, Ultrathin Bronchoscope and others. To date, many studies has demonstated supriority of this techinique compare to conventional bronchosopy[2,3,]. When compare to CT guided biopsy, R-EBUS-GS bronchosocpy has much lower complication esp pneumothorax.

In this lecture, the author will discuss some of these novel image-guided bronchoscopy approaches for peripheral lung nodule including Radial EBUS-GS, Navigational bronchoscopy and others. The author will also presents his institution experience in using these appraoches in the diagnosis of peripheral lung nodule.

S4C - Recurrent Wheezing In Children

I HAVE A CHILD WITH RECURRENT WHEEZE - WHAT SHALL I DO?

Rus Anida Awang
Hospital Pulau Pinang
Malaysia

Wheeze is the end result of narrowing of intrathoracic airways and expiratory flow limitation irrespective of the underlying mechanism. It may be either a benign, self-limited process or the presenting symptom of a significant respiratory disease. It is a common symptom and sign in infants and preschool children whereby 10-15% of infants wheeze during the first year of life, 1 in 3 children has at least one episode of wheezing prior to their 3rd birthday and prevalence of wheeze is almost 50% at the age of 6 years.

Most children with recurrent wheezing are very likely to have asthma, regardless of the age of onset, evidence of atopic disease, precipitating causes, or frequency of wheezing. Clinical features that suggest a diagnosis other than asthma are poor response to asthma medications (bronchiolitis obliterans), a history of neonatal or perinatal respiratory problems and wheezing since birth (congenital abnormality e.g tracheobronchomalacia), wheezing associated with feeding or vomiting (aspiration due to gastro-oesophageal reflux, trachea-oesophageal fistula or impaired swallowing), and a history of choking, especially with associated coughing or shortness of breath (foreign body aspiration).

Once the presence of wheezing is confirm, two important aspects of the medical history include the patient's age at the onset of wheezing and the course of onset (acute versus gradual). Certain clinical features favour the diagnosis of asthma or suggest another diagnosis. General examination of a wheezy child should include measurement of weight and height looking for failure to thrive; vital signs including oxygen saturation; digital inspection for the presence of clubbing (chronic hypoxia or chronic suppurative lung disease); a complete chest examination; cardiac, skin, and nasal examinations. Clinical history and physical examination often allow accurate diagnosis to be made.

Further investigations will depend on what are the most likely diagnosis being entertained. A therapeutic trial of bronchodilators is appropriate to evaluate for reversible airway obstruction. Most patients who respond will have asthma. However, a bronchodilator response can also be

seen with other conditions that may lead to inflammation and bronchoconstriction, such as bronchopulmonary dysplasia [BPD], cystic fibrosis [CF], and aspiration. Radiographic examination, pulmonary function testing (PFT), bronchoscopy, sweat chloride concentration, and selective laboratory studies are helpful tools in establishing the underlying aetiologies of wheezing when used appropriately. The treatment should focus on the underlying diagnosis rather than giving symptomatic treatment.

VIRUS INFECTIONS AND RECURRENT WHEEZING: IS THERE A LINK?

Jessie Anne De Bruyne
University Malaya Medical Centre
Malaysia

Wheezing is a common problem in young children. Viral infections are implicated in many of these wheezing episodes and some of these children go on to have recurrent wheeze. These viral infections may trigger both a predisposition to recurrent wheezing and also individual wheezy episodes.

Acute bronchiolitis of infancy, caused by the respiratory syncytial virus (RSV) and other viruses, is strongly associated with subsequent recurrent wheezing. However, severe bronchiolitis is more commonly seen in babies who already have underlying abnormal lung function. This chicken and egg situation is not as yet unravelled.

Pre-existing host factors such as genetic background, gestational age, airway size and immune system characteristics including atopic predisposition together with environmental factors like cigarette smoke exposure influence the response to the viral infection. The viral infection itself alters the host milieu further pointing the host towards or away from the direction of recurrent wheezing. RSV is the commonest cause of bronchiolitis but the rhinovirus is more closely linked with obstructive airway disfunction and subsequent wheeze as well as precipitating exacerbations in asthmatic patients. Co-infection with other viruses and/or bacteria may also affect the illness.

Research is also hampered by the varying terminology for and interpretation of bronchiolitis, asthma and recurrent wheezing.

Prevention of recurrent wheezing or even asthma by immunisation and treating viral infections with various pharmaceutical agents has long been studied with varying outcomes - no one method has emerged as a panacea. Instead, management involves assessing the individual child and managing appropriately.

LONG-TERM SEQUELAE - WHO ARE AT RISK?

Alison Ting Yih Hua
Timberland Medical Centre
Malaysia

Wheeze is a symptom most often associated with asthma. However wheezing can be a common complaint and management requires a knowledge of a wide and often age dependent, differential diagnosis. Often, the younger the child, the wider the differential diagnosis. A detailed, focused history and examination is essential, not only to guide management but also provide possible clues to underlying aetiology and associated risk factors to determine prognosis.

Early childhood wheezing appears to be a complicated condition with various pathophysiological mechanisms. A significant percentage of children with preschool wheeze may have persistent asthma in later childhood. Assessment of risk factors may provide a reasonable assessment of prognosis. Some risk factors for persistence of wheezing include maternal smoking during pregnancy and severity of the wheezing episodes. A genetic predisposition, the age at presentation, viral infections, recurrent chest infections, atopic constitution, family history of atopy represent some of the other identified risk factors for persistence. For some patients, deficits in lung function may persist until adulthood. Prognostic features together with clinical disease severity may guide long term clinical management.

THE DILEMMAS IN THE TREATMENT OF RECURRENT WHEEZERS

Adam Jaffe
Sydney Children's Hospital
Australia

The management of recurrent wheezing, particularly in preschool children is challenging. The term wheeze does not exist in languages other than English and parents often misinterpret other airway noises as wheeze if asked directly. It is important to rule out other causes of wheezing including cystic fibrosis, recurrent aspiration and structural problems such as a vascular ring or tracheomalacia. Nomenclature results in confusion, particularly in parents of pre-schoolers; some guidelines refer to recurrent asthma and others to recurrent wheeze (or viral induced wheeze in those where viruses are the only causative factor). Other dilemmas include ascertaining the triggers, defining the appropriate wheeze phenotype and formulating an appropriate treatment plan. Environmental exposure to triggers should be avoided, however many families often refuse to give up the family pet to which the child is allergic, often preferring the child to be on inhaled steroids. The pharmaceutical treatment dilemma is whether to manage the acute episodes pre-emptively with either a leukotriene receptor antagonist or inhaled steroids or to commence a regular preventer. The dilemma is balancing the risks of adverse effects from steroids against the risks of further wheezing episodes and potential airway remodeling. At present no treatment is able to modify the development of asthma; various approaches are underway to investigate the use of immunomodulation to both prevent the onset and to treat recurrent wheeze. Ultimately, better phenotyping and genotyping of patients will help overcome many of these dilemmas.

S5B - Pleural Diseases

APPROACH TO PERSISTENT AIR LEAK IN PNEUMOTHORAX

Lee Pyng
National University of Singapore
Singapore

A persistent air leak (PAL) is defined as an air leak that persists for greater than 5-7 days. It can be caused by alveolar-pleural fistula (APF) or bronchopleural fistula (BPF). Post-operative PAL is most common, but it can occur after spontaneous pneumothorax due to underlying lung disease. APF is communication between the alveoli and the pleural while BPF is communication between bronchus and pleura. Mortality associated with BPF ranges from 16-72%, and reported incidence is 1.5-28% following pneumonectomy and 0.5% after lobectomy. Management of symptomatic spontaneous pneumothorax includes chest drain insertion, and if the air leak continues beyond 5 days, surgical evaluation is recommended. In patients where surgery is contraindicated, or refuse surgery, bronchoscopic treatment options are entertained. Successful bronchoscopic treatment of BPF is dependent on visualizing the defect and proving that occlusion of affected segment decreases or stops the air leak. Different materials have been instilled into the affected bronchial segment such as ethanol, silver nitrate, polyethylene glycol, fibrin or tissue glue, cellulose, gel foam, watanabe spigots, endobronchial valves, coils, stents and autologous blood. Each has own limitations and reported success rates vary widely. Notably no randomized controlled trials have been performed to determine which therapeutic option is the most effective, safe or cost-effective. This has resoluted in expert consensus regarding best practice. In this lecture, I will focus on endoscopic valves and autologous blood patch in the management of persistent air-leak

UNEXPLAINED PLEURAL EFFUSION - DIAGNOSTIC APPROACH

Rosmadi Ismail
Hospital Serdang
Malaysia

Pleural effusions are common and may be caused by a variety of underlying illnesses. The etiology of pleural effusion remains unclear in up to 20% of these patients. Thorough history and physical examination may provide clues to etiology and provides a measure of patients' disability. Chest radiography is vital early investigations in the diagnosis of pleural effusions. Thoracentesis should be performed for new and unexplained pleural effusions. Laboratory testing helps to distinguish pleural fluid transudate from an exudate. The diagnostic evaluation of pleural effusion includes biochemical and microbiological studies, cell count, as well as cytological analysis, which can provide further information about the etiology of the disease process. Thoracic ultrasound and computed tomography scan offer valuable information in diagnosis and assist in the management of unexplained pleural effusion. Pleural biopsy either with Abrams needle 'blind' technique or through image-guided needle biopsy may be required for diagnosis if the initial test results are inconclusive. The gold standard for diagnosis of exudative pleural effusion is thoracoscopy, which allows direct vision of the pleural surface, biopsy of areas that look abnormal and effective pleurodesis in one sitting. The lecture will discussed systematic approaches in unexplained pleural effusion.

S5C - Current Management Of Chronic Suppurative Lung Disease In Children

CYSTIC FIBROSIS

Adam Jaffe
Sydney Children's Hospital
Australia

The management of CF requires a multidisciplinary approach to address this multisystem, life limiting disorder. The cycle of inflammation and infection ultimately causes respiratory failure. The cornerstones to management which continue to increase life expectancy have been nutrition, airway clearance, aggressive use of antibiotics and anti-inflammatory therapy. Exercise is an important adjunct to chest physiotherapy to facilitate airway clearance with important additive effects on bone health. Additional therapies to enhance airway clearance include inhaled mucolytics such as dornase alpha, mannitol and hypertonic saline. There has been recent emphasis on early diagnosis, early screening of complications (such as CF related diabetes) and early institution of therapies to ensure an optimal health trajectory with an emphasis on lung function, as it is the main cause of mortality. Neonatal screening has been adopted in many countries to facilitate this approach. The development of techniques in the preschool age group, such as multiple breath washout, to measure lung function has enabled an objective measure of the impact of therapies. Lung transplantation is an option in some countries for end stage respiratory failure. The development of disease modifiers such ivacaftor, lumacaftor and tezacaftor heralds a new era in the management of CF. A precision approach will be needed to optimise the health outcomes of these expensive medications.

PROTRACTED BACTERIAL BRONCHITIS

Anna Marie Nathan
Universiti Malaya Medical Centre
Malaysia

Chronic cough in children is defined as persistent cough for more than 4 weeks. While intermittent cough is commonly due to frequent upper respiratory tract infections in young children, persistent cough should be taken more seriously. Often, it is treated as asthma, allergic rhinitis or gastro-esophageal reflux, missing other important problems like chronic suppurative lung disease(CSLD) and protracted bacterial bronchitis(PBB), a precursor of CSLD.

Protracted bacterial bronchitis (PBB) is defined as (a) presence of isolated chronic moist cough (b) resolution of cough with antibiotics with the (c) absence of specific pointers e.g. weight loss, persistent fever, clubbing and other signs suggestive of CSLD. It can be the cause of prolonged cough in about 40% of children who come with chronic cough.

Recurrent PBB, which is defined as ≥ 3 episodes/yr, should make one worry about CSLD

Treatment with a prolonged course of antibiotics usually works. However, as stewards of antibiotics use, one must be careful not to over treat children who come in with intermittent cough and not persistent cough, hence a careful history is necessary.

My talk will also cover the latest cough management guidelines, published in CHEST 2017. I will also touch on some of the evidence to allay some of the common myths in chronic cough. Finally, I will also share with you suggested management paradigms to help guide the paediatrician manage this difficult and allusive condition**.**

NON-CF BRONCHIECTASIS

Hasniah Abdul Latif
Universiti Kebangsaan Malaysia Medical Centre
Malaysia

Bronchiectasis unrelated to cystic fibrosis (non-CF) is defined as irreversible dilatation of damaged bronchi that presents clinically as chronic `wet' or productive cough accompanied by recurrent pulmonary exacerbation. It is the outcome of complex interplay between host, microbes and the environment; involving a `vicious cycle' of infection, dysregulated airway inflammation, tissue remodeling and impaired mucociliary clearance leading to progressive destruction of bronchial wall.

The strategies of management are aim to reduce frequency and severity of acute exacerbation, preserve lung function and improve patient`s quality of life. Principles of managing non-CF bronchiectasis include 1) identifying any treatable underlying cause and associated conditions, 2) prompt diagnosis, treatment and prevention (where possible) of acute exacerbation, 3) managing nutritional and psychosocial issues, 4) improving airway clearance and capacity for physical activity, 5) regular surveillance for complications of bronchiectasis and 6) education and promotion of general health measures including vaccinations.

OPTIMISING PULMONARY & NUTRITIONAL REHABILITATION

Surendran Thavagnanam
University Malaya Medical Centre
Malaysia

Chronic suppurative lung disease (CSLD) in children and adolescents are important causes of respiratory morbidity and reduced quality of life (QoL) leading to premature death during adulthood.

Common symptoms of CSLD are chronic cough with sputum production, retention of excess secretions in dilated airways, and a history of recurrent infections. Clinical management typically includes prescription of airway-clearance techniques (ACTs) to facilitate muco-ciliary clearance and optimise sputum expectoration to relieve symptoms and improve well-being. Wide range of ACTs are available for selection, and these strategies may be applied in isolation or in combination. The choice of technique will depend in part on the age of the child, their clinical state, and factors, which may influence treatment adherence. While the evidence for ACTs in children and adolescent with CSLD is not robust, studies have shown that physiotherapy can increase exercise endurance and inspiratory muscle strength, which aids mucous ciliary clearance. Thus improving symptom control and QoL whilst preserving lung function and minimising acute exacerbation frequency that indirectly reduces health-care-associated costs.

Nutritional deficiencies in children with CSLD have been shown to lead to poor lung growth and function, increased susceptibility to infections, and a greater likelihood of acute illnesses in childhood and chronic illness in adulthood. Micronutrient deficiencies, particularly of vitamins A, C, and D, folic acid, and the trace elements, zinc and iron, have been linked to many childhood infectious diseases, including respiratory infections.

It is now standard care at specialised centres to have a multidisciplinary team consisting of physiotherapists, dietetics and many others to work closely with the child or adolescent and their family in a therapeutic alliance to provide on-going education, engagement, and encouragement to assist with adherence to therapy. This improves QoL and lung function and reduces disease burden to the patient and health care costs.

SYMPOSIUM 6

S6 - Respiratory Diseases in Primary Care 2

APPROACH TO PATIENTS WITH CHRONIC COUGH

Rozanah Abd Rahman
Hospital Sultanah Aminah
Malaysia

Cough is one of the most common complaint that brought patient to seek medical attention. It is a troublesome symptom but it serves a potentially beneficial purpose by clearing the airways from excessive mucus or irritants. However it can also be a warning sign of several respiratory and non-respiratory diseases. Acute cough is usually associated with upper respiratory tract infection and most of the time it is self-limiting but chronic cough can lead to considerable morbidity and to recognize the cause is not always an easy task, which require a thorough investigations of other possible causes. Treatment of a cough involves diagnosing and treating the underlying disease, or condition that is causing it. Some conditions can be easily and successfully treated and cured, while others may require more intensive treatment.

ABC IN CXR INTERPRETATION

Radhiana Hassan
International Islamic University Malaysia (IIUM)
Malaysia

The lecture will focus on basic and essential knowledge for an accurate assessment of chest radiograph. Case scenarios of commonly encountered problems in clinical practice will be discussed to illustrate logical and practical approach to the analysis of CXR.

PLENARY 3

2ND MALAYSIAN ASTHMA CPG (NEW)

Andrea Ban Yu-Lin
Universiti Kebangsaan Malaysia Medical Centre
Malaysia

Asthma is a chronic inflammatory airway disease that affects an estimated 300 million people of all ages worldwide. The prevalence of asthma in our country is reported at 4.2% based on the second national health and morbidity survey in 1996.

The Malaysian guidelines on asthma was first published in 2002. In the 16 years that have passed there have been new developments in particular the immunological and inflammatory processes associated with asthma. Recent studies have shown titrating asthma treatment according to inflammatory biomarkers as well as monitoring sputum eosinophilias may help in therapeutic decisions.

The new CPG is evidenced based and has included asthma self-management ,an improved step-wise management plan, an appendix of medications commonly available in Malaysia, special group population including asthma in pregnancy and inhaler technique.

SYMPOSIUM 7

S7A – Tuberculosis

LATENT TB IN MALAYSIA - OPPORTUNITY & DILEMMA

Pang Yong Kek
University Malaya Medical Centre
Malaysia

The incidence of active tuberculosis in Malaysia remained high over the past 20 years (60 - 80/100000 population). In fact, the incidence was on the rise in recent years. The conventional strategy of improving case detection and treatment completion rate has no doubt contributed to the control of TB in this country. However, it has been argued that if we were to control the disease further, treatment of TB while it is still in the latent phase is crucial. This is based on the understanding that each time when a latent disease is reactivated, it would have spread to many individuals before it is being curtailed.

Notwithstanding, identification and treatment of latent TB do encounter many challenges and dilemmas, from the lack of a confirmatory test, absence of clinical symptoms/signs, fears of emergence of drug-resistant TB bacilli, to poor treatment completion rate.

These dilemmas may be addressed by incorporating better approaches to select individuals who are at high risk of acquiring the infection as well as disease reactivation. .

Besides, shorter regimens with different combination agents have been shown to be equally successful compared to the longer regimens in certain cohorts. This development may serve as a good opportunity for us to take on these challenges to better controlling TB.

DIFFICULT TUBERCULOSIS - OPTION OF TREATMENT

Abdul Razak Abdul Muttalif
MAHSA University
Malaysia

Tuberculosis (TB) is curable, but it takes a minimum of six months on a cocktail of various antibiotics. The first-line treatment regimen has remained essentially unchanged for decades and there have been few developments to decrease either the time it takes or the number of medications required. There are many issues in TB treatment, however only four situation will be discussed in this lecture.

To make things more challenging in treatment, there are an estimated half million cases of DR-TB and an even more deadly form of DR-TB, known as extensively drug resistant TB (XDR-TB) which carries a very poor prognosis for patients, with few drugs available to treat it. Patients with MDR/XDR-TB must take a daily cocktail of twenty pills a day, and in the early stages of treatment, a daily painful injection. The side effects of such treatment range from persistent nausea to psychosis and total deafness.

TB is the number one killer of people living with HIV/AIDS; due to weakened immune systems, they are much more likely to develop the disease. Diagnosis of TB in people living with HIV is difficult as the clinical symptoms for TB are not easily distinguished from those of other opportunistic infections. Without treatment, about 90% of people with HIV who become infected with TB will die within months of contracting the disease. Getting a confirmed diagnosis of TB fast and with effective treatment is critical.

There is growing evidence and understanding that social and economic inequalities sustain migrants vulnerability to TB, as do discriminatory policies in immigration, labour and social protection. Migrants face higher exposure to TB infection due to overcrowded living and working conditions and increased vulnerability to HIV and malnutrition, induced by marginalisation and social exclusion. Delays in TB diagnosis among migrants are commonly associated with difficulty in healthcare access, lack of education, poor health-seeking behaviours, cultural beliefs, stigma and marginalisation. Addressing the diagnosis and treatment of TB in migrants is vital in any TB control program.

Finally, homelessness have a high occurrence of conditions that increase the risk of TB,

including substance abuse, HIV infection, and congregation in crowded shelters. This combination of conditions is favourable for spreading TB. In addition, people who are homeless often lack ready access to the medical care required to make an early diagnosis of TB. This again can be an issue in the TB control program.

MANAGEMENT OF ADVERSE EFFECTS CAUSED BY ANTI-TB

Zamzurina Abu Bakar
Institute Of Respiratory Medicine
Malaysia

Tuberculosis is one of the top 10 causes of death worldwide. In 2016, 10.4 million people fell ill with TB, and 1.7 million died from the disease. Over 95% of TB deaths occur in low- and middle-income countries. The main objectives of tuberculosis therapy are to cure the patients and to minimize the possibility of transmission of the bacillus to healthy subjects. Side effects of the most commonly used primary anti-TB drugs may be mild as well as fatal. The minor side effects from the anti-TB are relatively common and manage by reassurance. However, the serious adverse events may need discontinuation of all drugs.

Symposium 7B - Palliative Care Children With End-Stage Lung Diseases

SLEEP BREATHING AND LUNG DISEASE

Arthur Teng
Sydney Children's Hospital
Australia

In paediatric Sleep Medicine, bronchiectasis (including cystic fibrosis) and neuromuscular diseases are likely clinical scenarios encountered as part of the spectrum of end stage respiratory or lung disease. Common sleep-related physiologic and pathological mechanisms underlie these often challenging scenarios. Regardless of the cause of the neuromuscular disease or chronic parenchymal lung disease, the physiologic process of sleep and especially the stage of REM sleep imposes the following functional challenges:

- decreased tonic intercostal activity
- decreased abdominal muscle activity
- unstable ribcage - paradoxical movements
- decreased end-expiratory lung volume
- decreased PaO2
- decreased hypoxic drive
- decreased hypercarbic drive
- increased laryngeal adductors activity (e.g.post-crichoarytenoid)
- decreased laryngeal abductors activity (e.g.thyroarytenoid)
- decreased geniohyoid and genioglossus muscle activity

Furthermore clinical situations such as general anaesthesia, spinal surgery and intercurrent chest infections significantly increase the risk of further complications at this vulnerable stage. Sleep studies often show abnormalities long before "awake" respiratory function tests and blood gases. Treatment modalities that potentially mitigate these challenges include low or high flow oxygen therapy, nasal mask continuous positive airway pressure (CPAP), bi-level

pressure support (BPAP) or invasive ventilation. The process of treatment involves concentrated education of carers and child, multi-disciplinary recruitment of psychologists and play-therapists to maximise the quality of life for child and family, often in a palliative setting. The aims of treatment should include the alleviation of the following signs and symptoms: daytime PCO_2>50mmHg, fatigue, headaches, sleep disruption, daytime sleepiness and pulmonary hypertension.

THE MALAYSIAN PALLIATIVE CARE JOURNEY

Kuan Geok Lan
International Medical University
Malaysia

Palliative Care first began for adults , twenty seven years ago in Malaysia in 1991 as an NGO initiative; the Ministry of Health been supportive and has endorsed“Adult Palliative Medicine “ as a medical subspeciality since 2005.

Pediatrics in Malaysia has advanced by leaps and bounds since the 1920s’ with the arrival of two British pediatrician pioneers, Cicely Williams(1936) and Elaine Field (1949) who were instrumental for the development of the curative services[8] This sparked the growth of Pediatrics which has developed into seventeen subspecialities, but there was no structured palliative component.

WHEN EVERYTHING FAIL IN CLD CHILDREN: ANYTHING ELSE CAN BE OFFERED

Chong Lee Ai
University Malaya Medical Centre
Malaysia

Current medical and technological advancements often lead to expectations of healthcare professionals and families to be able to ‘fix it’. The presumption that there must be more that can be done for the illness. Care and respect for the child, as a person living with the disease, is often then neglected. End-stage lung disease is uncommon and the trajectory of various chronic respiratory conditions are variable. Integrated palliative care and patient-centred approaches become necessary to heal and restore hope when cure is not possible.

ORAL PRESENTATION

OR1 **Comparison of Two Respiratory Scores in Children with Acute Bronchiolitis**

Tan WN[1], Nathan AM[1], Eg KP[1], Thavagnanam S[1], de Bruyne JA[1]
[1]*Department of Paediatrics, University of Malaya, 50603 Kuala Lumpur, Malaysia*

OR2 **Transbronchial Cryobiopsy of Adjacent and Eccentrically Orientated R-EBUS Lesion**

Kho Sze Shyang, Chan Swee Kim, Yong Mei Ching, Tie Siew Teck
Division of Respiratory Medicine, Department of Medicine, Sarawak General Hospital, Kuching, Sarawak

OR3 **Diagnosis of Left Ventricular Diastolic Dysfunction Among Obstructive Sleep Apnea Patients**

MC Yong[1], DHP Foo[2], SS Kho[1], SK Chan[1], Fong AYY[2], ST Tie[1]
[1]*Respiratory Medicine Unit, Medical Department, Sarawak General Hospital, Kuching, Malaysia*
[2] *Clinical Research Centre, Sarawak General Hospital, Kuching, Malaysia*

OR4 **Pulse oximetry as an alternative tool for diagnosis of Obstructive Sleep Apnoea (OSA) in children.**

H'ng Shih Ying[1], Anna M Nathan[1,2], Jessie Anne deBruyne[1,2], EgKah Peng[1,2], Surendran Thavagnanam[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*

OR5 **Elucidating the role of miRNAs expression as a post-transcriptional mechanism in the carcinogenesis of air pollution-related lung cancer**

MS Shahadin[1], TM Hassan[1], NS Mutalib[1], MT Latif[2], AR Jamal[1].
[1] *UKM Medical Molecular Biology (UMBI), Kuala Lumpur, Malaysia*
[2] *National University of Malaysia, Bangi, Malaysia*

OR1

Comparison of Two Respiratory Scores in Children with Acute Bronchiolitis

Tan WN[1], Nathan AM[1], Eg KP[1], Thavagnanam S[1], de Bruyne JA[1]
[1]*Department of Paediatrics, University of Malaya, 50603 Kuala Lumpur, Malaysia*

Background: Respiratory scores are an objective method of detecting severity of disease and response to treatment, in children with bronchiolitis.

Objectives: The objectives of this study were to a) compare 2 respiratory scores i.e. Kristjansson Respiratory Score (KRS) and Children's Hospital of Wisconsin Respiratory Scores (CHWRS), at predicting admission, b) correlate oxygen saturation at first time point with admission and need for non-invasive ventilator, c) determine inter-rater reliability and d) identify components of the respiratory score which correlate well with admission.

Methodology: This is a cross-sectional study performed at Paediatric Trauma Unit, University Malaya Medical Centre. Children aged 1 till 18 months old with acute bronchiolitis were included. Children with chronic disease and asthma were excluded. Each patient was assessed by 2 doctors using 2 respiratory scores; in emergency department and within 24 hours of admission.

Results: One hundred and twenty two patients were recruited. Median (IQR) age was 9 (6,12) months old. The area under receiver operating characteristic curve (aROC) for predicting admission was 0.832 for CHWRS and 0.760 for KRS. There was a significant association between low saturation (Spo2 $\leq$ 95%) and need for admission (p=0.008) as well as need for non-invasive ventilation (p= 0.027). The inter-rater reliability between the first and second assessors for CHWRS (Intraclass Classification [ICC] 0.918) was higher than for KRS (ICC: 0.829). Breath sounds and surgical status in the CHWRS and breath sounds and skin colour in the KRS were poor at predicting admission.

Conclusion: CHWRS had a better discriminative power in predicting admission and higher inter-rater reliability compared to KRS. Low saturation was significantly associated with the need for admission and non-invasive ventilation. Breath sounds and skin colour were poor at predicting outcome.

(Word count 544)

OR2

Transbronchial Cryobiopsy of Adjacent and Eccentrically Orientated R-EBUS Lesion

Kho Sze Shyang , Chan Swee Kim, Yong Mei Ching, Tie Siew Teck
Division of Respiratory Medicine, Department of Medicine, Sarawak General Hospital, Kuching, Sarawak

Introduction
Radial endobronchial ultrasound (R-EBUS) is an effective technique in diagnosing peripheral pulmonary lesion. However, lesion orientation with regards to radial probe remains an important factor for effective biopsy. "*Within*" orientation was associated with significantly higher diagnostic yield compared to lesions which were "*adjacent*" orientated. Cryobiopsy is a novel technique in obtaining larger and deeper tissue sample and allows biopsy in a 360^{o} direction when the tip is frozen, which is more likely to achieve higher diagnostic yield in adjacent orientated lesion; in comparison with forcep which likely misses the lesion as the tumour is only adjacent but not within the bronchus.

Aim
We aim to evaluate the performance and safety of cryobiopsy versus forcep biopsy in adjacent and eccentrically orientated R-EBUS lesion.

Method
Retrospective review of 60 consecutive patients who underwent R-EBUS transbronchial forcep and cryobiopsy with lesion demonstrating adjacent and eccentric orientation.

Result
Lesions were identifiable by R-EBUS in all cases and biopsy was performed using forcep in 40 (66.7%) and cryobiopsy in 20 (33.3%) cases. The overall diagnostic yield is 56.7% for all adjacent and eccentrically orientated lesions. Diagnostic yield for forcep biopsy was only 47.5% while if cryobiopsy was performed, the yield increase to 75.0% (p<0.005). Lesion size, sedation and the usage of fluoroscopy and guide sheath were not associated with better diagnostic yield. Cryobiopsy is associated with higher occurrence of mild intra-procedural bleeding.

Conclusion
Our initial experience shows that cryobiopsy is associated with better diagnostic yield of adjacent and eccentrically orientated R-EBUS lesion. Further study in a randomized setting need to be performed.

OR3

Diagnosis of Left Ventricular Diastolic Dysfunction Among Obstructive Sleep Apnea Patients

MC Yong[1], DHP Foo[2], SS Kho[1], SK Chan[1], Fong AYY[2], ST Tie[1]
[1]*Respiratory Medicine Unit, Medical Department, Sarawak General Hospital, Kuching, Malaysia*
[2] *Clinical Research Centre, Sarawak General Hospital, Kuching, Malaysia*

Introduction: Obstructive sleep apnea (OSA) is a known risk factor for cardiovascular mortality and morbidity. Patients with OSA can present with clinical syndromes of heart failure, but most of them have preserved left ventricular ejection fraction (HFpEF). In Malaysia, data regarding left ventricular (LV) diastolic dysfunction among OSA patients is limited.

Objective: To determine the prevalence of LV diastolic dysfunction and factors associated with LV diastolic dysfunction among OSA patients on positive airway pressure (PAP) treatment.

Method: Cross-sectional study analyzing 47 patients with OSA on PAP treatment at Sarawak General Hospital. All patients underwent transthoracic echocardiography (TTE) and serum N-terminal pro-B-type natriuretic peptide (NT-proBNP) level was measured.

Results: The mean age was 52.2±14.24 years, mean body mass index (BMI) 39.80±89.7 kg/m2, and mean apnea hypopnea index (AHI) 60.7±29.1. The mean LVEF was 66.2±8.0% and 15.6% had LV diastolic dysfunction. Most patients (14.9%) had grade II and 2.1% with grade III LV diastolic dysfunction. Among the patients with LV diastolic dysfunction, NT-proBNP was significantly elevated (>125pg/ml) in 87.5% of patients ($p<0.001$). Elevated NT-proBNP level of >125pg/ml had positive predictive value, negative predictive value, sensitivity and specificity of 70%, 97.3%, 87.5% and 92.3% respectively to diagnose LV diastolic dysfunction.

Conclusion: The prevalence of LV diastolic dysnfunction in OSA patients was 15.6%. Elevated NT-proBNP level (>125 pg/ml) was a useful biomarker in the diagnosis of LV diastolic dysfunction among OSA patients.

OR4

Pulse oximetry as an alternative tool for diagnosis of Obstructive Sleep Apnoea (OSA) in children.

H'ng Shih Ying[1], Anna M Nathan[1,2], Jessie Anne deBruyne[1,2], EgKah Peng[1,2], Surendran Thavagnanam[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*

Background: Polysomnography (PSG) is investigation of choice for obstructive sleep apnoea (OSA) diagnosis but it is labour intensive and has long wait times. Overnight pulse-oximetry has emerged as an alternative diagnostic toolbut its sensitivity and specificity in paediatrics is debated. We evaluated the reliability and accuracy of pulse-oximetry for detection of OSA and its severity. **Method:**Across-sectional study was performedon children aged 1 to 18 years with a clinical suspicion of OSA referred to the paediatric sleep lab atUniversity Malaya Medical Centre between 2014 to 2018. All patients were simultaneously monitored with pulse-oximetry (Nonin 3150 WristOx) while undergoing PSG. The nocturnal pulse oximetry studies were scored using a validated McGill Oximetry Score. The researcher was blinded to the child's full PSG. Using the PSG as the "gold standard", the sensitivity, specificity, negative predictive value (NPV) and positive predictive value (PPV)were calculated for the pulse-oximetry. **Results:**The mean age was 9.3 ± 3.5 years with predominantly male (65%) and mean BMI of 23.67± 8.04 (kgm^{-2}). Pulse oximetryaccurately diagnosed 139 patients (86%) when compared to PSG result (95% CI 0.72, 0.88).The sensitivity was 89% (95% CI=0.81, 0.94), specificity95% (95% CI=0.86, 0.98), PPV 96% and NPV84%. Pulse oximetry had a 100% sensitivity(95% CI=0.93, 1.00) for moderate-to-severe OSA diagnosis and 76% specificity (95% CI=0.59, 0.89) for mild OSA diagnosis.The corresponding area under the receiver operator curve for OSA diagnosis was 0.92 (95% CI 0.86, 0.96). There was good interobserver reliability of 0.87 (95% CI:0.80, 0.95). There was also good correlation of SpO_2 nadir between PSG and pulse-oximetry (rS= 0.83).**Conclusions:**Pulse-oximetry by WristOx is as good as the PSG to diagnose OSA and its severity in children.

OR5

Elucidating the role of miRNAs expression as a post-transcriptional mechanism in the carcinogenesis of air pollution-related lung cancer

MS Shahadin[1], TM Hassan[1], NS Mutalib[1], MT Latif[2], AR Jamal[1].
[1] *UKM Medical Molecular Biology (UMBI), Kuala Lumpur, Malaysia*
[2] *National University of Malaysia, Bangi, Malaysia*

Previous epidemiological studies have reported positive associations between ambient air pollution and lung cancer, and henceforth, air pollution has been classified as group 1 carcinogen in humans. There are limited studies examining the molecular pathogenesis in the tumorigenesis of air-pollution lung cancer, including the role of noncoding RNA (ncRNA) and micro RNA (miRNAs). Dysregulation of miRNAs expression are shown to be correlated with cancer, suggesting their potentials as the biomarker and therapeutic agents in cancer. To determine the differentially expressed miRNAs in air pollution-related lung cancer, we performed mature miRNAs expression profiling using real-time PCR in 10 lung adenocarcinomas with low (n=5) and high (n=5) exposure of air pollution which were defined based on residential address, annual particulate matter 10 and anthropometric activities such as occupation, transportation and daily ambient exposure of less than one or more than four hours. We identified 27 upregulated miRNAs in the high exposure group. miR-15b-5p (p=0.0269), let-7a-5p (p=0.0426), miR-151a-5p (p=0.0449), miR-222-3p (p=0.0446), and let-7f-5p (p=0.0333) were the most significantly upregulated miRNAs. All the miRNAs, except miR-151a-5p, were reported to be involve in non-small cell lung cancers (NSCLCs), and showed the highest number of targets, including the proto-oncogene such as epidermal growth factor receptor (EGFR), RAF family member (BRAF), and RAS GTPase family member (KRAS, NRAS and HRAS), and tumour suppressors Retinoblastoma 1 (RB1) gene, whereas miR-151a-5p revealed the lowest number of targets. Pathway enrichment analysis showed that all the significantly upregulated miRNAs were most frequently associated with adherens junction pathway, which play a major role in cell-cell adhesion in tumour as well as in normal tissues. These preliminary results suggest that upregulation of miR-15b-5p, let-7a-5p, miR-151a-5p, miR-222-3p, and let-7f-5p may be crucial in the tumorigenesis of air pollution-related lung cancer via the dysregulation of adherens junction pathway.

POSTER PRESENTATIONS

P01 **Doctors' perception of diagnosis and management of asthma in Malaysia: A survey of doctors**

Abdul Razzak[1], Urvi Khorani[2], Vaibhav Gaur[2], Jaideep Gogtay[2]
[1]*MAHSA University, Malaysia;* [2]*Global Medical Affairs, Cipla Ltd., Mumbai (India)*

P02 **Atypical Radiographic Appearance of Adult Pulmonary Tuberculosis**

Ismail Yaacob[1]**,** Abdul Rahman Mohd Ariff[1]
[1]*Kedah Medical Centre, Alor Setar, Kedah, Malaysia*

P03 **Development and validation of a bronchoscopically defined bronchitis tool in children**

Kah Peng Eg[1,2], Rahul J Thomas[1], Ian B Masters[1], Margaret McElrea[1], Anne B Chang[1,3]
[1]*Department of Respiratory and Sleep Medicine, Lady Cilento Children's Hospital, Children Centre for Health Research, Queensland University of Technology, Brisbane, Queensland, Australia*
[2]*Respiratory Unit, Department of Paediatrics, University of Malaya Medical Centre, Kuala Lumpur, Malaysia*
[3]*Child Health Division, Menzies School of Health Research, Charles Darwin University, Tiwi, Northern Territory, Australia*

P04 **Hospital Admissions for COPD Exacerbation: Patient Profiles and Clinical Audit in a District Hospital in Sarawak.**

YF Ho[1], YS Heng[1], YY Leong[1], TLL Sia[1], D Chandan[1]
[1] *Medical Department, Hospital Bintulu, Sarawak.*

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[1] *Hospital Taiping, Taiping, Malaysia*

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Dr Ciang Sang TAN [1], Dr Intan Norchahaya SHUKOR[1], Dr Suhana Binti HASHIM[2]
[1]*Paediatric Department, Hospital Segamat, Johor*
[2]*Pathology Department, Hospital Segamat, Johor*

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Sanmuga.V[1], L.Pereirasamy[2]
[1]*Department Of Medicine, Hospital Sungai Bakap, Penang*
[2]*Department Of Medicine, Hospital Seberang Jaya, Penang*

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[1] *Hospital Sultanah Aminah, Johor Bahru, Malaysia*

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MF Cheah[1], H Zainal[1], **IA Hyder Ali**[2]
[1] *School of Pharmaceutical Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia*
[2] *Respiratory Department, Hospital Pulau Pinang, Pulau Pinang, Malaysia*

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Ella Rhinsilva[1], Pandiaman Pandia[1]**,** Amira P. Tarigan[1], Dahniel Rizki[2],Erna mutiara[3]
[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine University of Sumatera Utara, University of Sumatera Utara Hospital, Medan, North Sumatera, Indonesia*

[2]*Department of Physical Medicine and Rehabilitation, University of Sumatera Utara Hospital, Medan, North Sumatera,Indonesia*
[3]*Department of Biostatistics, Faculty of Public health, University of Sumatera Utara, Medan, North Sumatera, Indonesia*

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Andika Pradana[1], Amira P Tarigan[1], Tari Mediyanti[2], Erna Mutiara[3], Pandiaman Pandia[1]
[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia*
[2] *Department of Physical Medicine and Rehabilitation, University Hospital, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia*
[3] *Department of Biostatistics, Faculty of Public Health, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia*

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Efriyandi[1], Amira P Tarigan[1], Denny Ferdiansyah[2], Erna Mutiara[3], Pandiaman Pandia[1]
[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine University of Sumatera Utara, University of Sumatera Utara Hospital, Medan, North Sumatera, Indonesia*
[2]*Department of Physical Medicine and Rehabilitation, University of Sumatera Utara Hospital, Medan, North Sumatera,Indonesia*
[3]*Department of Biostatistics, Faculty of Public health, University of Sumatera Utara, Medan, North Sumatera, Indonesia*

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Akbar Adianshar[1],Widi Rahardjo[1] , Parluhutan Siagian[1], Putri C. Eyanoer[2]
[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine University of Sumatera Utara, University of Sumatera Utara Hospital, Medan, North Sumatera, Indonesia*
[2]*department of Biostatistics, Faculty of Public health, University of Sumatera Utara, Medan, North Sumatera, Indonesia*

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Aina Salwa Kasim[1], Shahram Golbabapour[2], Anna M Nathan[1,3], Jessie Anne deBruyne[1,3], Eg Kah Peng[1,3], Surendran Thavagnanam[1,3]
[1]*Department of Paediatrics, University of Malaya Medical Centre, Kuala Lumpur, Malaysia*
[2]*Shiraz Transplant Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran*
[3]*University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia*

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David Alvianto[1], YJ Sugiri[1]
[1]*Pulmonology and Respirology Medical Program, Medical Faculty of Brawijaya University – Saiful Anwar Hospital*, *Malang*, *Indonesia*

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[1,2]**Hean Ooi**
1. Division of Pulmonology and Critical Care, Department of Internal Medicine, Dalin Tzu Chi Hospital, Taiwan
2.Department of Preventive Medicine, Taichung Tzu Chi Hospital. Taiwan.

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CS Chai[1], SS Kho[1], MC Yong[1], SK Chan[1], ST Tie[1]

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

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Nicholas LW Chang [1], Rus Anida Awang[1], LH Goh[2], Kelvin KH Beh[2], Supriya Krishna Prasad[1], YY Wong[1]
[1]*Paediatric Respiratory Unit, Hospital Pulau Pinang, Malaysia*
[2]*Clinical Research Centre (CRC), Hospital Pulau Pinang, Malaysia*

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Respiratory Division, Universiti Kebangsaan Malaysia Medical Centre, Malaysia.

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WJ Tan[1], L. Pereirasamy[2]
[1] *Department Of Medicine, Hospital Bukit Mertajam, Pulau Pinang, Malaysia*
[2] *Department Of Medicine, Hospital Seberang Jaya, Pulau Pinang, Malaysia*

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Supriya Krishna Prasad[1],Rus Anida Awang[1], Nicholas LW Chang[1]
[1] *Paediatric Department, Hospital Pulau Pinang, Malaysia*

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Irfhan Ali[1], Amer Hayat Khan[2], Muhammad Zeeshan Munir[2], Kashif Ullah Khan[2]
[1] *Respiratory Department, General Hospital Pulau Pinang, Penang, Malaysia*
[2]*Discipline of Clinical Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, Malaysia*

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AN Musa[1], NY Esa[1], MA Ibrahim[1], MF Abdul Rani[1], AI Ismail[1], MA Mohd Zim[1]

[1] Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh, Selangor, Malaysia

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M. H. Muhmad Hamidi[1], M. A. Ibrahim[1], J. R. Ismail[2], M. A. Mohd Zim[1], A. I. Ismail[1]
[1]*Sleep Health and Respiratory Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Mal*
[2]*Cardiology Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Malaysia*

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SA Syakirin[1], **AG Nurul Aimi**[1]
[1] *Institut Perubatan Respiratori,Kuala Lumpur, Malaysia*

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[1] *Medical Department, Hospital Tawau, Sabah, Malaysia*
[2] *Medical Department, Hospital Lahad Datu, Sabah, Malaysia*
[3] *Medical Department, Hospital Duchess of Kent, Sandakan, Sabah, Malaysia*
[4] *Medical Department, Hospital Sultanah Nota Ismail, Batu Pahat, Johor, Malaysia*
[5] *Respiratory Department, Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia*

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MM Ramanathan[1], **UA Muthukumaru[2],**
[1,2] *Hospital Taiping, Perak, Malaysia*

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[1]MAHSA University, Malaysia, [2]Global Medical Affairs, Cipla Ltd., Mumbai, India

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P.Y.Tan[1], Dg Zuraini Sahadan[1], M.A. Nunis[2], C.S Ong[2], Intan Hakimah Ismail[2]
[1] *Hospital Serdang, Malaysia*
[2] *University Putra Malaysia*, *Malaysia*

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Siti Khairani MHN, Tan YL, Wong WK, Fuziah MZ
Paediatric Department, Putrajaya Hospital, Malaysia

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M. H. Muhmad Hamidi[1], M. A. Ibrahim[1], J. R. Ismail[2], M. A. Mohd Zim[1], A. I. Ismail[1]
[1]Sleep Health and Respiratory Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Mal
[2]Cardiology Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Malaysia

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SA Syakirin[1], **AG Nurul Aimi**[1]
[1] *Institut Perubatan Respiratori,Kuala Lumpur, Malaysia*

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[1] Institute of Paediatric Hospital Kuala Lumpur
[2]Faculty of Medicine, University Malaya Medical Centre

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Han Loong Tan, Syazatul Syakirin Sirol Aflah, Noorul Afidza Muhammad, Nurhayati Mohd Marzuki, Zamzurina Abu Bakar.
Institut Perubatan Respiratori, Kuala Lumpur, Malaysia.

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A R Samsuddin[1], R A Rahmanr[1], N A Md Tarekh[1]
[1] *Hospital Sultanah Aminah Johor Bahru, Johor*

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[1] *Department of Paediatrics, University of Malaya, 50603, Kuala Lumpur, Malaysia*
[2] *University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia*
[3] *Institut Pediatrik Hospital Kuala Lumpur*

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SW Cheo[1], M.Hawari Nordin[2], HJ Wong[3], EK Ng[4], QJ Low[5]
[1,2]*Hospital Lahad Datu, Sabah, Malaysia*
[3]*Hospital Duchess of Kent, Sabah, Malaysia*
[4]*Hospital Tawau, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

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Siti Khairani MHN, Tan YL, Wong WK, Fuziah MZ
Paediatric Department, Putrajaya Hospital, Malaysia

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KaziMajidurRahaman, Andrea Ban Yu- Lin, Mohamed Faisal Abdul Hamid
Respiratory Division, UniversitiKebangsaan Malaysia Medical Centre, Malaysia.

P40 **A Qualitative Study Exploring the Barriers to Asthma Management as Perceived by Malaysian Asthmatic Patients**

Sohail Ahmad[1], Wong Yii Zhi[1], Nurul Irfana Binti Hassan Bashri[1], Mohd Arif Mohd Zim[2], Ahmad Izuanuddin Ismail[2]
[1]*Faculty of Pharmacy, MAHSA University, Jalan SP2, Bandar Saujana Putra, Jenjarom, 42610 Kual Langat, Selangor, Malaysia*
[2]*Faculty of Medicine, Universiti Teknologi MARA, Selayang Campus, Jalan Prima Selayang 7, 6810(Caves, Selangor, Malaysia*

P01

Doctors' perception of diagnosis and management of asthma in Malaysia: A survey of doctors

Abdul Razzak[1], Urvi Khorani[2], Vaibhav Gaur[2], Jaideep Gogtay[2]
[1]MAHSA University, Malaysia; [2]Global Medical Affairs, Cipla Ltd., Mumbai (India)

Introduction: Overall, the prevalence of asthma was reported to be 4.5% in Malaysia. We assessed doctors' perception about diagnosis, management and challenges in adherence in asthma patients in Malaysia.

Methods: We conducted a questionnaire-based survey with 273 doctors (general and chest physicians, pediatricians) attending asthma patients in 14 locations across Malaysia.

Results: More than 50% doctors saw at least 5 patients daily. Only 43% of doctors used spirometry for diagnosing asthma. Peak flow meter (PFM) was used for monitoring asthma in clinic (88%). Budesonide was the most preferred ICS (62.45%) followed by fluticasone (51.72%), whereas, 11.9% doctors prescribed only SABA. Salmeterol/fluticasone (67.19% doctors) and formoterol/budesonide (44.92%) were their preferred ICS/LABAs. SMART therapy was practiced by 22.6% of doctors. Only 32% of doctors prescribed inhalation therapy to all patients and >40% of patients were apprehensive to use inhalers. About 75% of the doctors preferred prescribing pMDI-with or without a spacer to most patients with controlled asthma. Most doctors believed it would be easier for patients to use a similar device for both reliever and controller. Only 70% of the patients show good adherence of more than 80%. Incorrect inhaler technique and non-adherence to treatment are major reasons for poor asthma control.

Conclusion: Use of spirometry could be increased in Malaysia for diagnosis of asthma. pMDI with or without spacer was the most preferred device however, adherence to the inhalation therapy was very low and remains a challenge.

P02

Atypical Radiographic Appearance of Adult Pulmonary Tuberculosis

Ismail Yaacob[1], Abdul Rahman Mohd Ariff
[1]*Kedah Medical Centre, Alor Setar, Kedah, Malaysia*

Introduction: The risk of missing the diagnosis of pulmonary tuberculosis (PTB) may be high if patient had x-ray appearance which is atypical for PTB. Some studies reported no major differences while others found a higher involvement of the lower lung field in patients with diabetes. **Objective.** To review the radiographic spectrum of pulmonary TB in adults and to correlate the radiographic appearances with presence of diabetes and the bacteriological results. **Design**. We review the radiographic reports on 761 cases of PTB at the Kedah Medical Centre, between January 1998 to December 2017. The radiographic appearances were classified as: Typical (infiltrates, consolidation, fibrosis or cavitations in one or both upper lobes or Atypical (all other appearances). The radiographic appearances are correlated with presence of diabetes and the bacteriological results. **Results**. Typical radiographic pattern of PTB was found in 59.3% (n=450) of cases. The other 40.7% (n=311) showed atypical x-ray patterns, such as lower lobe infiltrations, bronchopneumonia; mid-zones consolidations; lower zone bronchiectasis; hyperinflation; pleural effusion or hilar opacities. 233 patients (28.5%) are diabetic. There is no difference between typical and atypical radiological appearances among diabetic and non-diabetics (28.2% vs 30.2%). Patient with typical x-rays are more likely to have positive sputum direct smear (49.2% vs 28.7%). **Conclusion:** Atypical x-ray appearance in PTB is common. There is no difference in the radiographic appearance between diabetic and non-diabetic patients. Patients with typical x-rays are more likely to have a positive sputum direct smear. In order not to miss the diagnosis, the clinician must have high suspicion of tuberculosis and further investigations including bronchoscopy should be done when the sputum specimen is not available or negative.

P03

DEVELOPMENT AND VALIDATION OF A BRONCHOSCOPICALLY DEFINED BRONCHITIS TOOL IN CHILDREN

Kah Peng Eg[1] ,[2]Rahul J Thomas[1], Ian B Masters[1], Margaret McElrea[1], Anne B Chang[1,3]

[1]*Department of Respiratory and Sleep Medicine, Lady Cilento Children's Hospital, Children Centre for Health Research, Queensland University of Technology, Brisbane, Queensland, Australia*

[2]*Respiratory Unit, Department of Paediatrics, University of Malaya Medical Centre, Kuala Lumpur, Malaysia*

[3]*Child Health Division, Menzies School of Health Research, Charles Darwin University, Tiwi, Northern Territory, Australia*

Introduction/Aim: No validated tool exists for scoring bronchitis (i.e. airway inflammation) during flexible bronchoscopy (FB) despite potential clinical and research usefulness. Thus, we aimed to develop a bronchoscopically defined bronchitis scoring system in children (Bscore). **Methodology:** We used methods from our retrospective study; FB recordings were assessed for six components: secretion amount (6 point scale), secretion colour (BronkoTest, 0-8), mucosal oedema (0-3), ridging (0-3), erythema (0-3) and pallor (0-3) based on pre-determined criteria. We determined the correlations (Spearman) of each component with bronchoalveolar lavage (BAL) neutrophil%. BScore was derived using models with combinations of the six components that best related to airway BAL neutrophil%. Clinical history was obtained. Two clinicians blinded to the history scored the FB. The various models of BScore were plotted against BAL neutrophil% using receiver operating characteristic (ROC) curves. We analysed 142 out of 150 children enrolled. Eight children were excluded for unavailability of BAL cytology or FB recordings. **Results:** Chronic/recurrent cough was the commonest indication for FB (75%). Median age was 3 years (1.5-5.3 years). Secretion amount and colour had the strongest correlation with BAL neutrophil%, ($r=0.42$, $p=0.0001$ & $r=0.46$, $p=0.0001$ respectively). With inflammation defined as BAL neutrophilia >15%, the highest area under ROC (aROC) (0.80, 95%CI 0.73-0.88) was obtained by addition of the total scores of all components excluding pallor. aROC for the model derived from our retrospective study was 0.66, 95%CI 0.55-0.78. The highest aROC (0.84, 95%CI 0.76-0.90) was with neutrophils of >10% using the BScore obtained from all components except pallor. **Conclusion:** A validated bronchoscopically defined bronchitis scoring system can be obtained from visual inspection of airway secretions (amount and colour) and mucosa appearances (erythema, ridging and oedema). Further data is however required.

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P04

Hospital Admissions for COPD Exacerbation: Patient Profiles and Clinical Audit in a District Hospital in Sarawak.

YF Ho[1], YS Heng[1], YY Leong[1], TLL Sia[1], D Chandan[1]
[1] *Medical Department, Hospital Bintulu, Sarawak.*

Background: COPD exacerbation is one of the leading causes of admission to medical ward. This retrospective observational study aimed to assess the patient profiles and management of COPD exacerbation in Bintulu Hospital.

Method: The electronic medical records of a total of 73 patients, which gave rise to 100 hospital admissions for COPD exacerbation between January and April 2018, were reviewed.

Results: 75% patients (n=55) were male and the mean age was 70.8 years. 8 patients (11%) were newly diagnosed with COPD. 13 patients (18%) were active smoker. 38% patients (n=28) were mMRC 3 and 30% patients (n=22) were mMRC 2. 41 patients (56%) had ≥2 COPD admissions within past 1 year; 21 patients (29%) were re-admitted within 30 days. The mean LOS was 5.9 days (2-28 days). 15 patients (20.5%) required ventilation (NIV/intubation). 3 mortality (4.1%) and 3 patients (4.1%) DAMA.
Spirometry was planned for two-thirds of the patients (n=47; 64%). 6 patients (8.2%) were on triple therapy, 21 patients (28.8%) were on LAMA/LABA and 15 patients (20.5%) were on LABA/ICS. Only one-thirds of the patients (n= 27, 37%) had up-to-date vaccination status (pneumococcal and influenza vaccinations).

Conclusions: This study examined the profile of patients admitted to Bintulu Hospital for COPD exacerbations. Key areas identified for improvement include: active smoking cessation intervention, spirometry and up-to-date vaccination status for all COPD patients. Subanalysis needed for the patients with early re-admission (within 30 days).

P05

Total Serum Immunoglobulin E, Allergen-specific IgE Profile And Peripheral Blood Eosinophil Percentage in Asthmatic Patients in Respiratory Clinic, Taiping Hospital.

Teng Teng Tee[1], Mangayarkarasi M Ramanathan[1], Umadevi A Muthukumaru[1]
[1] *Hospital Taiping, Taiping, Malaysia*

Introduction
Serum immunoglobulin E (IgE) is one of the markers of atopy in bronchial asthma. The aim of this study is to determine total serum IgE levels, the distribution of allergen-specific IgE by fluorescence enzyme immunoassay (FEIA) and peripheral eosinophil percentage in asthmatic patients.

Method
Data was collected retrospectively from case notes of 148 asthmatic patients aged 17 to 82 whose outpatient total serum IgE was done from year 2011 to 2018 in Respiratory Clinic Taiping Hospital. Among these patients, only 137 had full blood count results and 86 had FEIA results. Data collection also included demographics, smoking status, presence of allergic rhinitis, peripheral eosinophil percentage and age of onset of bronchial asthma.

Results
89.9 % of the patients had elevated total serum IgE (>100 kU/l) and 65.7% had raised peripheral eosinophil percentage (≥3%). Mean total IgE and peripheral eosinophil percentage were 979 kU/l and 5.0%. Males, early onset asthma and those with allergic rhinitis had higher average total IgE. There was no significant difference of raised total IgE between group of eosinophil percentage <3% and ≥3% (X_2=2.628, p=0.105). Among FEIA results, 80.3% were sensitized to at least one of the 3 house dust mites (HDM) species with 39.5% positive to all the three allergens. 33.7% were sensitized to grass pollen, followed by cockroach (29.1%), Aspergillus fumigatus (20.9%) and cat dander (10.4 %). 39.5% were sensitized to at least one of the seafood allergens but only 5 reported seafood allergy. Minority were sensitized to peanut and honey (4.6%).

Conclusion
Majority of the asthmatic patients have elevated total IgE and peripheral eosinophil percentage. Sensitivity against HDM was the highest followed by seafood allergens, grass pollen, cockroach, Aspergillus fumigatus and cat dander.

P06

Impact Of Adenovirus Pneumonia In Children, Our Experience At Segamat Hospital

Dr Ciang Sang TAN [1], Dr Intan Norchahaya SHUKOR[1], Dr Suhana Binti HASHIM[2]
[1]*Paediatric Department, Hospital Segamat, Johor*
[2]*Pathology Department, Hospital Segamat, Johor*

Introduction
Adenovirus is a common pathogen for respiratory illness in children and more than 80% of infections occur in children under 4 years old because of lack of humoral immunity. Bronchiolitis Obliterans is often reported as a long term complication of post adenovirus pneumonia.

Method
Retrospective review of adenovirus pneumonia cases admitted to paediatric ward, Hospital Segamat from 2013 – 2017.

Result
There were a total of 11 children with confirmed adenovirus pneumonia admitted during study period. Majority of them presented with lower respiratory tract symptoms with respiratory distress. 54.5% (n=6) of children required intensive care with mechanical ventilation and 45.5% (n=5) required prolonged oxygen therapy. There was one mortality among the 11 patients studied. All the cases analysed were also noted to have required long hospital stay, with a minimum of at least 14 days up to a maximum of 4 months. 66.7% (n=4) children with mechanical ventilation were eventually discharged with home oxygen therapy and they were subsequently confirmed to have bronchiolitis obliterans with imaging.

Conclusion
Adenovirus pneumonia is a common infection with rapid progressive respiratory failure and potential result in significant morbidity and mortality.

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P07

A Five Year Review Of Spinal Tuberculosis In Seberang Prai Cluster Hospitals, Penang

Sanmuga.V[1], L.Pereirasamy[2]
[1]*Department Of Medicine, Hospital Sungai Bakap, Penang*
[2]*Department Of Medicine, Hospital Seberang Jaya, Penang*

Introduction
Spinal tuberculosis is a common extra-pulmonary manifestation of tuberculosis and it always poses a diagnostic challenge.

Objective
The objective of the study is to investigate the epidemiological, clinical, radiological manifestation and management of spinal tuberculosis.

Methodology
33 patients diagnosed with spinal tuberculosis from January 2013 till March 2018 were included in this analysis.

Results
The mean age was 43.1. Majority of the patients (37.5%) were between 40-60 years old. The ethnic distribution was 25(75%) Malay, 2(6.3%) Chinese and 2(6.3%) others. 4(12.5%) patients were non Malaysian citizen. Majority of the patients (68.8%) had no underlying medical illness. Backache was the commonest presenting symptom (90.6%) while 19(68.8%) had neurological weakness. Radiologically, 10(28.1%) had lumbar spine involvement followed by 7(21.9%) lower thoracic, 4(12.5%) upper thoracic and 3(9.4%) cervical spine. Contiguous two levels of spine were involved in 4(12.5%) patients while 5(15.6%) had non-contiguous lesions. Common MRI findings were vertebral end plate destruction (65.6%) and vertebral body destruction (75%), paravertebral abscess (75%), discitis (59.4%), psoas abscess (59.4%) and epidural abscess (53.1%). 25(75%) patients were empirically treated based on MRI findings. Only 8(25%) patients had confirmed microbiological or histological diagnosis. 7(21.9%) patients had concomitant pulmonary tuberculosis. All the patients received anti-tubercular therapy while 11(34.4%) underwent surgical intervention. 12(63.2%) patients had complete neurological recovery.

Conclusion
Spinal tuberculosis is not uncommon. It requires prompt diagnosis and a high index of suspicion in a young patient presenting with backache in this region. MRI spine remains the main diagnostic tool. Prognosis is good with therapy.

P08

Performance Of GeneXpert MTB/RIF Assay In Detection of DR-TB In Comparison With Drug Sensitivity Test in Real World Setting

CP Lee[1], NA Tarekh[1], RA Rahman[1]
[1] *Hospital Sultanah Aminah, Johor Bahru, Malaysia*

The emerging of drug resistant TB (DR-TB) has posed a great risk to the health of the population. In order to curb the spreading of DR-TB among the TB patients and the normal population, World Health Organization (WHO) recommends the usage of GeneXpert MTB/RIF assay in early detection of DR-TB amongst high risk patients. The main purpose of this study is to retrospectively determine the performance of our GeneXpert assay in a “real world" setting. All GeneXpert samples sent from January 2017 till December 2017 were examined; all samples are recorded and checked against the drug sensitivity tests sent together when GeneXpert samples were taken. Both concordance and discordance results were analyzed. A total of 122 samples were sent during that period; 2 rejected, 3 samples’ results were missing. Out of the 117 available results, 25 results were excluded due to no culture and drug sensitivity tests were sent. 28 results were positive for MTB while 64 results were negative. Only 2 Xpert/RIF assay positive samples have negative MTB growth. And only 3 Xpert/RIF assay negative samples have positive MTB growth. All 5 discordance results were sputum samples except 1 which was pleural fluid. Sensitivity of GeneXpert assay was 89% while specificity was 96% based on our findings. Furthermore, our findings were examined for rifampicin resistance, 7 Xpert/RIF results found to have rifampicin resistance, but only 2 of these samples’ cultures returned as MDR-TB.
Based on the results obtained, we conclude that GeneXpert is highly sensitive and specific in detecting DR-TB especially concerning rifampicin resistance. Rifampicin resistance has been traditionally regarded as a surrogate marker for MDR-TB.(1) A study quoted 90% of all clinical isolates with RR-TB also positive for isoniazid resistance.(2)(3) However, our findings failed to show this pattern.

References:
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3. Watterson 1998

P09

Evaluation Of Adverse Reactions Induced By Antituberculosis Drugs In Hospital Pulau Pinang

MF Cheah[1], H Zainal[1], **IA Hyder Ali**[2]
[1] *School of Pharmaceutical Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia*
[2] *Respiratory Department, Hospital Pulau Pinang, Pulau Pinang, Malaysia*

The aims of tuberculosis (TB) treatment are to cure the patient, to prevent relapse and to reduce transmission. Despite positive therapeutic outcomes, the use of multidrug regimens is associated with undesirable adverse drug reactions (ADRs). This study aimed to assess the incidence and impact of ADRs on TB treatment in Hospital Pulau Pinang. This cross-sectional study was conducted in Chest Clinic, Hospital Pulau Pinang, via retrospective review of outpatients' medical records from 1st January 2015 to 31st December 2015. Data extracted included patients' demographic and clinical characteristics, ADRs due to anti-TB drugs and TB treatment outcomes. Details regarding ADRs were identified by a pharmacist and verified by a respiratory consultant. Of the 210 patients, 75 patients (35.7%) experienced at least one ADR, with a total of 91 cases detected. The three most common ADRs detected were cutaneous adverse drug reactions (21.0%), drug-induced hepatitis (7.1%) and gastrointestinal disturbance (4.8%). Pyrazinamide was the most common causative agent. Most of the ADRs could be managed well by giving symptomatic therapy. However, 15.7% of all TB patients required treatment modification due to ADRs. Females were shown to have higher tendency to develop ADRs (P=0.009). The development of ADRs was shown not to affect the TB treatment outcomes (P=0.955). Conclusion : Although most ADRs in this study could be managed well, the incidence was high. It is important to identify the risk factors for ADRs and to be vary of potential ADRs.

P10

The Response of Lower Limb Endurance Training on LDH Serum in COPD Patient

Ella Rhinsilva[1], Pandiaman Pandia[1], Amira P. Tarigan[1], Dahniel Rizki[2], Erna mutiara[3]

[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine University of Sumatera Utara, University of Sumatera Utara Hospital, Medan, North Sumatera, Indonesia*
[2] *Department of Physical Medicine and Rehabilitation, University of Sumatera Utara Hospital, Medan, North Sumatera,Indonesia*
[3] *Department of Biostatistics, Faculty of Public health, University of Sumatera Utara, Medan, North Sumatera, Indonesia*

Introduction: Muscle dysfunction is the most common systemic manifestation of COPD. This could be prevented and regenerated by muscle training. But it doesn't not occur in all patients due to muscle fatigue caused during the training. LDH is known as a marker to evaluate muscle fatigue.

Objective: The aim of this study was to assess the effect of lower limb endurance training on LDH serum in COPD patient

Methods: this was an experimental quasi study on 20 COPD patient in June-July 2017 in USU Hospital. All subjects received lower limb endurance training by cycling with static bicycle. LDH serum was measured before and after the training.

Results: The average of pre-training LDH serum was 333.2 U/L and post-training increased to 366.2 U/L. There was an increased post training LDH serum especially in COPD group C and D although statistically not significant with $p>0.05$.

Conclusion: there was an increase in LDH serum after 4 weeks of lower extermities training although statistically not significant.

Keyword: LDH, Lower Limb Exercise, COPD

P11

Effects of Lower-Limb Endurance Training on Maximal Oxygen Uptake (VO_2 max) in COPD Patients

Andika Pradana[1], Amira P Tarigan[1], Tari Mediyanti[2], Erna Mutiara[3], Pandiaman Pandia[1]

[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia*

[2] *Department of Physical Medicine and Rehabilitation, University Hospital, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia*

[3] *Department of Biostatistics, Faculty of Public Health, Universitas Sumatera Utara, Medan, North Sumatera, Indonesia*

Introduction: Patients with COPD exhibit muscle atrophy and dysfunction which lead into decondition state. This will in turn decrease maximal oxygen uptake (VO_2max) in tissues. Considered as the best predictor of cardiorespiratory endurance and survival, VO_2max can be attenuated by aerobic training.

Objective: This study aimed to assess the effects of lower-limb endurance training on VO_2max in COPD patients

Methods: An experimental study was conducted on 20 COPD patients in group C and D. Patients were prescribed lower-limb exercise by stationary cycling with individualized dose, twice a week for 4 weeks, ranging from 5-20 minutes/session. VO_2max measurement was calculated pre-and post-intervention using Nury's Formula specifically designed for Indonesian ($r=0.68$; $p<0.005$), which converts the distance of 6-minute walk test. Statistical analysis was performed by Wilcoxon test.

Results: There was significant increase of VO_2max value ($p<0.001$) of all COPD subjects from 25.8±6.5 (baseline) to 28.3±6.9 $mlkg^{-1}min^{-1}$. The increase in group C patients was slightly higher than group D although statistically not significant (3.36 vs 2.03 $mlkg^{-1}min^{-1}$; $p=0.36$). The VO_2max increase was observed in all patients regardless their severity of obstruction ($p=0.44$). There was no exacerbation found during rehabilitation program.

Conclusion: Four weeks of lower-limb endurance training effectively increased VO_2max of COPD patients.

Keywords: COPD, VO_2max, lower-limb endurance training, Nury's Formula

P12

Correlation of 6 Minute Step Test to 6 Minute Walking Tests in Chronic Obstructive Patients

Efriyandi[1], Amira P Tarigan[1], Denny Ferdiansyah[2], Erna Mutiara[3], Pandiaman Pandia[1]

[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine University of Sumatera Utara, University of Sumatera Utara Hospital, Medan, North Sumatera, Indonesia*

[2]*Department of Physical Medicine and Rehabilitation, University of Sumatera Utara Hospital, Medan, North Sumatera,Indonesia*

[3]*Department of Biostatistics, Faculty of Public health, University of Sumatera Utara, Medan, North Sumatera, Indonesia*

Introduction: Various exercise tests was used to assess exercise tolerance in chronic lung disease patient. 6 Minute Walking Test (6MWT) is a validated test in chronic lung disease but has spatial limitation to perform the test. 6 Minute Step Test (6MST) has been proposed as an alternative.

Objective: This study aimed to assess the correlation between 6MST to 6MWT in COPD patients.

Methods: An experimental study was conducted on 20 outward COPD patients in group C and D in June – July 2017 at USU Hospital. Patients underwent 6MWT and 6MST before and after rehabilitation program.

Results: There was correlation between 6MST and 6MWT either before and after rehabilitation ($p<0.023$; $r=0.505$ and after rehabilitation program ($p<0.01$; $r=0.668$).

Conclusion: 6MST can be an alternative to 6MWT especially with a spatial limitation.

Keywords: Exercise Test, 6MST, 6MWT, COPD

P13

Uji Diagnostik Kadar Protein Cairan Pleura Dalam Menegakkan Diagnosis Efusi Pleura Tuberkulosis

Akbar Adianshar[1],Widi Rahardjo[1] , Parluhutan Siagian[1], Putri C. Eyanoer[2]
[1] *Department of Pulmonology and Respiratory Medicine, Faculty of Medicine University of Sumatera Utara, University of Sumatera Utara Hospital, Medan, North Sumatera, Indonesia*
[2]*department of Biostatistics, Faculty of Public health, University of Sumatera Utara, Medan, North Sumatera, Indonesia*

Pendahuluan
Cairan pleura pada efusi pleura TB bersifat eksudat dimana memiliki kadar protein yang tinggi. Protein level yang meningkat pada efusi pelura TB dikarenakan peningkatan permeabilitas kapiler akibat reaksi hipersensitivitas tipe lambat dan juga reaksi inflamasi yang menyebabkan kebocoran protein dari kapiler pleura ke rongga pleura. Penelitian ini bertujuan untuk menilai akurasi diagnostik kadar protein cairan pleura dalam menegakkan diagnosis efusi pleura tb

Metode: Penilitian ini dilakukan dengan melihat rekam medis pasien efusi pleura di RSHAM januari 2017-desember 2017. Pasien efusi pleura dibagi menjadi 3 kelompok berdasarkan penyakit yang medasari, TB; 68 pasien, infeksi bukan TB: 21 pasien dan kanker paru: 31 pasien. Kadar protein cairan pleura dilihat dari hasil analisa cairan pleura. penentuan nilai ambang batas dengan menggunakan kurva ROC (Receiver Operating Characteristic). Sensitivitas, spesifisitas dan nilai prediksi dihitung menggunakan cut-off dengan AUC yang signifikan

Hasil : Rata-rata kadar protein cairan pleura TB(4.43 ± 1.08) Infeksi non TB (3.98 ± 0.34) dan Ca paru (3.82 ± 0.57). besarnya luas *area under curve* (AUC) untuk kadar protein Cairan Pleura adalah sebesar 67.9% , cut off yang terbaik adalah sebesar 3.95 dengan nilai Sensitivitas ; 67.6% dan Spesifisitas: 65.4%

Kesimpulan: Kadar protein cairan pleura dapat membantu untuk mendiagnostik efusi pleura TB tetapi tidak menghasilkan angka sensitivitas dan spesivisitas yang baik.

P14

Pulmonary Function in Obese Children with Obstructive Sleep Apnoea Syndrome

Aina Salwa Kasim[1], Shahram Golbabapour[2], Anna M Nathan[1,3], Jessie Anne deBruyne[1,3], Eg Kah Peng[1,3], Surendran Thavagnanam[1,3]

[1]*Department of Paediatrics, University of Malaya Medical Centre, Kuala Lumpur, Malaysia*

[2]*Shiraz Transplant Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran*

[3]*University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia*

Background: As the prevalence of childhood obesity increases, the respiratory consequences are often underappreciated. In obese children, obstructive sleep apnoea syndrome (OSAS) is more frequently associated with oxygen desaturation, which might be caused by pulmonary function abnormalities. Our goal was to investigate the association between pulmonary function and OSAS in obese children. **Method:** This is a cross-sectional study performed at University Malaya Medical Centre involving overweight and obese 6 to 18 years old between 1st March 2016 to 31st May 2017. All subjects underwent polysomnography and spirometry measurements. Forty-six children had fractionated exhaled nitric oxide (FeNO) levels measured. **Results:** Seventy-four children were included and distributed in groups based on their obstructive apnoea-hypopnea index (20 controls, 24 mild OSAS, 30 moderate to severe OSAS). Mean age of children was 10.7 (± 3.2) years and mean BMI z-score 2.37 (± 0.44). Fifty-four (73%) children had OSAS. Abnormal spirometry was seen in children with OSAS (p 0.03; OR 3.2, 95% CI: 1.1 – 9.3). Restrictive pattern on lung function was also observed with worsening OSAS, χ^2 (2) = 6.89 (p 0.03). Significant decrease in FEV_1 (p <0.0001) and FVC (p <0.0001) was seen in children with moderate to severe OSAS. We also associated an increase in FeNO with a decline in FEV_1 (r -0.36, p 0.01) and FVC (r 0.49, p 0.001) in children with worsening OSAS severity (R^2 0.31, p <0.001). **Conclusion:** An association between awake pulmonary function and sleep-related respiratory parameters was observed in our population of obese children. These results suggest that OSAS severity correlated with diminished lung function. There was a positive association between OSAS and FeNO with decline in pulmonary function.

P15

Association of Interferon Gamma +874T/A Gene Polymorphism with Susceptibility and Disease Severity of Pulmonary Tuberculosis in Malang Indonesia.

David Alvianto[1], YJ Sugiri[1]
[1]*Pulmonology and Respirology Medical Program, Medical Faculty of Brawijaya University – Saiful Anwar Hospital, Malang, Indonesia*

Background: Pulmonary tuberculosis are a global health problem. Of all people infected with tuberculosis only a small proportion develops into tuberculosis. It remains unclear why a person who is infected with tuberculosis can become ill while others can survive the infection. Genetic factors are believed to affect a person's susceptibility to tuberculosis infection. IFN-γ is the key cytokine in the pathogenesis of tuberculosis infection.
Objective: To determine the relationship of Interferon Gamma +874T/A gene polymorphism with susceptibility and disease severity of pulmonary tuberculosis.
Method: The case control study from March 2018 to May 2018 involved 80 people consisting of 27 drug-sensitive pulmonary tuberculosis patients, 27 patients with drug-resistant pulmonary tuberculosis and 26 healthy subjects in Malang Indonesia. Polymorphism detected using multiplex electroforesis method.
Results: IFN-γ +874 A allele and AA genotype increases susceptibility to both drug-sensitive and drug-resistant pulmonary tuberculosis (OR: 9.8, 95% CI 2.955-32.506, p <0.001; dan OR: 18.85, 95% CI 4.340–81.864, p<0.001). AA genotype is significantly associated with high load of Mtb in sputum (p=0.029) and far advanced lesion in the chest x-ray (p=0.007).
Conclusions: Interferon Gamma +874 A allele and AA genotype polymorphisms increases susceptibility to pulmonary tuberculosis and .is associated with severe disease.

Keywords: Polymorphism, interferon gamma +874T/A, pulmonary tuberculosis, susceptibility, disease severity

P16

The Ten Years Experiences Of Bedside Pleuroscopy In Taiwan

[1,2]**Hean Ooi**

1. Division of Pulmonology and Critical Care, Department of Internal Medicine, Dalin Tzu Chi Hospital, Taiwan

2.Department of Preventive Medicine, Taichung Tzu Chi Hospital. Taiwan.

Objectives: It is not always possible to move critically ill patients to the operating or endoscopy room for a pleuroscopy. Bedside pleuroscopy is indicated for these patients. The aim of this study was to investigate the safety and complications of bedside pleuroscopy in an Intensive Care Unit (ICU).

Materials and Methods: The patients who had undergone routine examinations for pleural effusion, with no established diagnosis at the previous admission were included in this analysis. Patients received local analgesia with bedside pleuroscopy performed by a chest physician in the ICU with continuous monitoring.

Results: Two hundred eighty patients (171males and 109 females) with a mean age of 65 ± 4 years were enrolled. Their mean APACHE II score was 24 ± 1. The duration of drainage from the pigtail catheter was a mean 3.2 ± 0.2 days, and mean ventilator usage was 7 ± 0.7 days. The length of stay in the ICU was 14 ± 1 days. Most pleural effusions occurred on the right side (68%). The etiology included 60% malignant effusions, 19% parapneumonic effusions, 12% empyema, and 8% tuberculosis. There were no major complications such as massive bleeding or procedure-related death. The most common complication was transient chest pain (24%) only.

Conclusions: Pleuroscopy daily performed at the bedside in the ICU is a simple and safe procedure. It has the potential for use in critical patients as serious complications are rare.

P17

Effect of Different Sampling Methods and Storage on Pleural Fluid Parameters (pH, pO2, pCO2, HCO3, Glucose and Lactate)

CS Chai[1], SS Kho[1], MC Yong[1], SK Chan[1], ST Tie[1]
[1] *Respiratory Medicine Unit, Department of Medicine, Sarawak General Hospital, Kuching, Malaysia*

Accurate pleural fluid parameters measurement is important for correct diagnosis and management in patient with pleural effusion. To date, there is no standardized methods of pleural fluid collection and storage. We assess the effect of different sampling methods and storage on the pleural fluid pH, pO2, pCO2, HCO3, glucose and lactate.

30 exudative pleural effusion were sampled under anaerobic condition (needle aspiration) and aerobic condition (pleuroscopy). Samples were analyzed immediately using blood gas analyzer. Remaining anaerobic samples were stored in plain bottle and fluoride bottle respectively and samples were analyzed after 4 hours on room temperature. Changes in pleural fluid pH, pO2, pCO2, HCO3, glucose and lactate were compared.

Pleural fluid pH (mean +/- SD, 0.06 +/- 0.09, p=0.001) and pO2 (mean +/- SD, 38.79 +/- 40.64, p <0.001) were significantly increased with exposure to air whereas pCO2 (mean +/- SD, 6.83 +/- 8.53, p <0.001) was significantly reduced. No significant chances on HCO3, glucose and lactate when exposed to air.

Pleural fluid pH, pO2 and pCO2 were significantly altered (p <0.001) in delay analysis irrespective of the storage method.

Pleural fluid glucose in plain bottle was significantly increased in delay analysis (mean +/- SD, 0.21 +/- 0.15, p <0.001). Pleural fluid HCO3 and lactate were not significantly altered in delay analysis irrespective of the storage method.

Collection method and storage time will cause significant alteration to pleural fluid pH, pO2 and pCO2. Metabolic parameters on the other hand is more stable (HCO3, Glucose, Lactate). Decision on clinical management should be made according to all available information rather than pH alone. Pleural fluid glucose is an alternative as its measurements are less vulnerable to changes and best preserved in fluoride bottle. Pleural fluid should be collected under anaerobic condition and analysed without delay.

Reference

1. Najib M. Rahman 2008

P18

Incidence Of Neuropsychiatric Adverse Drug Reactions In Asthmatic Children Who Are On Montelukast Therapy In Hospital Pulau Pinang

Nicholas LW Chang [1], Rus Anida Awang[1], LH Goh[2], Kelvin KH Beh[2], Supriya Krishna Prasad[1], YY Wong[1]
[1]*Paediatric Respiratory Unit, Hospital Pulau Pinang, Malaysia*
[2]*Clinical Research Centre (CRC), Hospital Pulau Pinang, Malaysia*

INTRODUCTION : Montelukast is used as an alternative to inhaled corticosteroids in view of ease of administration and minor adverse drug reactions (ADRs). Recent reports highlighted incidence of neuropsychiatric ADRs among children who were prescribed with Montelukast. OBJECTIVES : To evaluate incidence of neuropsychiatric ADRs in asthmatic children who are on Montelukast therapy and to determine possible associations with Montelukast usage. METHODOLOGY : Retrospective, descriptive study, using an interview of main caretaker of all doctor-diagnosed asthmatic children (including viral induced wheeze and multi triggered wheeze), aged between 6 months and 17 years old, who were on Montelukast therapy or combination asthma therapy, in the Paediatric Respiratory Clinic in Hospital Pulau Pinang in 2017. RESULTS : Neuropsychiatric symptoms were reported in 13/81 (16%). Irritability, aggressiveness and hyperactivity were the common symptoms. Emergence of symptoms ranged from 7 days to 4 months, however, majority were unsure (10/13 = 77%). Cessation of therapy was only seen in 1/13 (8%) while the rest tolerated the symptoms. Underlying learning disabilities may be a possible association to neuropsychiatric ADRs ($p = 0.005$). CONCLUSION : Montelukast is related to mild neuropsychiatric reactions and rarely requires discontinuation. Learning disabilities may be a possible association but more studies are needed to identify these patient predictor factors. Awareness regarding emerging neuropsychiatric ADRs should be extended to prescribers and caretakers. Careful consideration should also be undertaken to decide the benefit of Montelukast should these patients develop ADRs.

P19

A 12-Month Retrospective Data On Patients Who Had Undergone Limited Sleep Study In UKMMC

Rose AO , Azira AK Amani A, Norita I. Faisal AH, Soo CI, Andrea Y Ban.
Respiratory Division, Universiti Kebangsaan Malaysia Medical Centre, Malaysia.

Introduction:
Obstructive sleep apnoea (OSA) is caused by recurrent episodes of upper airway obstruction during sleep, airway desaturation and a disturbed sleep. The traditional gold standard for objective assessment is a laboratory based polysomnography but there is growing evidence that limited sleep study is adequate in most cases. We report our data from limited sleep study results done over a 1 year period.

Methods:
This is a retrospective review of limited sleep data collected between January 2017 and December 2017 in an urban university teaching hospital. Patients underwent a type III sleep study. Data were collected on demography and AHI index.

Results:
One hundred and twenty patients (72 males,48 females) were included in this study. Mean age of patients was 53.7.The oldest patient was 85 years old and the youngest was 17 years old. The mean weight was 95.2kg. The heaviest patient was 204kg and the lightest was 35kg. The average BMI was 36.26 kg/m2.(13.57- 83.7) The average AHI was 32.4. (1.6-110.1). Four out of 120 patients had an AHI of 5 and below.

Conclusion:
Limited sleep study was able to diagnose OSA in 96% of our patients. We conclude that with a correct assessment done by respiratory physicians, patients may be diagnosed with OSA accurately using a limited sleep study.

P20

A Cross Sectional Study On Sleep Quality In COPD Patients in Seberang Perai Cluster Hospitals, Penang

WJ Tan[1], L. Pereirasamy[2]

[1] *Department Of Medicine, Hospital Bukit Mertajam, Pulau Pinang, Malaysia*

[2] *Department Of Medicine, Hospital Seberang Jaya, Pulau Pinang, Malaysia*

Introduction:

Disturbed sleep is reportedly common in Chronic Obstructive Pulmonary Disease (COPD) patients. COPD patients have worse sleep quality and more sleep-related problems when compared to people with other chronic diseases. In this study, we explored the sleep quality and its associations in COPD patients.

Methods:

This is a cross sectional study involving patients from 4 hospitals within Seberang Perai Cluster Hospitals. 74 patients were recruited. The COPD Assessment Test (CAT), Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index (PSQI) and modified Medical Research Council (mMRC) score and spirometry data was assessed.

Results:

Only 70.3% of the patients had a confirmed diagnosis of COPD via spirometry. The mean age was 67 years with male (89%) and Malay (50%) ethnicity predominance. The mean Spo2 was 96.4% (±1.8). 5.4% of the patients were on long term oxygen therapy while 51.4% of patients had history of exacerbation in the past 12 months. Patients with higher mMRC ($p=0.023$) and CAT score ($p=0.06$) were associated with poorer sleep quality. The use of diuretics was also associated with poor sleep quality ($p=0.06$). In general, patients with frequent exacerbations and lower SpO2 (< 96%) levels reported worse quality of sleep although these parameters didn't reach statistical significance.

Conclusion:

Multiple factors affects sleep quality in patients with COPD. Poor symptom control, worsening functional capacity and disease severity, along with use of diuretics were significant associations with poor sleep quality in our cohort of patients.

P21

Empyema Thoracis In Children: An Evaluation Of Real Life Practice

Supriya Krishna Prasad[1],Rus Anida Awang[1], Nicholas LW Chang[1]
[1] *Paediatric Department, Hospital Pulau Pinang, Malaysia*

INTRODUCTION: Community acquired pneumonia can be complicated by pleural effusion or empyema. Prompt diagnosis and management will influence the outcome. Hospital Pulau Pinang is a major referral centre for children with empyema for Penang State and Northern Region of Malaysia. We compared real life management of empyema to the Malaysian Consensus Guidelines by The Paediatric Empyema Working Group 2013 endorsed by Ministry of Health.
METHODS: Retrospective case study of all patients referred to the Paediatric Respiratory Unit from October 2017 till March 2018 was carried out. Adherence to the standards for diagnosis, investigation and management aspects were looked into.
RESULTS: The case notes of 13 patients were reviewed and one case was excluded due to underlying primary immunodeficiency. Eighty three percent of cases (10/12) were below 5 years old. Majority of patients were admitted with the suspicion of empyema or effusion based on the chest radiograph during the first week of illness (10/12 cases, median: 6 days, range 3-15 days) giving the opportunity for intervention. All cases were subjected to thoracic ultrasound to confirm and stage the effusion. However, only 4/12 cases were carried out within 2 days of admission (median: 3, range 1-12 days). These had led to the delay in the referral to the Paediatric Respiratory Unit. Most of the cases were unsuitable for urokinase intervention or high failure rate. Almost all cases need to undergo thoracotomy and decortication (91.7%, 11/12 cases) with median duration of hospital stay of 22.5 days (range 16-52 days).
CONCLUSION: Educational courses on consensus guidelines may lead to better understanding, proper implementation and improve outcomes.

P22

TUBERCULOSIS TREATMENT OUTCOMES AMONG DRUG ABUSERS IN PENANG, MALAYSIA

Irfhan Ali[1], Amer Hayat Khan[2], Muhammad Zeeshan Munir[2], Kashif Ullah Khan[2]
[1] *Respiratory Department, General Hospital Pulau Pinang, Penang, Malaysia*
[2]*Discipline of Clinical Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, Malaysia*

Background: Tuberculosis among drug abusers remains a public health problem which tend to have a negative impact on treatment outcomes.
Aim and objective: This study is aimed to determine Treatment outcomes of Tuberculosis among drug abusers in chest clinic of Hospital Pulau Pinang.
Method: an observational retrospective study was conducted where the files of all the patients who were entitled for anti-TB treatment from 1st Jan 2014 to Dec 31st 2015 in Chest Clinic, Penang Hospital were reviewed. Patient socio-demographic details along with clinical features were recorded. Data was descriptively analysed by using statistical package for social sciences (SPSS 20).
Results: The total files reviewed for this study was 850, out of which 104 (12.2%) were confirmed drug abusers. Most where males 100 patients (96.2%) with a mean body weight of 51.5 Kg. Most patients, 82 (78.84%) were above 35 years of age with mean age of 46.44 years. Malay 36 (34.6%) and Chinese 36 (34.6%) were the most affected followed by Indians 29 (27.9%) and others 3 (2.9%). Significantly higher percentages of these patients were unmarried 74 (71%). Out of 94 smokers, 73 (70.2%) were active smokers while 21(20.2%) were ex-smokers. It was observed that 57 drug abuser out of 104 were successfully treated and there was a higher correlation between successful treatment outcomes and age below 35 years (p=0.160, OR=2.041) although not significant. Chinese (p=0.599, OR=0.124) had a negative association with successful treatment outcomes whereas Malays (p=0.599, OR=1.244) and Indians (p=0.175, OR=1.850) showed positive association with successful treatment outcomes. Unmarried drug abusers (p=0.633, OR=1.387) had lower association with successful anti-T.B treatment outcomes, but was not statistically significant.
Conclusion: Drug abuse is a fairly common problem among Tuberculosis patients, which generally results in poorer treatment success rate. This study revealed a success rate of 54% among drug abusers and certain characteristics (younger age group, certain races and married patients) may do better although there was no statistical significance. Overall, more attention need to be given to this group of patients to identify potential poor responders and improve treatment outcomes.

P23

Improved Hospitalisation Stay with Indwelling Pleural Catheter

AN Musa[1], NY Esa[1], MA Ibrahim[1], MF Abdul Rani[1], AI Ismail[1], MA Mohd Zim[1]

[1] Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh, Selangor, Malaysia

Introduction

The mainstay of treatment for symptomatic recurrent pleural effusion was previously limited to intermittent thoracentesis or pleurodesis. A novel innovation, indwelling pleural catheter (IPC) have been used by our centre since 2015 for treatment of symptomatic recurrent pleural effusion. IPC is a tunnelled pleural tube that allows patient to do self-drainage at the comfort of their home.

Results

13 IPC have been inserted in a single centre by our team with mean patient's age 56.5 ± 13.4 year old (range 37 – 76 years old). Indications were malignant pleural effusion (76.9%) and hepatohydrothorax (23.1%). Patient's diagnosis included adenocarcinoma (53.8%), lung cancer (unspecified) (15.4%), liver cirrhosis (23.1%) and small cell lung cancer (7.7%). There were only 2 cases of infection (15.4%) (at 5 months and 11 months after insertion respectively). Mean duration of stay was 15.0 ± 8.7 days with a mean no of thoracentesis of 2.1 ± 0.9 times before the IPC insertion. Mean duration of stay after IPC was 2.7 ± 3.3 days. There was a significant reduction in duration of hospitalisation with mean difference of 11.6 ± 10.2 days (95% CI 3.11 – 20.14, $p = 0.014$).

Conclusion

This highlights that IPC intervention reduces hospitalisation and is associated with low complication rate. Its use is not just limited to malignant pleural effusion.

P24

Impact of Obstructive Sleep Apnea Risk on timing of Acute Coronary Syndrome Onset.

M. H. Muhmad Hamidi[1], M. A. Ibrahim[1], J. R. Ismail[2], M. A. Mohd Zim[1], A. I. Ismail[1]

[1]*Sleep Health and Respiratory Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Malaysia*
[2]*Cardiology Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Malaysia*

Background Acute coronary syndrome (ACS) remains the principal cause of death in Malaysia. It is estimated about 20% of ACS occurs at nighttime during sleep between 12am to 6am. Factors associated with nocturnal ACS are unknown. Acute nocturnal pathophysiological response to obstructive sleep apnea (OSA) may increase risk of nocturnal ACS. We hypothesized that OSA risk is associated with timing of ACS onset. **Methodology** This study included 200 patients with ACS who underwent coronary angiogram for which the time of chest pain onset was clearly identified and divided into 2 groups; nocturnal ACS (12am-559am) and non-nocturnal ACS (6am-1159pm). Two validated questionnaires, STOP-BANG and Epworth Sleepiness Scale (ESS) were self-administered by subjects to determine OSA risk. All subjects timing of ACS onset, OSA risk, demography, anthropometric measurements, comorbidities and echocardiographic characteristics were analyzed. **Results** Acute coronary syndrome occurs nocturnally in 19% of ACS patients. The prevalence of high risk OSA individuals among ACS patients is 43%. There is significantly higher prevalence of high risk OSA individuals in nocturnal ACS group of 95% compared to 30% of high risk OSA individuals in non-nocturnal ACS group (p=0.001). Nocturnal ACS patients was significantly younger (50.1±8.7yrs p=0.001), had higher BMI (33.9±4.3kg/m^2 p=0.005), waist circumference (106.7±10.3cm p=0.003) and larger neck circumference (44.6±3.3cm p=0.001) compared to non-nocturnal ACS group. These groups had similar prevalence of other comorbidities for ACS and showed no significant difference between left and right ventricular systolic function. In multiple logistic regression analysis, the most significant predictors for nocturnal ACS are OSA risk, neck circumference and age. **Conclusion** There is a strong association between high risk OSA individuals and nocturnal ACS onset. Patient with nocturnal ACS onset should be screened for OSA and prioritized for polysomnography.

P25

Clinical Experience in Idiopathic Pulmonary Fibrosis Cases : A Retrospective Study

SA Syakirin[1], **AG Nurul Aimi**[1]

[1] *Institut Perubatan Respiratori,Kuala Lumpur, Malaysia*

Introduction

Idiopathic pulmonary fibrosis (IPF) primarily occurring in older adults with male predominant which limited to the lung and has a specific radiologic pattern and/or histopathologic of usual interstitial pneumonia (UIP). An accurate diagnosis of IPF is vital through an integrated approach involving a multidisciplinary team (MDT) to improve diagnostic confidence.

Methodology

It is a retrospective and descriptive study and we report our one year clinical (from 1st March 2017 to 1st March 2018). The data were obtained via clinical notes.

Results

There are 16 cases diagnosed based on clinical-radiological information. The diagnosis of IPF was made according to the ATS/ERS international recommendations (2011). The average age was 69.43 with a male predominance (93.8%). 1 patient with possible familial IPF and the rest are sporadic cases. Distribution among the race are Malay (37.5%), Indian (31.3%), Chinese (25%) and Punjab (6.2%). Around 56.2% were former smoker. There were no significant occupational related lung disease and 3 patients have low positive anti-nuclear antibody (ANA) without significant connective tissue disease signs and symptoms. Radiological changes on high resolution CT (HRCT) shows 56.2% were definite UIP and 43.8% were probable UIP pattern. A majority (46.7 %) of patients in the group II of the GAP index followed by 33.3% in the group I and group III is 20%. 2 patients passed away while on anti-fibrotic treatment, 6 patients received anti-fibrotic treatment and 10 are still applying for the treatment. 4 patients were treated for acute exacerbation-IPF.

Conclusion

The accumulated data based on local cohort shows almost in keeping with the demographic data which presented in the literature.

References

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P26

Medical Thoracoscopy – A District Hospital Experience

EK Ng[1], MKT Rosli[2], SW Cheo[2], HJ Wong[3], QJ Low[4], K.K. Sivaraman Kannan[5]

[1] *Medical Department, Hospital Tawau, Sabah, Malaysia*

[2] *Medical Department, Hospital Lahad Datu, Sabah, Malaysia*

[3] *Medical Department, Hospital Duchess of Kent, Sandakan, Sabah, Malaysia*

[4] *Medical Department, Hospital Sultanah Nota Ismail, Batu Pahat, Johor, Malaysia*

[5] *Respiratory Department, Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia*

Introduction

Medical thoracoscopy (MT) is increasingly used by chest physicians and is regarded as the second most important endoscopic technique in respiratory medicine after bronchoscopy. Its role in determining the etiology of exudative pleural effusions remains undisputed as it offers the operator the ability to directly visualize the parietal and visceral pleura for targeted sampling biopsy/sampling. Compared with video assisted thoracoscopic surgery (VATS), MT can be done under local anesthesia or conscious procedural sedation using semi rigid instruments.

Aim

To review the local practice and experience of MT in a district general hospital in East Malaysia

Method

This is a retrospective study involving 13 patients that underwent MT in Hospital Tawau, Sabah from 1 February 2018 till 10 May 2018. Data were retrieved from case notes and analyzed using SPSS version 25.

Results

A total of 13 patients underwent 14 MTs, out of which 1 patient underwent two MTs during the study period. Out of the 13 patients, 61.5% (n= 8) were male and the mean age is 48.4 years. 12 of the MTs performed were diagnostic with subsequent chest tube drainage, 1 palliative pleurodesis and 1 intrapleural streptokinase administration. 1 patient developed subcutaneous emphysema which subsequently resolved. No major adverse events e.g death were encountered whilst performing MT.

Out of the 14 MTs performed, 71.4% were of infective etiology, with pleural tuberculosis (n=5) and complicated parapneumonic effusions (n=5) contributing equally. 14.3% (n=2) were that of malignancy Other diagnosis include: Uremic Pleuritis (n=1), possible Meig Syndrome (n=1).

Conclusion

MT is an excellent diagnostic/therapeutic procedure for pleural effusion of unknown etiology. It is also a relatively safe procedure that can be performed by physicians in the district hospital setting.

Reference

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P27

The Demographic Profile Of Patients With Excessive Daytime Sleepiness Presenting To The Sleep Medicine Clinic Hospital Taiping From February 2017 till April 2018

MM Ramanathan[1], **UA Muthukumaru[2],**
[1,2] *Hospital Taiping, Perak, Malaysia*

Excessive daytime sleepiness(EDS) is due to variable causes. Most patients, after a thorough clinical assessment, need a polysomnography to come to a diagnosis.

Methodology: This was a retrospective study. The data was retrieved from the outpatient notes. Patients with an Epworth Sleepiness Score of more than 12 were included. All patients underwent a full night attended polysomnogram. Patients' age, ethnicity, comorbidities, BMI and sleep diagnosis were analyzed using SPSS version 21 and Mann-Whitney U test.

Results:105 patient's data were analyzed, 61% were male and 39% were female. 61.9% were Malays, 12.4% were Chinese and 25.7% were Indians. Male patients had more severe OSA compared to females, which was statistically significant. 90.5% of patients were obese. 20% of patients had mild OSA, 15.2% had moderate OSA and 58.1% had severe OSA, 6.9% had other disorders. All the patients with OHS had OSA. 59.1% of patients with severe OSA had hypertension and 85.7% of patients had both hypertension and diabetes mellitus. There was a statistically significant increase in the co-morbidities in patients with severe OSA compared to non severe OSA.

Conclusion:Men develop more severe OSA than women. Patients with severe OSA were more likely to have hypertension and diabetes compared to non-severe OSA. Hence early diagnosis is essential.

P28

Evaluation of the demographics, diagnosis and monitoring, management, device usage and adherence among COPD patients: A survey of doctors in Malaysia

Abdul Razak[1], Aniruddha Mukhopadhyay[2], Vaibhav Gaur[2], Jaideep Gogtay[2]
[1]MAHSA University, Malaysia, [2]Global Medical Affairs, Cipla Ltd., Mumbai, India

Introduction: There is a paucity of recent data to understand the practice pattern of COPD by clinicians in Malaysia. We evaluated doctors' perception on demographics, diagnosis, monitoring, management, device usage and adherence among COPD patients in Malaysia.

Methods: This was a questionnaire based survey conducted in 144 doctors of different specialties treating COPD patients, in 10 different locations across Malaysia.

Results: 73% doctors saw at least 5 patients in their daily practice. Almost all patients were >40-years of age and more than 90% were smokers. Most of the doctors routinely used spirometry and clinical judgement to diagnose COPD and suggested a follow-up atleast every 3 months. Half of the doctors considered patients' exacerbation history while selecting the treatment for COPD patients. Maximum number of doctors preferred SABA/SAMA combination for Group-A, LABA/LAMA for Group-B and C, and LAMA+ICS/LABA for Group-D patients. 64% of doctors prescribed inhalation therapy to all their COPD patients. pMDI with or without spacer was preferred by most doctors. Nebulization was one of the preferred options for Group-D patients by 24% of doctors. Only about 70% of their patients had good adherence (>80%) to the treatment. All the doctors evaluated inhalation technique either at every visit (51%) or on suspecting wrong technique (49%). Poor technique was considered to be the biggest reason for non-adherence to COPD treatment.

Conclusions: Doctors followed GOLD recommendations for COPD management. pMDI with or without spacer is the most preferred treatment choice for COPD in Malaysia. More doctors can adopt inhalation therapy in more number of their patients. Regular device demonstration in each visit can improve the inhalation technique and possibly can increase adherence to the treatment.

P29

Pulmonary complications in pediatric patients with primary immunodeficiency: Serdang Hospital's experience

P.Y.Tan[1], Dg Zuraini Sahadan[1], M.A. Nunis[2], C.S Ong[2], Intan Hakimah Ismail[2]

[1] *Hospital Serdang, Malaysia*
[2] *University Putra Malaysia*, *Malaysia*

Introduction: Primary immunodeficiencies(PID) are a group of more than 350 disorders which result in defect of immune system. Respiratory symptoms and complications present a significant cause of morbidity and mortality among PID patients.
Objective: To describe pulmonary complications and outcomes in pediatric PID patients.
Methods: Medical records of 75 PID patients from January 2017 till April 2018 were reviewed. Forty-nine patients were excluded as the PID diagnosis has not been confirmed(n=48) and incomplete data(n=1) respectively. Twenty-seven patients were analyzed.
Results: The median age group of the study population group was 7y (2.9-16y; 59% boys) and majority were Malay (22/27, 81%).The most common PID was humoral mediated immunodeficiency (15/27, 56%) of which 47% were agammaglobulinemia. The median age of presentation with first symptoms for patients with humoral mediated defects, cellular mediated defect, well defined syndromes and phagocytic defects were 15(3-120)months, 15(6-24)months, 0.5(0.1-4)months and 2(1-8)months respectively. Well defined syndromes were diagnosed earlier at median 11(1-17)months as they had other associated features. Patients with phagocytic defects were predisposed to respiratory complications earlier at median 8(3-135) months. The most frequently diagnosed pulmonary complications among our patients were bronchiectasis (11/27, 41%), recurrent pneumonia (5/27,19%), bronchiolitis obliterans (2/27, 7.4%) and endobronchial Tuberculosis (2/27,7.4%). Twenty-six percent of PID patients did not have pulmonary complications.
Conclusion: This study showed that majority of our PID patients has respiratory complications and early diagnosis and interventions minimize recurrent infections preceeding pulmonary complications.

P30

Characteristics and Outcome of Children Admitted with Respiratory Syncytial Virus Infection in Hospital Putrajaya in 2017

Siti Khairani MHN , Tan YL, Wong WK, Fuziah MZ

Paediatric Department, Putrajaya Hospital, Malaysia

Introduction

Respiratory syncytial virus (RSV) infection is a significant cause of mortality and morbidity in young children affected with respiratory tract infections globally including Malaysia. We studied and examined the characteristics and outcome of children admitted with RSV infection in Hospital Putrajaya in 2017.

Methodology

A retrospective data collection was performed for children less than 2 years old who were admitted for RSV infection from January to December 2017. The RSV infection in these children was confirmed with a positive immunofluorescence (IF) test of nasopharyngeal aspirate (NPA) sample collected during ward admission.

Results

A total of 205 patients were included. All patients were of Malay ethnicity with a preponderance of boys (56.6%). Majority of the patients affected were less than 1 year old (72.2%), with a mean age of 8.3 months (SD = 0.3). Majority of the patients required oxygen support (91.7%) including 4 children who were intubated. For patients who were not intubated, the average duration of stay was 3.7 days (n = 201, SD = 2.2), the longest being 13 days. Majority (85.4%) of the patients received antibiotics during the course of hospital stay. About one-fifth (17.5%) of patients with RSV infection were readmitted for respiratory related illnesses within the same year (mean = 65.3 days, SD = 45.4). We observed a peak of RSV infection from July to November 2017. There was no mortality reported in this study.

Conclusions

Majority of children afflicted with RSV infection were in their infancies. There was a degree of seasonality of RSV infection towards the latter half of 2017.

P31

Pilot Study: Polysomnography parameters and timing of Acute Coronary Syndrome onset in Obstructive Sleep Apnoea patients.

M. H. Muhmad Hamidi[1], M. A. Ibrahim[1], J. R. Ismail[2], M. A. Mohd Zim[1], A. I. Ismail[1]

[1]*Sleep Health and Respiratory Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Malaysia*
[2]*Cardiology Unit, Faculty of Medicine University Teknologi MARA, Sg Buloh, Malaysia*

Background The evidence on the circadian variation of ACS onset among OSA patients has been inconclusive. Most studies attempt to relate OSA severity based on Apnoea-Hypopnoea Index (AHI) with timing of ACS onset. However, there has been lack of analysis with regards to other sleep parameters to explain the difference in timing of ACS onset among OSA patients. We hypothesize sleep parameters such as AHI, arousal index, oxygen desaturation index, sleep efficiency and heart rate may influence the timing of ACS onset in OSA patients. **Methodology** 22 patients diagnosed with acute coronary syndrome and high risk OSA based on two validated questionnaires, STOP-BANG and Epworth Sleepiness Scale underwent level 1 polysomnography. Timing of ACS onset was divided into two groups; nocturnal ACS (12am-559am) and non-nocturnal ACS (6am-1159pm). **Results** 22 high risk OSA subjects underwent level 1 polysomnography with a median of 1.8months (IQR 1.1-3.2) from ACS event; 10 subjects had nocturnal ACS and 12 subjects had non-nocturnal ACS. All of the high risk OSA subjects were diagnosed to have OSA based on polysomnography(AHI>5). There was a trend towards higher arousal index, total AHI, Rapid Eye Movement (REM) AHI, mean and maximum heart rate in Nocturnal ACS group compared to non-nocturnal ACS group; 19/hr vs 16/hr, 27.9/hr vs 18.8/hr, 50.8/hr vs 25.3/hr, 60bpm vs 556bpm, and 88bpm vs 79bpm respectively. However, there was a trend towards lower sleep efficiency and oxygen desaturation index in the Nocturnal ACS group compared to Non-nocturnal ACS group; 81% vs. 85% and 18/hr vs 27/hr respectively. There was no difference in average desaturation drop and lowest oxygen desaturation between the groups; 4.5% vs 4.4% and 81% vs 80% respectively. **Conclusio**n Differences in sleep parameters between nocturnal and non-nocturnal ACS among OSA may explain the pathogenesis of acute cardiac event onset. However, a larger sample size is required to determine the significance of these observed trends.

P32

Clinical-radiologic manifestation in case series of non-specific interstitial pneumonia (NSIP)

SA Syakirin[1], **AG Nurul Aimi**[1]
[1] *Institut Perubatan Respiratori,Kuala Lumpur, Malaysia*

Introduction
NSIP may have various etiologies; for example, it may be idiopathic, a variant form of idiopathic pulmonary fibrosis (IPF), secondary to collagen vascular disease, drug induced, occupational, infectious, familial, due to chronic aspiration, or granulomatous.

Methodology
It is a retrospective and descriptive study and we report our one year clinical (from 1st March 2017 to 1st March 2018). The data were obtained via clinical notes.

Results
Twenty NSIP patients were included. The mean age of the study population was 60.4. All were non-smoker and predominantly female about 85%. Malay race being majority at 45% of cases followed by Indian (35%) and Chinese (20%). Based on high resolution CT (HRCT) findings; 35% with both cellular and fibrotic pattern, 55% with fibrotic pattern and 10% with cellular pattern. At the end of the follow-up period of 1 year, six cases were diagnosed with positive autoantibodies and the rest remained idiopathic (both clinical: no connective tissue disease and serology: negative). 7 patients were not on any treatment, the rest were on prednisolone therapy and 6 patients were on steroid sparing agent.

Conclusion
The data based on local cohort shows in keeping with the demographic data which was furnished in the literature. It's a female predominant, non-smoker population with both cellular and fibrotic mixed HRCT pattern commonly seen in this group of patients.

References
Semin Respir Crit Care Med 2016;37:378–394

P33

VALIDATION OF BAHASA MALAYSIA VERSION OF THE ASTHMA KNOWLEDGE QUESTIONAIRE

AUTHORS:
1Hafizah Zainudin , 1N. Fafwati Akmar Mohamad, 1Shangari Kunaseelan, 1Fazila Mat Arifin, 2Farizah Mohd Hairi, 1Azizah Musa, 1Faridah Derani, 1Nor Khamizah Mesiran, 1Marlina Osman,1 Asiah Kassim

[1] Institute of Paediatric Hospital Kuala Lumpur
[2]Faculty of Medicine, University Malaya Medical Centre

INTRODUCTION:
The Asthma Knowledge Questionnaire for parents of children with asthma by C. Rodriguez Martinez (2005) has proven to be a valid instrument for asthma knowledge assessment of patients and their parents. 17 items were included in the questionnaire including their myths and beliefs, knowledge and associated aspects.
OBJECTIVE: Our objective was to obtain a Bahasa Malaysia version of the questionnaire and to analyze its validity and reliability.
METHOD: The Bahasa Malaysia version was obtained by using the forward/back-translation method with language experts in Bahasa Malaysia and English. The questionnaire was administered to respondents in Institute Paediatric Hospital Kuala Lumpur. The results were analyzed with SPSS version 22.0 and internal consistency was determined with Cronbach's alpha coefficient.
RESULTS: There were 220 respondents to the questionnaire consists of staffs working in Institute of Paediatric Hospital Kuala Lumpur. The mean age of respondents was 32.1+ 7.1 year old. About 82% of them were female. The standard deviation for each item were more than 0. (0.85 to 1.36) The overall Cronbach's alpha coefficient of the questionnaire was 0.70.
CONCLUSION: Bahasa Malaysia version of the Asthma Knowledge Questionnaire by C.Rodriguez Martinez has been proven to acceptable and reliable and culturally equivalent to the original version and it has a good degree of consistency, validity and reliability.

P34

Demographic And Clinical Data Of Tuberculosis Treatment Defaulters In Kuala Lumpur : A Retrospective Cohort Study

Han Loong Tan , Syazatul Syakirin Sirol Aflah, Noorul Afidza Muhammad, Nurhayati Mohd Marzuki, Zamzurina Abu Bakar.

Institut Perubatan Respiratori, Kuala Lumpur, Malaysia.

Introduction

Tuberculosis is a leading cause of death from infectious disease worldwide. Non-compliant to treatment may result in persistent smear positive pulmonary tuberculosis (PTB) and development of multi-drug resistant tuberculosis. Studying the demographic and clinical data of defaulters would assist the clinician in understanding the root cause and managing the disease.

Objective

To determine the demographic data of tuberculosis patients who default treatment and the rate of treatment default among smear positive, smear negative and extrapulmonary tuberculosis patients.

Methodology

We conducted a retrospective study to review the census of tuberculosis patients who were registered in Institut Perubatan Respiratori from 1st January till 31st December 2016. Patients with treatment outcome registered as defaulter, treatment complete, cured or dead were recruited. Demographic and clinical data were collected and analyzed.

Results

399 patients (70.2% male and 29.8% female with mean age of 41.1±15.9 years old) defaulted tuberculosis treatment, comprised 33.9% of total 1177 patients recruited. Among the treatment defaulters, 51.4%(205/399) were Malay, 16.5%(66/399) were Chinese and 13.3%(53/399) were Indian. Majority of the treatment default cases were smear positive (214 cases), followed by smear negative (130 cases) and extra PTB (55 cases). Only 1.8% (7/399) of the treatment defaulters were vagabond while 2 patients were prisoners. The rate of treatment default for smear positive, smear negative and extrapulmonary PTB were 35.5%(214/603), 34.5%(130/377), and 27.9%(55/197) respectively. Treatment outcome was associated with gender (p=0.001) but not race, nationality or sputum smear results.

Conclusion

Male gender was associated with higher incidence of tuberculosis treatment default compare to female. There is no significant difference in the rate of treatment default between smear positive, smear negative and extrapulmonary tuberculosis.

Recommendation

Clinical parameters such as comorbidity, social-economy status and effectiveness of direct observed therapy should be studied to identify the determinants of treatment default.

P35

Nocturnal Oxygen Saturation In Obstructive Sleep Apnea Patients

A R Samsuddin[1], R A Rahman[1], N A Md Tarekh[1]
[1] *Hospital Sultanah Aminah Johor Bahru, Johor*

Introduction
Obstructive sleep apnea (OSA) is characterised by repetitive upper airway obstruction during sleep. This will lead to intermittent nocturnal hypoxia which is responsible for the cardiovascular complications of OSA.

Method
Polysomnograph of 297 patients (suspected of having OSA) done at our clinic were evaluated. Apnea-hypopnea index (AHI), average oxygen saturation (AVO) and nadir oxygen saturation (NO) were compared.

Result
From 297 patients, 270 (90.0%) were diagnosed as having OSA (AHI more or equal to 5). Mean AVO =94.43% in non-OSA group and 91.34% in OSA group. Mean NO was 84.81% in non-OSA group and 70.12% in OSA group. For different severity of OSA, mean AVO was 94.28% in mild OSA, 93.26% in moderate OSA and 89.84% in severe OSA. Mean NO was 81.73% in mild OSA, 72.93% in moderate OSA and 65.68% in severe OSA.

Conclusion
From this study severe OSA has a lower oxygen saturation during sleep which will put patient in this group at higher risk of developing cardiovascular complications from OSA.

References
1. Minimal nocturnal oxygen saturation predicts future subclinical carotid atherosclerosis: the Wisconsin sleep cohort. *Sverrir I. Gunnarsson et al 2014*
2. Sleep Apnea and Cardiovascular Disease. AHA/ACCF Scientific Statement.

P36

Clinical outcomes of Children with Congenital Tracheal Stenosis- Case studies

E Hui Chean , Ezyan Othman, Lee Jia Mei[1], Kah Peng Eg[1,2], Anna Marie Nathan[1,2], Surendran Thavagnanam[1,2], Jessie Anne de Bruyne[1,2], Zakaria Zahari[3], Lucy Lum[1], Gan Chin Seng[1] , Yik Yee Yian[1], Raja Amin Raja Mokhtar[1], Sivakumar Krishnasamy[1], Noorjahan Hashim[1], Marzida Mansor[1], Lucy Chan[1], Wang Chew Yin[1], Ang Hak Lee[1], Lim Zek Sen[1]

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

[2] *University Malaya Paediatric and Child Health Research Group, University of Malaya, Kuala Lumpur, Malaysia*

[3] *Institut Pediatrik Hospital Kuala Lumpur*

Background:
Congenital tracheal stenosis is a rare condition in which the cartilage support structure of the trachea is narrowed and presents as life-threatening respiratory distress in neonates and infants.

Methods:
We conducted a retrospective review of 10 patients diagnosed with congenital tracheal stenosis over the past 14 years.

Results:
All presented with noisy breathing and respiratory distress within the first 6 months of life and 50% required intubation early in life. The diagnosis was confirmed by bronchoscopy and CT Thorax. 50% of the children have left pulmonary artery slings. Mean age for surgery is around 4 months. 6 children underwent surgery: 5 had slide tracheoplasty, 1 child had end-to end tracheal resection and anastomosis, 1 child had left pulmonary artery sling repair prior to tracheal repair due to a very complex airway. 5 out of 6 children had simultaneous cardiac repair during tracheal repair. Mortality rate(surgical) was 50%: 2 developed intra/post-operative complications and died, 1 child who had end-to-end anastomosis had multiple tracheal dilatations due to recurrent tracheal stenosis and eventually died.
2 children were managed conservatively with non-invasive ventilation and are currently alive. 1 child was on palliative care due to multiple congenital abnormality and died.

Conclusion:
Congenital tracheal stenosis often present with life-threatening airway obstruction with many associated with pulmonary artery slings. Effective treatment is often challenging due to diversity of clinical presentation i.e. smallest diameter and length of stenosis.

P37

Audit On Computed Tomography Pulmonary Angiogram in a District Hospital

SW Cheo[1], M.Hawari Nordin[2], HJ Wong[3], EK Ng[4], QJ Low[5]
[1,2]*Hospital Lahad Datu, Sabah, Malaysia*
[3]*Hospital Duchess of Kent, Sabah, Malaysia*
[4]*Hospital Tawau, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

Introduction :
Hospitalized patients are at greater risk of developing pulmonary embolism (PE) as the risk increases with presence of acute illness. The annual incidence is 60-70 per 100000. Untreated PE carries a mortality rate of 30%. Computed tomography pulmonary angiogram (CTPA) is the first choice of modality for diagnosis of PE. Here, we would like to present an audit on CTPA done in a district hospital.

Objective : To illustrate the demographics data of patient undergoing CTPA and the outcome.

Methods :
This is a retrospective study conducted in Hospital Lahad Datu. Patients who have undergone CTPA from Jan 2017 till May 2018 were included. Data were retrieved from case notes and analyzed via SPSS version 25.

Results :
Total of 25 patients admitted to hospital have undergone CTPA examination. The mean age is 38 years old. 72% of our patients are female. Majority are of Bajau ethnicity (24%), followed by Indonesian (16%). 14 out of 25 patients were from general medical ward. In term of clinical features, majority of patients undergone CTPA examination presented with difficulty in breathing (75%), followed by cough (40%). Only 6 patients complained of chest pain. 3 patients have concomitant deep vein thrombosis. In term of electrocardiography (ECG), 52% have sinus tachycardia. Only 1 patient with proven PE has the classical S1Q3T3. The mean Well's score is 4. 3 out of 4 patients with PE have Well's score above 7. 4 patients were diagnosed to have PE from CTPA. 1 patient undergone thrombolysis. All 4 patients survived.

Conclusion :
The diagnosis of PE remains a difficult one. Higher Well's score correlate with higher likelihood of PE. Classical ECG changes of S1Q3T3 are not commonly seen. However, it's important to diagnose PE early so that appropriate treatment can be given.

References :
Grace Robinson, 2006

P38

Spectrum of Respiratory Virus Infection for Children Admitted in Hospital Putrajaya in 2017

Siti Khairani MHN , Tan YL, Wong WK, Fuziah MZ
Paediatric Department, Putrajaya Hospital, Malaysia

Introduction
Acute respiratory tract infection is a leading cause of morbidity and mortality in children, with the commonest aetiology attributed to viral causes. The aim of this study is to describe the spectrum and outcome of children admitted with respiratory virus infection in Hospital Putrajaya in 2017.

Methodology
A retrospective study was performed to analyse the viral aetiology of children less than 2 years old admitted for respiratory tract infection from January to December 2017. Nasopharyngeal aspirate (NPA) samples were collected during ward admission and those with a confirmed positive immunofluorescence (IF) test were included for analysis. Viruses included in this report were respiratory syncytial virus (RSV), influenza virus, parainfluenza virus, adenovirus and metapneumovirus.

Results
A total number of 293 patients were included in this study with slight male predominance (54.9%). RSV (70.0%) is the commonest virus detected followed by parainfluenza virus (13.2%). Influenza virus is the least common (3.8%). We observed a peak of RSV infection from July to November 2017. There was a sudden peak of metapneumovirus in December 2017 whereas influenza virus and adenovirus had an all year round distribution. Majority (89.4%) of the patients required oxygen support including non-invasive ventilation (9.2%) and intubation (2.0%). The average hospital stay was the longest for adenovirus (mean =11.1 days, SD 18.3) and shortest for RSV (mean = 3.7 days, SD 2.2). About one-fifth (19.4%) of the patients were readmitted for respiratory related illnesses within the same year. Two cases of mortality were reported during this period which might be associated with parainfluenza infection and in addition they had underlying co-morbids (syndromic condition).

Conclusions
The most common virus detected in this study was RSV. Although less common, adenovirus and parainfluenza virus infection in children demonstrated an increased morbidity as reflected by the longer duration of hospital stay.

P39

Retrospective Review of Patients ReceivingIntrapleuralInstillation of Recombinant Tissue Plasminogen Activator (rTPA) with Alteplase in LoculatedPleural Effusion or Empyema in a Single TertiaryCentre.

KaziMajidurRahaman , Andrea Ban Yu- Lin, Mohamed Faisal Abdul Hamid

Respiratory Division, UniversitiKebangsaan Malaysia Medical Centre, Malaysia.

Introduction: Intrapleural fibrinolysis is a useful alternative to surgical intervention in a patient with loculated pleural effusion or empyema.We describe the use of alteplase as an alternative to surgical intervention.

Method of study :This study looks at the outcomeof intrapleuralalteplase in loculated pleural effusion or empyema in a single tertiary centre in Malaysia. Data was collected from 27 patients who required alteplase for complicated pleural effusion or empyema from January 2017 to May 2018. Complications and the need for further interventions were evaluated. These patients were treatedinitiallywith chest drain and medical therapy but failed to show any improvement after several days.Patient were given alteplase at the dose ranging from 2.5mg-10mg twice daily up to a total of 6 doses. More than 90% of patients had complete resolution of the pleural effusion.Side effects were minor and tolerable, e.g. chest pain.

Conclusion :Intrapleural r-TPA (Alteplase) appears to be effective in treating loculated pleural effusion and empyema. 10 mg per dose of alteplase appears most successful. We found no risk of prolonged bleeding complications.

P40

A Qualitative Study Exploring the Barriers to Asthma Management as Perceived by Malaysian Asthmatic Patients

Sohail Ahmad[1], Wong Yii Zhi[1], Nurul Irfana Binti Hassan Bashri[1], Mohd Arif Mohd Zim[2], Ahmad Izuanuddin Ismail[2]

[1]*Faculty of Pharmacy, MAHSA University, Jalan SP2, Bandar Saujana Putra, Jenjarom, 42610 Kuala Langat, Selangor, Malaysia*
[2]*Faculty of Medicine, Universiti Teknologi MARA, Selayang Campus, Jalan Prima Selayang 7, 68100 Batu Caves, Selangor, Malaysia*

Introduction: The poorly controlled asthma imposes a growing burden on over-stretched healthcare system. Despite improved treatment regimens for asthma, the prevalence and morbidity from asthma are increasing.
Objective: The main objective of this study was to identify barriers to asthma management as perceived by young adult asthmatic patients.
Methods: In this qualitative study, eleven adult asthmatic patients were approached for interview from two community pharmacies situated in Selangor, Malaysia. The study instrument composed of two sections. In first section, the participants' socio-demographic characteristics, medical data, and asthma control test were recorded. After obtaining permission from National Heart Lung and Blood Institute (NHLBI), the ASPIRE semi-structured interview guide was translated into Malay language and used as the section two of the instrument. Patients' responses were recorded manually as well as electronically. The tapes were verified for accuracy of transcription. Data obtained were coded independently for the relevant themes.
Results: The majority of the interviewees were female (n=9, 81.8%), and Chinese (n=5, 45.5%). For most patients the asthma was not well-controlled (46%). The main findings of this study defined three main themes of the barriers faced by the enrolled patients. These themes were named as patient-related, disease and treatment-related, and healthcare-related barriers. The most frequent types of identified patient-related barriers included forgetfulness to take controller medicine, feeling stigmatized to use inhaler in public, lack of knowledge regarding asthma management, and limited physical activity because of asthma. The difficult access to healthcare facility and continuity of care were the most cited healthcare-related barriers; whereas, in disease and treatment-related theme the frequently reported barriers included the inability to avoid allergens, perceived side effects of medicines, and financial limitations.
Conclusion: To improve asthma management and health outcomes, it is critical to tailor education about asthma and its treatment, and address the barriers and challenges as perceived by asthmatic patients.

CASE REPORT

CR01 **A Case Report Of Achromobacter Xylosoxidans Pneumonia**

KW Koay[1] , LK Lem [2]
[1]*Hospital Bukit Mertajam, Pulau Pinang, Malaysia*
[2]*Hospital Seberang Jaya, Pulau Pinang, Malaysia*

CR02 **Massive Haemoptysis in a Patient with Melioidosis: A Case Report**

NC Huan[1], WA Zohdi[1]
[1] *Hospital Labuan, Federal Territory of Labuan, Malaysia*

CR03 **Case Report: Endobronchial Valve Insertion As A Promising Treatment Option For Persistent Air Leak**

CK Low[1], KK Chin[1], Ummi Nadira D[2], Jamalul Azizi AR[1]
[1] *Hospital Serdang, Selangor, Malaysia*
[2] *Universiti Putra Malaysia, Selangor, Malaysia*

CR04 **Case Report: Chylothorax? Empyema? Chylus Empyema? Empyema Chylothorax?**

IS Khor[1], Sundira[1], Irfhan Ali[1]
[1] *Hospital Pulau Pinang, Pulau Pinang, Malaysia*

CR05 **A Case of Birt-Hogg-Dube Syndrome Presenting With Spontaneous Pneumothorax**

L.Pereirasamy[1], **Rathika R**[1], Lee SK[2], M.Fauzi[3], R.Thiagarajan[1], LK Lem[1]
[1] *Department of Medicine, Hospital Seberang Jaya, Penang Malaysia*
[2] *Department of Pathology, Hospital Pulau Pinang, Penang Malaysia*
[3] *Department of Cardio Thoracic Surgery, Hospital Pulau Pinang, Penang Malaysia*

CR06 **A Case Report of Meigs' Syndrome**

NH Ngu[1], SS Kho[2], PF Ng[3], ST Tie[2]
[1]*Department of Medicine, Sibu General Hospital, Sarawak, Malaysia*
[2]*Respiratory Medicine unit, Department of Medicine, Sarawak General Hospital, Sarawak, Malaysia*
3Department of Pathology, Sarawak General Hospital, Sarawak, Malaysia

CR07 **Don't Settle With Bronchiectasis: More Than Meets The Eye**

Ang Jian Gang[1]**,** Lim Jia Ni[2], Tan Chyi Shyang[2]
Medical Department, Hospital Sultanah Bahiyah, Kedah,
Ministry of Health, Malaysia

CR08 **MDR TB Treatment in an Expectant Mother A Testimonial of Alor Setar**

A.Alaga[1],A.A Fairus[1], M.K. Razul[1]
[1]*Pulmonology Department, Hospital Sultanah Bahiyah, Alor Setar, Malaysia*

CR09 **Recurrent Right Sided Pleural Effusion in a Cirrhotic Patient**

KN Tan[1], LT Gew[1], QJ Low[2]
[1] *Hospital Queen Elizabeth, Kota Kinabalu*
[2] *Hospital Sultanah Nora Ismail, Johor*

CR10 **Bleeding Pneumothorax**

QJ Low[1], YY Yeong[1], Z Hatta[1], KN Tan[2] , SW Cheo[3], HJ Wong[4], EK Ng[5], ZL Goh[6], KS Goh[6]
[1]*Hospital Sultanah Nora Ismail, Johor*
[2]*Hospital Queen Elizabeth, Sabah*
[3]*Hospital Lahad Datu, Sabah*
[4]*Hospital Duchess of Kent, Sabah*
[5]*Hospital Tawau, Sabah*
[6]*Hospital Melaka*

CR11 **Empyema Thoracis As An Unusual Presentation of Primary Lung Malignancy**

LE Nyanti[1], SS Kho[1], PK Teoh[2], ST Tie[1]
[1] *Division of Respiratory Medicine, Department of Medicine, Sarawak General Hospital, Malaysia*
[2] *Department of Pathology, Sarawak General Hospital, Malaysia*

CR12 **Clinical Spectrum of Influenza A**

XY Chiew[1], A.M Nathan[1], Sam IC[2]
[1] *Department of Paediatric, University of Malaya, Kuala Lumpur, Malaysia*
[2] *Department of Medical Microbiology, University of Malaya, Kuala Lumpur, Malaysia*

CR13 **A rare cause of pulmonary hypertension**

KN Tan[1], LT Gew[1], QJ Low[2]
[1] Hospital Queen Elizabeth, Kota Kinabalu
[2] Hospital Sultanah Nora Ismail, Johor

CR14 **Choroidal Metastasis as the Sole Presentation of Lung Adenocarcinoma: A Case Report**

NR Rozi[1], SH How[1], MR Abdul Razak[2], A Ibrahim[2], NH Md Salleh[3]
[1]*Kulliyyah of Medicine, International Islamic University Malaysia (IIUM)*
[2]*Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*
[3]*Department of Pathology, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*

CR15 **Recurrent Pneumothorax in A Female Patient**

QJ Low[1], KN Tan[2], SW Cheo[3], HJ Wong[4], EK Ng[5], WH Wong[6], HX Tan[7], ZL Goh[7], KS Goh[7]
[1]*Hospital Sultanah Nora Ismail, Johor*
[2]*Hospital Queen Elizabeth, Sabah*
[3]*Hospital Lahad Datu, Sabah*
[4]*Hospital Duchess of Kent, Sabah*
[5]*Hospital Tawau, Sabah*
[6]*Hospital Ampang, Selangor*
[7]*Hospital Melaka*

CR16 **POST-INFECTIOUS BRONCHIOLITIS OBLITERANS AND DIFFUSE SUBPLEURAL CYST IN A DOWN SYNDROME: A CASE REPORT**

Nurdiyana Nasrudin[1], Faizah Mohd Zaki[2], Hasniah Abdul Latif[1]
Paediatric Department[1], Radiology Department[2], Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

CR17 **Recurrent Barking Cough, Is It Always Croup?**

Muhammad Ihsan Roslan[1], Karen LVN[1], Intan NC[1], Asiah K.[2]
[1] *Hospital Segamat ,Johor*
[2] *Paediatric Respiratory Physician, Institute Paediatric Kuala Lumpur(IPHKL)*

CR18 **A Case Of Misdiagnosis Of Sleep Disorder**

MM Ramanathan[1], UA Muthukumaru[2]
[1,2] *Hospital Taiping, Malaysia*

CR19 **Primary Pleural Malignant Melanoma**

QJ Low[1], KN Tan[2], SW Cheo[3], HJ Wong[4], EK Ng[5], ZL Goh[6]
[1]*Hospital Sultanah Nora Ismail, Johor*
[2]*Hospital Queen Elizabeth, Sabah*
[3]*Hospital Lahad Datu, Sabah*
[4]*Hospital Duchess of Kent, Sabah*
[5]*Hospital Tawau, Sabah*
[6]*Hospital Melaka*

CR20 **A Presentation of Pleural Metastasis in an Ovarian Mucinous Borderline Tumour after 8 Years of the Primary Diagnosis: A Case Report**

NR Rozi[1], SH How[1], MR Abdul Razak[2], A Ibrahim[2], S Abdullah[3]
[1]*Kulliyyah of Medicine, International Islamic University Malaysia (IIUM)*
[2]*Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*
[3]*Department of Pathology, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*

CR21 **Right Pulmonary Artery Pseudoaneurysm In A Young Child**

HC E[1], AM Nathan[1], JA De Bruyne[1], S Thavagnanam[1], KP Eg[1], SH Tubirin[1], BJJ Abdullah[2]
[1] *Department of Peadiatric, University of Malaya, Kuala Lumpur, Malaysia*
[2] *Department of Biochemical Imaging, University of Malaya, Kuala Lumpur, Malaysia*

CR22 **Recurrent Bilateral Pneumothorax - A Uncommon Complication Of Miliary Tuberculosis**

SW Cheo[1], KL Ng[2], EK Ng[3], HJ Wong[4], QJ Low[5]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Duchess of Kent, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

CR23 **Aortic Dissection - An Uncommon Cause Of Unilateral Pleural Effusion**

SW Cheo[1], KL Ng[2], EK Ng[3], HJ Wong[4], QJ Low[5]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Duchess of Kent, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

CR24 **A Case Of Adult Onset Polycystic Liver Disease Presenting with Recurrent Exudative Pleural Effusion**

SW Cheo[1], KL Ng[2], HJ Wong[3], EK Ng[4], QJ Low[5]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Duchess of Kent, Sabah, Malaysia*
[4]*Hospital Tawau, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

CR25 **RSV Infection, Presenting With Acute Fulminant Liver Failure : A Case Report**

Nurfadhilah AWZ[1] , Siew Choo Su[1]
[1] Hospital Tengku Ampuan Rahimah, Klang, Malaysia

CR26 **Carbamazepine Induced Neutropenia Complicated With Disseminated Aspergillosis**

BH Ooi[1], MM Heah[2], WJ Tan[3]
[1]*Hospital Bukit Mertajam, Penang, Malaysia*

CR27 **INTRADURAL EXTRAMEDULLARY CERVICAL SCHWANNOMA**

Teh CY[1], Nurul Majidah AR[2], Norhaya MR[2]
[1]*Department of Internal Medicine, Universiti Sultan Zainal Abidin, Kuala Terengganu.*
[2]*Respiratory Unit, Department of Internal Medicine, Hospital Sultanah Nur Zahirah, Kuala Terengg*

CR28 **PULMONARY MELIODOSIS**

Noor Syazwani Izyan AR, Nurul Majidah AR, Norhaya MR
Respiratory Unit, Department of Internal Medicine, Hospital Sultanah Nur Zahirah, Kuala Terengga

CR29 **Blood pleurodesis, promising alternative?Case series from hospital duchess of Kent, Sandakan**

HJ Wong[1], Yong Jonathan[2], Ee lin Siow[3], YC Chan[4]
[1]Hospital Duchess of Kent, Sandakan, Sabah, Malaysia

CR30 **Hydropneumothorax Secondary To Pulmonary Tuberculosis : A Case Series**

NAN Md Shahrulnizam[1], AN Musa[1]
[1]Faculty of Medicine, Universiti Teknologi MARA, Malaysia

CR31 **CASE SERIES OF LARYNGEAL CLEFT**

Shangari K[1], NM Zainudin[1], A Kassim[1], Z Zahari[1], V Priatharisiny[1], H Ismail[1], N Fafwati[1], Farah H[1], Mazlinda[1], ,
[1] Institut Pediatrik, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

CR32 **Chronic Cavitary Pulmonary Aspergillosis As A Sequel To Pulmonary Tuberculosis: A Case Report**

Ahmad Faizal Rakawi[1], Abdul Aziz Marwan[1&2], Mohamed Faisal Abdul Hamid[1], Andrea Ban Yu-Lin[1]
[1]Hospital Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia
[2]Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia

CR33 **Post-obstructive Pulmonary Edema Following Foreign Body Aspiration**

Hema Yamini [1], KL Ng[1], Kunjikannan SK[1]
[1] *Respiratory Department, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia*

CR34 **Antisynthetase Syndrome: A Case Report**

Hema Yamini [1], Zawani **[1]**, KL Ng[1], Kunjikannan SK[1]
[1] *Respiratory Department, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia*

CR1

A Case Report Of *Achromobacter Xylosoxidans* Pneumonia

KW Koay[1] , LK Lem [2]
[1]*Hospital Bukit Mertajam, Pulau Pinang, Malaysia*
[2]*Hospital Seberang Jaya, Pulau Pinang, Malaysia*

Achromobacteria are ubiquitous environmental organisms that may also become opportunistic pathogens in certain conditions, such as cystic fibrosis, hematologic and solid organ malignancies, renal failure, and certain immune deficiencies. It is not a commonly seen organism in our usual clinical practice. This is the report of a local patient with *Achromobacter Xylosoxidans* pneumonia who presented with high grade fever associated with productive cough and poor oral intake. His chest radiograph showed consolidation over the right middle zone which suggestive of bronchopneumonia and his blood culture grew *Achromobacter Xylosoxidans*. Contrary to most of the reported cases in literature, this patient has no underlying medical comorbid and he is not immunocompromised. As *Achromobacter* species is reported to inhabit aquatic environments, this patient does have history of fishing at the river and handling bait worms 1 week prior to his presenting illness. He was treated with intravenous Ceftazidime for 10 days and changed to oral Amxicillin/clavulanic acid for 3 weeks. His clinical symptoms and chest radiograph lesion resolved completely after one month of antimicrobial therapy.

CR2

Massive Haemoptysis in a Patient with Melioidosis: A Case Report

NC Huan[1], WA Zohdi[1]
[1] *Hospital Labuan, Federal Territory of Labuan, Malaysia*

Melioidosis, caused by a saprophytic soil bacterium *Burkdohiera Pseudomallei*, is commonly encountered in tropical regions of the world. Its clinical presentation tends to be highly variable, mimicking suppurative conditions, malignancy and tuberculosis. Diabetes mellitus is a known major risk factor for melioidosis. In this case report, we describe a 42 year old gentleman with long standing diabetes mellitus presenting with a 2 week history of fever, reduced appetite and haemoptysis (blood streaks in sputum). Physical examination during admission was unremarkable apart from sinus tachycardia (heart rate 120 per minute), fever (temperature 38^{o}C) together with reduced air entry and reduced vocal fremitus on right lower lung fields. During his stay he developed massive haemoptysis (approximately 250mL) requiring admission to intensive care unit (ICU) and oxygen support (venti-mask 60%) which fortunately responded to nebulized and intravenous tranexamic acid. Computed tomography of the thorax and abdomen revealed presence of necrotizing pneumonia with pleural effusion over the right lung as well as multiple splenic collections. Tuberculosis and autoimmune conditions were ruled out but *Burkdohiera Pseudomallei* was isolated from peripheral blood cultures, clinching the diagnosis. He was promptly treated with intravenous meropenem and with marked clinical improvements. Massive haemoptysis remains an uncommon but important differential to consider in patients with melioidosis. In clinical situations of complicated pneumonia with multiple abscesses together with diabetes mellitus, while waiting for definitive blood or sputum cultures, empirical treatment with antimicrobials for melioidosis is justifiable and should be recommended. Early recognition and prompt treatment of melioidosis are vital to ensure a better clinical outcome.
(257 words)

CR3

Case Report: Endobronchial Valve Insertion As A Promising Treatment Option For Persistent Air Leak

CK Low[1], KK Chin[1], Ummi Nadira D[2], Jamalul Azizi AR[1]
[1] *Hospital Serdang, Selangor, Malaysia*
[2] *Universiti Putra Malaysia, Selangor, Malaysia*

Even though rare, management of bronchopleural fistula (BPF) remains challenging and is associated with significant morbidity and mortality. We reported a lady with type 2 diabetes mellitus (DM), who contracted smear positive pulmonary tuberculosis (PTB) in June 2015 and completed anti-TB treatment in December 2015. However, her infection was complicated with recurrent secondary left sided pneumothorax due to ruptured bullae and subsequently gave rise to BPF. She underwent endobronchial valve (EBV) deployment successfully in August 2016, at Hospital Serdang. During follow up period, CT Thorax was repeated and findings were discussed in multidisciplinary team meeting. She was scheduled for EBV removal at 3 months after the valve placement. Nevertheless, the procedure had to be postponed twice, because of an unplanned pregnancy and occurrence of bronchospasm during the attempts of valve removal with light bronchoscopy under endotracheal tube (ETT). After her delivery, flexible bronchoscopy was performed and showed all three EBV were well aligned. EBV were not removed, and she is planned for another surveillance bronchoscopy in three months. This case report highlights our novel experience of using EBV to treat BPF, its associated benefits and potential adverse events.

CR4

Case Report: Chylothorax? Empyema? Chylus Empyema? Empyema Chylothorax?

IS Khor[1], Sundira[1], Irfhan Ali[1]
[1] *Hospital Pulau Pinang, Pulau Pinang, Malaysia*

Chylothorax and empyema are the well-known causes of exudative pleural effusion. Empyema is usually diagnosed via combination of biochemical analysis and positive bacterial culture in pleural fluid. Chylothorax is diagnosed when pleural fluid has extremely high triglycerides with relatively low cholesterol (Vasileios Skourasa et al, 2010). Bacteria empyema is rather common but chylothorax is rare with traumatic injury and malignancies as the leading causes (Huggins et al, 2010). Chyle is inherently bacteriostatic and infection is considered unusual. Therefore, combination of both diagnoses is exceedingly scarce even in an immunocompromised person. This report presents a case of pleural effusion in an otherwise immunocompetent person who was in respiratory failure, infected by *Klebsiella pneumoniae* that fulfilled the criteria of these two conditions. She was successfully treated with antibiotics and decortication via video assisted thoracoscopy.

CR5

A Case of Birt-Hogg-Dubé Syndrome Presenting With Spontaneous Pneumothorax

L.Pereirasamy[1], **Rathika R**[1], Lee SK[2], M.Fauzi[3], R.Thiagarajan[1], LK Lem[1]
[1] *Department of Medicine, Hospital Seberang Jaya, Penang Malaysia*
[2] *Department of Pathology, Hospital Pulau Pinang, Penang Malaysia*
[3] *Department of Cardio Thoracic Surgery, Hospital Pulau Pinang, Penang Malaysia*

Birt-Hogg-Dubé syndrome (BHD) is a rare, autosomal dominant inherited condition due to mutation on the FLCN gene on chromosome 17. It is characterized by benign fibrofolliculomas, lung cysts and increased risk of renal neoplasias.

We present a case of a 42 year old lady with background history of diabetes mellitus, who presented with sudden onset of left sided pleuritic chest discomfort. Her symptoms were preceded by productive cough and fever for one week. Clinical and radiological examination confirmed the presence of a left pneumothorax. In addition, the CT images demonstrated multiple bilateral lung cysts and left lower lobe bronchiectasis. There were no evidence of tumors involving the kidneys. Further history revealed that the patient's mother, maternal aunt and three other first cousins had been sporadically investigated and treated for either an abnormal chest imaging with multiple bullae or pneumothorax. One of her maternal aunt was diagnosed with Adenocarcinoma of the lung and found to have multiple lung cysts. Of note, the patient did not have any classical skin lesions as described in literature. Nevertheless, she has thick hyperpigmented plagues on her hands and extensor surfaces of knee and foot which were biopsied and reported as lichen chronicus. The patient was then subjected for left lower lobe segmentectomy, subpleural bullectomy and pleurodesis via Video Assisted Thoracoscopic Surgery. Sequence analysis of coding FLCN exons had identified a heterozygous single base pair deletion (c.1285delC), creating a premature termination codon (p.His429Thrfs*39). Therefore confirming a pathogenic sequence variant detection on the FLCN gene. This is the first genetically confirmed case of BHD in Malaysia to our best knowledge. The patient has been subjected for yearly surveillance with chest radiograph and ultrasound of the abdomen.

BHD syndrome is a rare hereditary disease. Obtaining a detailed family history is imperative in patients presenting with cystic lung diseases.

CR6
A Case Report of Meigs' Syndrome

NH Ngu[1], SS Kho[2], PF Ng[3], ST Tie[2]
[1]*Department of Medicine, Sibu General Hospital, Sarawak, Malaysia*
[2]*Respiratory Medicine unit, Department of Medicine, Sarawak General Hospital, Sarawak, Malaysia*
3Department of Pathology, Sarawak General Hospital, Sarawak, Malaysia

Meigs' syndrome is one of the rare causes of pleural effusion. It represents a triad of ovarian fibroma, pleural effusion, and ascites. Once diagnosis of Meigs' syndrome is made, removal of the ovarian tumour leads to prompt resolution of pleural effusion. We describe a case of Meigs' syndrome in a patient with persistent right pleural effusion. A 49-year-old woman presented with prolonged menstruation and was diagnosed to have uterine fibroid and broad ligament fibroid through abdominal ultrasound. During pre-operative assessment for fibroid removal, there was incidental finding of small right pleural effusion. She was investigated extensively with multiple thoracocentesis and a medical thoracoscopy performed, but the cause of pleural effusion remained elusive. The pleural fluid was exudative in nature with negative cytology for malignancy. Subsequently, computed tomography of abdomen and pelvis revealed a solid ovarian mass with minimal contrast enhancement. Her cancer antigen 125 level was elevated at 152 U/mL. The patient underwent a Total Abdominal Hysterectomy and Bilateral Salphingo-Oophorectomy with omentectomy. Histology of the left ovarian mass was consistent with an ovarian fibroma. The patient had complete resolution of the right-sided pleural effusion at her 3-weeks follow-up post operation.

CR7
Don't Settle With Bronchiectasis: More Than Meets The Eye

Ang Jian Gang[1], Lim Jia Ni, Tan Chyi Shyang[2]
Medical Department, Hospital Sultanah Bahiyah, Kedah,
Ministry of Health, Malaysia

Introduction: Bronchiectasis is often an end-point diagnosis for most clinicians. However, causality of bronchiectasis is also equally important in preventing more sinister complications. We are presenting a case of bronchiectasis with recurrent hospitalizations of undiagnosed etiology.

Case report: A 14-year-old boy was referred to medical outpatient clinic by surgical team for recurrent chest infection for 2 years. He had multiple episodes of upper respiratory tract infection during pre-school. Subsequently he was diagnosed as bronchiectasis secondary to recurrent respiratory tract infection which was later confirmed with HRCT thorax. However, further history noted he had multiple abdominal surgeries for peritonitis secondary to interloop abscess. He was later worked out for inflammatory bowel disease. OGDS and colonoscopy with gastric, duodenal and random colonic biopsy and capsule endoscopy did not show evidence of IBD. In view of patient's young age with recurrent systemic infection (respiratory tract and abdomen) we further worked up him for the primary cause. His immunoglobulin levels (IgG,IgA,IgM) were low. T&B cells enumeration test showing absent B cells and BTK (Bruton's tyrosine kinase) protein expression test showed 20% of gated monocytes express BTK protein. Hence, He was diagnosed to have bronchiectasis secondary to X-linked Agammaglobulinaemia. Subsequently, he was treated with regular intravenous immunoglobulin replacement therapy, resulting in improvement and no further infection.

Conclusion: High index of suspicion is required to investigate any young patient with recurrent respiratory tract infection which can prevent them from permanent destruction of airways with long term morbidity. Primary immunodeficiency is a rare disease in Asian population but it can still occur. Searching for an underlying immune defect in patients with chronic lung disease is very important.

CR8

MDR TB Treatment in an Expectant Mother – A Testimonial of Alor Setar

A.Alaga[1],A.A Fairus[1], M.K. Razul[1]
[1]*Pulmonology Department, Hospital Sultanah Bahiyah, Alor Setar, Malaysia*

Introduction

locally. WHO estimated around 480000 people developed MDR-TB worldwide in 2013. In
Malaysia there were 101 reported cases of MDR-TB in 2013.
The burden of Multidrug – Resistant Tuberculosis (MDR-TB) is increasing both globally and
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locally. WHO estimated around 480000 people developed MDR-TB worldwide in 2013. In
Malaysia there were 101 reported cases of MDR-TB in 2013.
The burden of Multidrug – Resistant Tuberculosis (MDR-TB) is increasing both globally and locally. MDR –TB and its treatment pose a great risk to mother and fetus.

Method

A case report

Result and Discussion

We present a case of 32 year old malay lady known case of Type II Diabetes mellitus with history of previous PTB presented with cough and loss of weight in April 2016. Chest radiograph showed left lower zone consolidation. Sputum AFB x 3 was positive, thus she was treated as relapse PTB smear positive.Gene Xpert was sent and Rifampicin Resistance was detected. MTB culture showed resistance to Isoniazide, Rifampicin, streptomycin and Pyrizinamide.
She was started on IM Kanamycin, Levofloxacin, Ethionamide, Cycloserine. Ethambutol and Pyridoxine. She showed remarkable improvement with treatment. Sputum AFB and MTB culture were negative after second month of therapy. She converted to maintenance therapy in February 2017 after completing 240 doses of intensive phase treatment.
Her UPT was positive on day 95 of maintenance therapy. Urgent referral done to Fetomaternal team and patient agreed to continue with pregnancy. She successfully delivered a baby girl on 18/1/2018. Currently baby and mother are well

Conclusion

Although pregnancy complicates the management of MDR-TB, continuing treatment seem to outweigh theoretical risks to the mother and fetus

CR9
Recurrent Right Sided Pleural Effusion in a Cirrhotic Patient

KN Tan[1], LT Gew[1], QJ Low[2]
[1] *Hospital Queen Elizabeth, Kota Kinabalu*
[2] *Hospital Sultanah Nora Ismail, Johor*

Introduction
Hepatic hydrothorax presents with transudative pleural effusion, commonly with an effusion of more than 500 ml. It is associated with liver cirrhosis without any pleural or cardiopulmonary disease. It is a rare complication of liver cirrhosis due to portal hypertension with a prevalence of 5-10% among patients with liver cirrhosis.[1]

Method
A 65-years-old lady presented with progressively worsening dyspnea and abdominal distention. Clinically, she had a right sided pleural effusion and ascities. Chest radiography showed a right sided pleural effusion and diagnostic thoracocentesis was performed. Pleural fluid analysis showed a transudative picture. An abdomen ultrasound showed a cirrhotic liver with ascities. Hepatitis and autoimmune screening was performed as per chronic liver disease work-up. CT thorax did not show any evidence of mediastinal or lung mass. Echocardiogram showed a stage 2 diastolic dysfunction with preserved left ventricle systolic function. She had recurrent hospitalization due to her right sided pleural effusion and had multiple thoracocentesis performed for symptomatic relief. A peritoneal scintigraphy was performed by injecting 5.03mCi Technetium – 99m MAA to the peritoneal cavity via a catheter to investigate for the etiology of her recurrent pleural effusion.

Results
The peritoneal scintigraphy showed that there is increased uptake of tracer seen in the abdomen promptly after injection of the nuclear substance via the peritoneal catheter. Peritoneal leakage uptake was seen in her right lung within 15 minutes post injection. This showed that there was a right sided pleuro-peritoneal communication.

Conclusion
Recurrent right sided transudative pleural effusion is uncommonly seen in liver cirrhosis patients. The pathophysiology of the disease is due to presence of defect at the right diaphragm.

Reference
1. Cardenas et.al (2004). Hepatic hydrothorax

CR10
Bleeding Pneumothorax

QJ Low[1], YY Yeong[1], Z Hatta[1], KN Tan[2] , SW Cheo[3], HJ Wong[4], EK Ng[5], ZL Goh[6], KS Goh[6]
[1]*Hospital Sultanah Nora Ismail, Johor*
[2]*Hospital Queen Elizabeth, Sabah*
[3]*Hospital Lahad Datu, Sabah*
[4]*Hospital Duchess of Kent, Sabah*
[5]*Hospital Tawau, Sabah*
[6]*Hospital Melaka*

Introduction
Sudden hemothorax can occur in pneumothorax when there is a sudden change of pressure when the lung re-expands. This could potentially tear off an adherent vessel. Depending on the vessel torn, it could mean either a severe bleeding leading to a collapse (artery) or a temporary bleeding (vein).

Method
Case Report

Summary
A 25-years-old gentleman with no comorbid, presented with dyspnea for 3 days. His chest radiography showed right apical pneumothorax measuring 5cm and the diagnosis of primary spontaneous right pneumothorax was made. After aspiration, he improved clinically and was admitted for close observation. Unfortunately, he developed respiratory distress and a right chest tube was inserted. During the chest tube insertion, 1.6 liter of fresh blood flowed out. He was immediately resuscitated with fluid and blood transfusion. Urgent CECT thorax shows right moderate hemo-pneumothorax (depth of hemothorax is 4.8cm) with tip of right chest tube coursing into the right 6^{th} intercostal space with the tip projecting into the posterior right upper thorax. The cardiothoracic team was alerted and took over the case. Intraoperatively, a bulla was seen at the apex of the right upper lobe probably adhering to the SVC. There was an avulsed vessel seen at the site of the adhesion which was oozing. About 450cc of blood and clots were evacuated from the right pleural cavity. He made a good recovery and was discharged well.

Conclusion
Hemothorax can occur in a case of pneumothorax due to a torn vessel. This rare etiology is probably under-recognized due to its rarity.

References
Jayapadman Bhaskar 2006

CR11

Empyema Thoracis As An Unusual Presentation of Primary Lung Malignancy

LE Nyanti[1], SS Kho[1], PK Teoh[2], ST Tie[1]

[1] *Division of Respiratory Medicine, Department of Medicine, Sarawak General Hospital, Malaysia*

[2] *Department of Pathology, Sarawak General Hospital, Malaysia*

Primary lung malignancy presenting as empyema is an uncommon encounter, with a reported incidence of 0.3% (Froeschle, 2005). While often attributed to the natural complication of malignancy and immunosuppression, it may manifest as a consequence of post-obstructive pneumonia.

We report a case of a 60-year old male, chronic smoker who presented with prolonged cough, loss of weight and more recent febrile episodes. Initial chest radiograph showed a unilateral massive pleural effusion and subsequent diagnostic thoracocentesis confirmed the presence of pus, hence intercostal chest drainage and broad spectrum antibiotics were initiated. Repeated chest radiographs showed persisting right hemithorax opacity and computed tomography of the thorax subsequently revealed a right lung mass with obliteration of right upper lobe bronchus. Transcutaneous tru-cut biopsy under ultrasound guidance confirmed advanced stage adenocarcinoma of the lung with wild type EGFR mutation. Culture of pleural fluid revealed Salmonella sp, with no evidence of bacteremia. Clinical history and radiological investigation precluded a definite source of salmonella infection; further immunodeficiency screening was negative. Patient improved symptomatically with drainage and antibiotics; he was subsequently commenced on concurrent radio and chemotherapy by the oncology team.

This case highlights the possibility of dual pathology in patients presenting with empyema, which we postulate may have arose from post-obstructive pneumonia, compounded with malignancy-related immunocompromise. Such a diagnostic challenge may cause delay in diagnosing underlying malignant disease. Clinicians should have a high clinical suspicion to the possibility of lung malignancy in elderly patients presenting with empyema.

CR12
Clinical Spectrum of Influenza A

XY Chiew[1], A.M Nathan[1], Sam IC[2]
[1] *Department of Paediatric, University of Malaya, Kuala Lumpur, Malaysia*
[2] *Department of Medical Microbiology, University of Malaya, Kuala Lumpur, Malaysia*

Introduction: Clinical spectrum of Influenza A can be varied from mild to severe presentation e.g. cardiopulmonary insufficiency and CNS complication. Our aim is to understand the clinical spectrum and complications of Influenza A infection.
Methods: Descriptive, case series
Results:
First case: 4-year-old boy with underlying T cell Acute Lymphoblastic Leukemia (ongoing induction phase) presented with cough and fever for 4 days. He subsequently developed worsening respiratory and acute respiratory distress syndrome distress requiring intubation. He developed subcutaneous emphysema and polyneuropathy of critical illness.

Second case: 1-year 5 month-old, ex premature who presented with 2 days of fever, cough and runny nose. He then had 6 episodes seizures and MRI brain showed acute necrotising encephalopathy of childhood (ANEC) with obstructive hydrocephalus.

Third case:11-month-old boy with no comorbidity presented with fever and cough for 2 days and seizures at day 6 of illness. He had septicaemic shock required multiple boluses and inotropic support. He required ventilator support. He was empirically given methylprednisolone (impression ANEC). MRI brain was done showed brain herniation.

Fourth case: 3-year-old girl with no comorbidity presented with 6 days of fever, cough and rashes. She had septicaemic shock requiring 5 inotropes and worsening respiratory distress due to pneumonia with para-pneumonic effusion required invasive ventilation.

Conclusion: These 4 cases illustrate more virulent species of seasonal Influenza A from Oct 2017 to March 2018 where patients had severe complications: cardiopulmonary insufficiency and CNS complications, regardless of the presence of co-morbidities.

CR13
A Rare Cause of Pulmonary Hypertension

KN Tan[1], LT Gew[1], QJ Low[2]
[1] Hospital Queen Elizabeth, Kota Kinabalu
[2] Hospital Sultanah Nora Ismail, Johor

Introduction

Portopulmonary hypertension defined as the presence of pulmonary arterial hypertension, which is associated with portal hypertension. It can occur with or without any liver disease. Portopulmonary hypertension is classified as Group 1 pulmonary hypertension according to the 2013 NICE World Pulmonary Hypertension Symposium.

Method

A 48-years-old lady, with underlying Child's Pugh C liver cirrhosis secondary to chronic Hepatitis B, presented with two weeks history of progressively dyspnea and non-productive cough. On examination, she was tachypneic and requires high flow mask oxygen supplementation. Her jugular vein pressure was raised and there was bi-basal crepitations and moderate ascites. Chest radiograph showed cardiomegaly. Electrocardiogram showed right sided ventricular hypertrophy with a type 1 respiratory failure on arterial blood gas. A computed tomography pulmonary angiogram (CTPA) did not show any evidence of pulmonary embolism. CT Thorax was ordered and showed features of pulmonary hypertension without any evidence of interstitial lung disease. Transthoracic echocardiogram revealed a right ventricular hypertrophy with a dilated right atrium. The pulmonary arterial pressure was 70/41mmHg (severe pulmonary hypertension). She refused for right cardiac study. Sildenafil was started to reduce her pulmonary arterial pressure and pulmonary vascular resistance, together with diuretics and salt control. Unfortunately, her condition deteriorated and was succumbed.

Conclusion

Portopulmonary hypertension is a serious lung vascular disorder. The ultimate goal of pulmonary arterial hypertension therapy is to improve hemodynamic status by reducing mean pulmonary arterial pressure and pulmonary vascular resistance with the hope of improving the right ventricular function.[1]

Reference

1. Mateo et.al (2014) – Portopulmonary hypertension. An Update

CR14

Choroidal Metastasis as the Sole Presentation of Lung Adenocarcinoma: A Case Report

NR Rozi[1], SH How[1], MR Abdul Razak[2], A Ibrahim[2], NH Md Salleh[3]
[1]*Kulliyyah of Medicine, International Islamic University Malaysia (IIUM)*
[2]*Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*
[3]*Department of Pathology, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*

Background:
Symptomatic choroidal metastasis is a rare presenting feature in lung cancer. The reported prevalence of overall uveal metastases was 2 to 9% with majority of the cases were due to breast cancer (47 to 81%). The remaining is lung cancer with adenocarcinoma being the commonest histologic type. Herein, we intend to report a rare case of lung adenocarcinoma with the sole presentation of choroidal mass.

Case Report:
Mrs L, a 57 year-old, Chinese female presented to us with blurred vision affecting her right eye for one month. She was a non-smoker and reported a history of weight loss but no significant chronic cough. Positive relative afferent pupillary defect (RAPD) of the right eye was present and her slit lamp examination findings were an inferior serous retinal detachment with choroidal mass. Her chest radiograph showed a right upper zone mass lesion. The diagnosis of lung adenocarcinoma was established after a bronchoscopic examination with a negative epidermal growth factor receptor (EGFR) mutation reported. She had radiotherapy to her right eye and currently undergoing chemotherapy.

Discussion:
Blurred vision from choroidal metastasis is a very uncommon occurrence. Metastatic lesions to the posteriorly located choroidal layer in the uveal tract of the eye are the commonest in ocular metastasis (88%) due to its high vascularity and favourable microenvironment for seeding of cancer cells. Shah et al reported that uveal metastasis preceded lung cancer in 44% of the cases and Singh et al demonstrated a total of 55 cases from the literature with choroidal metastasis as the presenting manifestation in lung cancer.

Conclusion:
Despite the rarity, a great index of suspicion for lung cancer is essential in a patient of choroidal metastasis as the first presentation.

References:
Asteriou et al (2010), Singh et al (2012), Shah et al (2014)

CR15
Recurrent Pneumothorax in A Female Patient

QJ Low[1], KN Tan[2], SW Cheo[3], HJ Wong[4], EK Ng[5], WH Wong[6], HX Tan[7], ZL Goh[7], KS Goh[7]
[1]*Hospital Sultanah Nora Ismail, Johor*
[2]*Hospital Queen Elizabeth, Sabah*
[3]*Hospital Lahad Datu, Sabah*
[4]*Hospital Duchess of Kent, Sabah*
[5]*Hospital Tawau, Sabah*
[6]*Hospital Ampang, Selangor*
[7]*Hospital Melaka*

Introduction
Catamenial pneumothorax is a rare condition. We report a case of a 30 years old woman who presented with dyspnea every time before she had her regular menses. Further investigation confirmed that she had catamenial pneumothorax. With this case, we wish to highlight this rare diagnostic entity that every clinician should keep in mind.

Methods
Case Report

Summary
A 30 years old lady experienced dyspnea and right sided chest pain each time 2-3 days before the start of her regular menses for the last 3 years. The dyspnea and chest pain will improve once she starts to have her menses. Her first chest x-ray (CXR) showed a 1cm right pneumothorax. The rim of pneumothorax was not increasing in size on serial CXR and hence, no intervention was done initially. However, her dyspnea worsens, and a chest tube was inserted. She had persistent leakage despite prolong drainage and hence was referred to the cardiothoracic surgeon. She had a video-assisted thoracoscopic surgery (VATS) procedure which confirmed the presence of endometriotic implants. A multi-disciplinary team was involved in her further management and she made a good recovery with hormonal therapy.

Conclusion
Catamenial pneumothorax is a rare diagnosis and requires a multi-disciplinary team approach.

References
Alar T 2016

CR16

POST-INFECTIOUS BRONCHIOLITIS OBLITERANS AND DIFFUSE SUBPLEURAL CYST IN A DOWN SYNDROME: A CASE REPORT

Nurdiyana Nasrudin[1], Faizah Mohd Zaki[2], Hasniah Abdul Latif[1]
Paediatric Department[1], Radiology Department[2], Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

Abstract

Respiratory infection is one of the most common reasons for hospitalization in children with Down syndrome; however available reports on pulmonary involvement in this group are limited.

We would like to highlight a case of 26 months Down syndrome boy who was born premature at 32 weeks. He had early onset pneumonia during the neonatal period requiring non-invasive ventilation and supplemental oxygen support for 18 days and subsequently had three episodes of pneumonias at 18, 19 and 26 months old. He presented with recurrent symptoms of cough, wheeze and rapid breathing and had features of persistent airway obstruction characterized by chest hyperinflation, persistent tachypnoea with crepitations and rhonchi despite on regular bronchodilators. His nasopharyneal aspirate culture was positive of *Influenza B* during his admission at 19 months old. Chest radiography showed bilateral interstitial opacities and focal consolidation at right hilar region. High resolution computed tomography (HRCT) thorax was later performed and revealed features of post-infectious bronchiolitis obliterans with concurrent findings of diffuse subpleural cysts located at subpleural regions as well as along the major lung fissures.

Post-infectious bronchiolitis obliterans is a severe form of chronic obstructive lung disease following a microbiological insult towards the lower respiratory tract. Subpleural lung cyst is a known occurrence among patients with Down syndrome. To our knowledge, there was no previous report on the concurrent radiological finding of both entities in Down syndrome. Pneumothorax is a known complication in both conditions. In the presence of both bronchiolitis obliterans and subpleural cysts in this patient, there may be a higher risk for pneumothorax.

CR17
Recurrent Barking Cough, Is It Always Croup?

Muhammad Ihsan Roslan[1], Karen LVN Intan NC[1], Asiah K.[2]
[1] *Hospital Segamat ,Johor*
[2] *Paediatric Respiratory Physician, Institute Paediatric Kuala Lumpur(IPHKL)*

Introduction
Barking cough and stridor are common presentations in a child with viral croup especially in infancy and early childhood. However, when the episodes are recurrent, other causes such as anatomic abnormalities need to be considered. We present a case of a 3 year old who had recurrent barking cough.

Case Presentation
SP first presented to Hospital Segamat at the age of 1 year 2 months old. To date, he had a total of 8 admissions with similar presentations. Barking cough and intermittent stridor were the common presenting complaints during each admission. Initially he was treated as viral croup. During subsequent admissions, he was also covered for bacterial tracheitis and treated with antibiotics. Symptoms dissapeared intermittently when infections resolved. He was referred to the Paediatric Respiratory team for further investigations. He then underwent bronchoscopy which revealed a tubular shaped epiglottis, severe tracheomalacia which opened up with pressure of 15cm H_20, measuring 2.5 cm from subglottic and 3.5 cm from carina (80% malacic). He also underwent CECT Thorax which shows long segment reduction of tracheal anteroposterior diameter until the carina. Correlating all findings, he was diagnosed with tracheomalacia and is currently on home CPAP machine.

Conclusion
This case report should remind us to remain cautious in assessing patients who have recurrent barking cough. Any patient presented as such warrant further detailed investigations.

CR18
A Case Of Misdiagnosis Of Sleep Disorder

MM Ramanathan[1], UA Muthukumaru[2]
[1,2] *Hospital Taiping, Malaysia*

Narcolepsy is not thought of by many doctors. This case illustrates how the diagnosis of narcolepsy was finally reached after the patients suffered from years of misdiagnosis.Mrs X, a 34 year old lady had been suffering from lethargy for the last 9 years. She could not function normally as she was having severe excessive daytime sleepiness(EDS). In the past 2 years, there were 3 occasions that her knees gave way and she fell while she was joking around with her friends. She was investigated for epilepsy at the time. Apart from that, she had been experiencing hypnogogic and hypnopompic hallucinations. She became progressively worried about her symptoms and was referred to a psychiatrist. She was treated for anxiety disorder. She even consulted a traditional healer. As days passed, her condition worsened. Finally, she was referred to the sleep clinic to assess for sleep disordered breathing. Her BMI was 22.1kg/m2, Mallampati score was 1 and the physical examination did not reveal any abnormalities. Her score on the Epworth Sleepiness Scale(ESS) was 22. All her routine blood tests were normal. A full night polysomnogram was normal. A sleep diary confirmed regular and sufficient sleep. Multiple sleep latency test (MSLT) was ordered. MSLT confirmed the diagnosis of narcolepsy as she had short sleep latency and 2 sleep onset REM period. Currently her symptoms have improved with treatment.In conclusion, Mrs X has Narcolepsy Type 1 in view of her positive MSLT and history suggestive of cataplexy. Narcolepsy is often misdiagnosed, and the diagnosis delayed. Considering the potential for significant functional impairment and increased risk of accidents, early diagnosis is critical. Physicians should evaluate individuals with complaints of EDS for possible narcolepsy.

CR19
Primary Pleural Malignant Melanoma

QJ Low[1], KN Tan[2], SW Cheo[3], HJ Wong[4], EK Ng[5], ZL Goh[6]
[1]*Hospital Sultanah Nora Ismail, Johor*
[2]*Hospital Queen Elizabeth, Sabah*
[3]*Hospital Lahad Datu, Sabah*
[4]*Hospital Duchess of Kent, Sabah*
[5]*Hospital Tawau, Sabah*
[6]*Hospital Melaka*

Introduction
Primary pleural melanoma is a very rare condition and highly aggressive tumour. Malignant melanoma can involve any mucosal regions like oral mucosa, esophagus, larynx and the ano-genital mucosa. It is commonly metastasized from skin cancers.

Methods
Case Report

Summary
A 40-years-old lady presented with two weeks history of productive cough with haemoptysis. Chest radiograph showed homogenous opacity of the left lung. Bedside ultrasound scan of her left lung showed a lung mass with pleural effusion. Left pleural biopsy and a thoracostomy tube was inserted. The pleural fluid was exudative. The immunohistochemistry and histo-morphological report confirmed the diagnosis of malignant melanoma of the lung. The tumour cells were positive for the expression of intracellular melan-A, human melanoma-45 (HMB-45), vimentin and S-100 in immunohistochemistry. It was negative for calretinin and pancytokeratin. Computed tomography scan showed a left pleural mass with left pleural effusion and raised metabolic activity seen in the left pleura, right lung and ribs. There were possible right lung and skeletal metastasis. Retinal exam was negative for melanoma. Skin examination revealed no melanoma. She had no signs to suggest leptomeninges melanoma metastasis. She was referred to the oncology team who counselled her for palliative chemotherapy.

Conclusion
Primary malignant melanoma of the lung is an uncommon pathological entity. It can be diagnosed with careful assessment of both clinical and histopathological studies to establish the diagnosis.

References
Agarwal P (2016).

CR20

A Presentation of Pleural Metastasis in an Ovarian Mucinous Borderline Tumour after 8 Years of the Primary Diagnosis: A Case Report

NR Rozi[1], SH How[1], MR Abdul Razak[2], A Ibrahim[2], S Abdullah[3]
[1]*Kulliyyah of Medicine, International Islamic University Malaysia (IIUM)*
[2]*Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*
[3]*Department of Pathology, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*

Background:
Borderline ovarian tumours (BOTs) are heterogeneously non-invasive tumours of uncertain malignant potential consisting mainly of serous (53.5%) and mucinous (42.5%) tumours. Most recurrent diseases are of the borderline type which carries an excellent prognosis. Meanwhile, a minority will have an aggressive form.
Herein, we describe a case of pleural metastasis in a borderline left ovarian mucinous tumour 8 years later.

Case Report:
Ms NK is a 45 year-old Malay, lady who had a left salpingo-oophorectomy in 2008 for left ovarian mucinous borderline tumour with foci microinvasion. She was keeping well until she presented in December 2016 with chronic cough and left pleural effusion. Her computed tomographic (CT) imaging of the thorax showed loculated left hydropneumothorax with suspicious left lung mass and bilateral lung nodules. Positron emission tomography (PET) scan findings reported no adnexal mass. Her diagnostic challenge of metastatic parietal pleura was established via a thoracoscopic tissue biopsy. The tumour cells were positive for CK7-cytoplasmic and Pax-8 nuclear staining.

Discussion:
The overall prognosis of BOTs is favourable. The rate of recurrence has been reported as 11% in the literature. Microinvasion specifically type II and conservative surgery has been described as one of the negative prognostic factors. Recurrence can be in the form of BOTs or invasive disease with the absolute rate of malignant transformation is about 2-4%. Regular follow-up for a long period of time has been suggested as studies have reported cases of relapse and death after 10 to 15 years.

Conclusion:
This case highlights a pleural metastasis as the malignant transformation of a borderline mucinous ovarian tumour without pelvic recurrence after 8 years. Despite its rarity, a high suspicion is imperative, emphasising the need for the long term follow-up.

References:
Fischerova et al (2012) Simons et al (2015), Miyoshi et al (2015)

CR21
Right Pulmonary Artery Pseudoaneurysm In A Young Child

HC E[1], AM Nathan[1], JA De Bruyne[1], S Thavagnanam[1], KP Eg[1], SH Tubirin[1], BJJ Abdullah[2]
[1] *Department of Peadiatric, University of Malaya, Kuala Lumpur, Malaysia*
[2] *Department of Biochemical Imaging, University of Malaya, Kuala Lumpur, Malaysia*

INTRODUCTION:
Pulmonary artery pseudoaneurysms are uncommon, not frequently described in the paediatric population may be congenital or acquired e.g. infection, traumatic. If left untreated, lesions can enlarge, rupture and lead to death.
CASE SUMMARY:
An 18 months old girl who was a known case of Down Syndrome with congenital hypothyroidism, small patent ductus arteriousus and anorectal malformation, presented with persistent fever and cough for 2 weeks post stoma closure. Lung examination revealed reduced air entry at the right lower zone with stony dullness on percussion. CXR was suggestive of bronchopneumonia with a loculated right parapneumonic effusion. During pigtail insertion, minimal thick stale blood-stained fluid was aspirated and there was an unusual mass seen. Pigtail was aborted and we proceeded with CT angiography which showed a stable pulmonary pseudoaneurysm, right pleural collection and adjacent collapsed consolidation. Embolization 4 days later was abandoned as no feeding vessel could be identified during the procedure. The pseudoaneurysm appeared echogenic and smaller with no color flow. Hence it was assumed to be thrombosed. Nasopharyngeal culture grew Elizabethkingia meningoseptica. Her condition improved with antibiotics and allowed discharge after 25 days of admission. Serial ultrasounds and CXRs were done during clinic review and the pseudoaneurysm resolved spontaneously.
CONCLUSION:
Although pulmonary artery pseudoaneurysms are uncommon, knowledge of their congenital and acquired causes and radiologic manifestations is important. Diagnosis often made by CT angiography. Drainage of the mass would have caused mortality. Abnormalities on imaging studies can lead to early diagnosis and treatment and embolization is the treatment of choice.

CR22

Recurrent Bilateral Pneumothorax – A Uncommon Complication Of Miliary Tuberculosis

SW Cheo[1], KL Ng[2], EK Ng[3], HJ Wong[4], QJ Low[5]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Duchess of Kent, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

Introduction :
A secondary spontaneous pneumothorax (SSP) is defined as a pneumothorax that occurs as a complication of underlying lung disease. Common causes of SSP include chronic obstructive pulmonary disease, cystic fibrosis, lung malignancy, bacterial pneumonia or tuberculosis (TB). Although SSP occurs in 1.5% of pulmonary and pleural tuberculosis, bilateral recurrent pneumothorax is rare in miliary tuberculosis.

Method : Case report

Results :

A 14 year old girl with no past illness presented with cough, fever, loss of appetite and loss of weight for 1 month. Examination was unremarkable. She was worked up in health clinic and her sputum was positive for acid fast bacilli. She was initiated on anti-tuberculous treatment. On day 29 of treatment, she complained of sudden onset of dyspnea. Examination showed reduced breath sound over left side with hyperresonance percussion note. Chest xray confirmed left pneumothorax and left chest drain was inserted. Left pneumothorax resolved after 8 days with low grade suction. Day 10 into admission, she complained of right sided chest discomfort. Repeated chest x-ray showed right pneumothorax. A right chest drain inserted. On day 15 of admission, patient complained of dyspnea again. Chest x-ray noted recurrent left pneumothorax. Computed tomography of thorax done showed military tuberculosis changes of lung with pneumothorax, no airway-pleural fistula and no diffuse lung cyst. She was referred to cardiothoracic team for opinion and was planned for conservative therapy. She was finally managed to wean off both chest drain with low grade suction and discharged well eventually.

Conclusion :
Pneumothorax as a complication of adult cavitary pulmonary tuberculosis is well known but its occurrence as a complication of miliary tuberculosis is extremely rare. It should be suspected in patients with miliary tuberculosis who suddenly develop worsening clinical course. Patients with pneumothorax need urgent tube thoracostomy.

References :
Amit Shankar, 2014

CR23

Aortic Dissection – An Uncommon Cause Of Unilateral Pleural Effusion

SW Cheo[1], KL Ng[2], EK Ng[3], HJ Wong[4], QJ Low[5]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Tawau, Sabah, Malaysia*
[4]*Hospital Duchess of Kent, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

Introduction :
Pleural effusion is a common clinical problem that we face in clinical practice. There are various causes of exudative pleural effusion, which include malignancy, parapneumonic effusion, tuberculosis, autoimmune disorder and others. In rare occasion, pleural effusion can be caused by aortic dissection.

Method : Case report

Results : A 58 year old lady with hypertension, stroke, chronic kidney disease presented with fever, cough and difficulty in breathing for two weeks. Otherwise, she did not complain of chest pain, heart failure symptoms or abdominal pain. On examination, blood pressure was 160/92mmHg, pulse rate was 82, temperature was 37.6C. Respiratory examination showed reduced breath sounds over left side, stony dull on percussion. Her full blood count showed haemoglobin level of 7.3g/dl. Renal profile showed urea 6.1mmol/L and creatinine 124mmol/L. Erythrocyte sedimentation rate (ESR) was 105mm/Hour. Electrocardiograph showed left ventricular hypertrophy (LVH). Echocardiography showed LVH, preserved ejection fraction and normal aortic root. Chest radiograph reported as unfolding of aorta with left pleural effusion. Diagnostic thoracocentesis confirmed her exudative pleural effusion. She was initiated on empirical anti tuberculosis treatment while waiting for adenosine deaminase (ADA) and pleural biopsy results. However, patient defaulted follow up. She returned two months later with uncontrolled blood pressure requiring admission. Repeated chest radiograph showed widened mediastinum. Pleural fluid ADA was negative, pleural biopsy was inconclusive. Computed tomography of thorax done showed dilated thoracic aorta with maximum diameter of 5.8cm and distal arch and descending aorta dissection. She was referred to cardiothoracic team and planned for total aortic arch replacement.

Conclusion :
The diagnosis of aortic dissection can be missed due to its atypical presentation. It should be considered as a differential when evaluating a patient with unilateral exudative pleural effusion. Aortic dissection is potentially life threatening and therefore it's important to have early diagnosis.

References :
Pramod Somasamudra, 2011

CR24

A Case Of Adult Onset Polycystic Liver Disease Presenting with Recurrent Exudative Pleural Effusion

SW Cheo[1], KL Ng[2], HJ Wong[3], EK Ng [4], QJ Low[5]
[1]*Hospital Lahad Datu, Sabah, Malaysia*
[2]*Hospital Queen Elizabeth, Sabah, Malaysia*
[3]*Hospital Duchess of Kent, Sabah, Malaysia*
[4]*Hospital Tawau, Sabah, Malaysia*
[5]*Hospital Sultanah Nora Ismail, Johor, Malaysia*

Introduction :
Polycystic liver disease is asymptomatic in majority of the patients. It frequently occurs with adult onset polycystic kidney disease. In small amount of patients, it may present as abdominal pain, cyst infection, cyst haemorrhage. Rarely, it may present as exudative pleural effusion. We would like report a case of polycystic liver disease presented with recurrent exudative pleural effusion.

Method : Case report

Results :

A 74 year old lady with hypertension, adult onset polycystic kidney and liver disease with cough for 1 week, abdominal distension for 1 month and difficulty in breathing for 3 days duration. She denied fever, chest pain, hemoptysis or any constitutional symptoms. On examination, her blood pressure was 159//102mmHg, pulse rate was 89bpm, respiratory rate was 26 breath per minute, Spo2 was 100% under high flow mask and temperature was 37C. Respiratory examination revealed reduced breath sound over left side, stony dullness on percussion. Abdominal examination showed hepatomegaly of 4 finger breath. Her full blood count showed normochromic normocytic anemia, with haemoglobin level of 10.6g/dl. Renal profile showed urea of 10mmol/L, creatinine of 181mmol/L. Her serum protein was 68g/L. Her chest radiograph showed massive left pleural effusion. Diagnostic thoracocentesis done revealed exudative pleural effusion. Pleural fluid adenosine deaminase was negative, pleural biopsy was negative for malignancy. Computed tomography of thorax showed collapse consolidation of left lower lobe of lung, left pleural effusion, no lung mass or lung nodule noted. Her pleural effusion recurred and required frequent drainage and pleuroscopy. However, patient defaulted follow up.

Conclusion :
This case illustrated that polycystic liver disease is a possibly a rare cause of exudative pleural effusion. There are various causes of pleural effusion and each of it needs to be excluded so that appropriate treatment can be given.

References :
Kerry Woolnough, 2012

CR25

RSV Infection, Presenting With Acute Fulminant Liver Failure : A Case Report

Nurfadhilah AWZ[1] , Siew Choo Su[1]
[1] Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Introduction: Respiratory Syncytial Virus infection is a leading cause of respiratory infection in infants and children, which cause significant morbidity and mortality worldwide. However, extrapulmonary manifestations of RSV infection including acute fulminant liver failure though uncommon have been reported in a few case reports.

Case Report: We report a 1-year-old boy who presented to us with acute fulminant liver failure. The disease started with fever and cough for 6 days. He then developed status epilepticus on day of admission. On examination, he was febrile (T 39o C), hypotensive, jaundiced with hepatomegaly. Auscultation of his lungs was unremarkable. His neurological examination was hypotonia. He was intubated and ventilated on conventional ventilator. Baseline investigations show marked elevation of transaminases (ALT 5834 U/L and AST 15042 U/L), deranged coagulation profile with hypoglycaemia. He was investigated for possible causes of acute liver failure (hepatitis A and B, HIV, HSV, EBV, CMV, HHV 6, Dengue, mycoplasma, leptospirosis, malaria, IEM, autoimmune and paracetamol toxicity) were all normal. Nasopharyngeal aspirate for RSV PCR was positive. CXR shows mild pneumonic changes while CT brain was normal. He was successfully extubated after 5days and made a tremendous recovery clinically with normalization of his liver enzymes and coagulation profile.

Conclusion: RSV infection presenting with acute fulminant liver failure is a rare manifestation. Thus, awareness of effects of RSV infection outside the respiratory tract is important to prevent morbidity and mortality

CR26
Carbamazepine Induced Neutropenia Complicated With Disseminated Aspergillosis

BH Ooi[1], MM Heah[2], WJ Tan[3]
[1]*Hospital Bukit Mertajam, Penang, Malaysia*

Invasive aspergillosis carries significant risks of morbidity and mortality. It is rare and more commonly observed in immunocompromised patients. Extrapulmonary extension to the central nervous system is highly lethal as its mortality rate approaches 100%. We report a case of a 23-year-old Chinese man who is mentally challenged and epileptic. He presented with a history of fever with chills and rigors, vomiting, diarrhea, lethargy and chesty cough of four days. His medications include carbamazepine, topiramate and clonazepam. He was febrile on admission with right lower zone crepitations. His initial blood investigations showed a pancytopenic picture that was attributed to carbamazepine. Subsequently, he was intubated for respiratory distress and suffered multiple episodes of seizures. He also developed central diabetes insipidus which responded to intravenous desmopressin. Broad-spectrum antibiotics and antiviral drug were administered. However, there was no clinical improvement. CECT thorax revealed bilateral lung consolidation with air bronchogram predominantly in posterior segment of right upper lobe and bilateral lower lobes and extensive ground glass opacities of both lungs. CECT brain findings showed a large area of non-enhancing hypodensity involving both white and grey matter at the right parieto-occipital region. Lumbar puncture results were inconclusive. Serum galactomannan was positive. The 2008 Infectious Disease Society of America has recommended the use of voriconazole in the treatment of invasive aspergillosis due to its ability to penetrate the blood-brain barrier, increasing its efficacy for treatment. However, due to its cost and availability in our hospital, medical antifungal therapy with amphotericin B (recommended as an alternative) was instituted instead. The patient significantly improved. In summary, the diagnosis of invasive aspergillosis requires a high clinical index of suspicion. Early diagnosis allows prompt treatment, and thus, improving patient outcomes.

CR27
INTRADURAL EXTRAMEDULLARY CERVICAL SCHWANNOMA

Teh CY[1], Nurul Majidah AR[2], Norhaya MR[2]
[1]*Department of Internal Medicine, Universiti Sultan Zainal Abidin, Kuala Terengganu.*
[2]*Respiratory Unit, Department of Internal Medicine, Hospital Sultanah Nur Zahirah, Kuala Terengganu.*

INTRODUCTION

Schwannoma originates from Schwann cell or Neurilemma cells which produce myelin sheath around neuronal axons. Spinal Schwannoma accounts for about 25% of primary intradural spinal cord tumour in adults[1]. Schwannoma may occur in anywhere except cranial nerves I and II, which lack of Schwann cells[2].

CASE REPORT

A 69 year-olds Malay gentleman with no history of medical illness, was referred to our centre in July 2017 for prolonged cough of 2 months durations. He had neither constitutional symptoms nor neurological deficits. Clinical examination revealed reduced breath sound and dullness on percussion over his left lung apex. These coincide with chest X-ray finding of rounded mass over the same area. His computerized tomography scan of Thorax showed a left paravertebral extra-pulmonary mass. Further magnetic resonance imaging showed a large well defined extra-pulmonary left paravertebral mass medial to left lung apex with its wall appeared hypointense on T1-weighted images and mass centre appeared markedly hyperintense on T2-weighted images which are consistent with Schwannoma.

CONCLUSION

Schwannoma is a benign tumour. MRI is the gold standard for pre-operative diagnosis of spinal Schwannoma and the gold standard of treatment is surgery.

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CR28
Pulmonary Melioidosis

Noor Syazwani Izyan AR, Nurul Majidah AR, Norhaya MR
Respiratory Unit, Department of Internal Medicine, Hospital Sultanah Nur Zahirah, Kuala Terengganu.

Introduction:
Pulmonary melioidosis is common disease which can present as acute or chronic pneumonitis and sometimes can mimic symptoms of pulmonary tuberculosis. Hence, it is important for clinician to have high index of suspicion for detection of the disease as early treatment may reduce morbidity and mortality.

Case presentation 1:
54 years old gentleman, active smoker, works as a heavy vehicle driver at oil palm plantation with newly diagnosed diabetes mellitus presented to us with 3 weeks duration of high grade fever associated with productive cough, night sweat and loose stool. He also notices to have reduced appetite but did not notice any significant weight loss. He denied any contact with tuberculosis patient. Clinically upon admission to ward, he looked lethargy and dehydrated with spiking temperature of 38 but hemodynamically stable. Examination of the lungs revealed coarse crackles on the left side. Chest x-ray showed consolidation of left upper zone. Tuberculosis work up done was negative. Proceed with bronchoscopy and bronchial aspirate was sent noted to have Bulkholderia pseudomallei.

Case presentation 2:
19 years old gentleman, active smoker, a canteen worker with underlying diabetes mellitus presented with 1 week history of fever with chills and non productive cough. Patient denied having contact with tuberculosis patient. He was brought to Emergency Department with severe acute respiratory distress and hypotension requiring intubation and inotropic support. His initial clinical examination showed he was dehydrated with sign of hypovolemic shock. Examination of lungs revealed coarse crackles bilateral lower zones with presence of hepatomegaly and mild splenomegaly. Patient has poor diabetic control with HbA1c 11.9%, blood culture repeated 3 times reported as Bukholderia pseudomallei. Chest x-ray showed consolidation bilateral lungs field. USG abdomen noted to have multiple loculated liver and splenic abscesses with bilateral lower lobe lung pneumonia.

References:
1. Mary IP, Lars G. Osterberg et all. Pulmonary Melioidosis. CHEST journal, 1995, 108:1420-1424
2. Everett, ED and Nelson, RA. Pulmonary Melioidosis: observations in 39 cases. Annual Review Respiratory Disease, 1975, 112:331-340

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Blood Pleurodesis, Promising Alternative? – Case Series From Hospital Duchess of Kent, Sandakan

HJ Wong[1], Yong Jonathan[2], Ee lin Siow[3], YC Chan[4]
[1]*Hospital Duchess of Kent, Sandakan, Sabah, Malaysia*

Introduction
Robinson first described blood pleurodesis in 1987. Many cases have shown that it is an easy, less painful, least complication procedure. We would like to present 2 cases of blood pleurodesis in the management of recurrent pneumothorax.

Method: Case series.

Results:
Case 1
76 year old gentleman, with underlying laryngeal carcinoma with liver metastasis, COAD GOLD D, presented with 2nd episode of pneumothorax, blood pleurodesis was done after initial emergency treatment with chest tube insertion. Technique of the blood pleurodesis is described below. Post pleurodesis, patient has no recurrence of pneumothorax.

Case 2
30 year old gentleman, presented with 3rd episode of left pneumothorax, blood pleurodesis was done after initial treatment with chest tube. Patient remain well till now, no recurrence of pneumothorax.

Technique of blood pleurodesis
1. Equipment –2x 50ml syringes, green branula for phlebotomy, sterile gown, glove and the dressing set, chlorhexidine 2% + alcohol 70%, DIY connector (nasal prong tubing, 3 way connector, and suction tube), drip stand
2. Procedure
a. Make DIY connector.
b. Clean and draped the chest tube, attached the chest tube to the under water sealed bottle via the DIY connector.
c. 100cc of blood then instilled into the pleural cavity via the chest tube.
d. Loop the drainage over the drip stand.
e. Leave chest tube overnight.
f. To report immediately if patient unwell.
g. If chest tube not bubbling the next day, to perform CXR and remove the chest tube.

Conclusion
Blood pleurodesis is an alternative way of treating recurrent pneumothorax. Based on our experience, it is an easy procedure, the agent (blood) readily available, no pain or respiratory distress post instillation of blood into pleural cavity, and no recurrence of pneumothorax up to 3 months of follow up

Reference: S Rinaldi, T felton, A Bentley 2008

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Hydropneumothorax Secondary To Pulmonary Tuberculosis : A Case Series

NAN Md Shahrulnizam[1], AN Musa[1]
[1]*Faculty of Medicine, Universiti Teknologi MARA, Malaysia*

Introduction

Incidence of tuberculosis is growing each year and causes mortality and morbidity around the world. It is kown to cause many sequelae including empyema and pneumothorax. We report 2 cases of chronic hydropneumothorax caused by tuberculosis.

Case Reports

Case 1: A 33-year-old Indian gentleman previously diagnosed as smear positive pulmonary tuberculosis in January 2018 presented with shortness of breath, fever and pleuritic chest pain. He was still on intensive phase of Akurit-4 at that point. Clinical examination revealed finger clubbing and he was in respiratory distresse. He had raised erythrocyte sedimentation rate and C-reactive protein level. Chest radiograph showed right hydropneumothorax. A chest tube was inserted however his hydropneumothorax was not resolving. We then managed him with GUMCO suction and continued on anti-tuberculosis medications

Case 2 : A 38-year-old Indian gentleman was previously diagnosed with pulmonary tuberculosis in February 2017 but defaulted treatment. He subsequently presented few months after with shortness of breathless, pleuritic chest pain, orthopnoea, intermittent productive cough and swelling of left sided lateral chest wall. He had respiratory distressed upon presentation. Laboratory results showed neutrophilia, raised ESR and C-Reactive protein, hyponatraemia and hypoalbuminaemia. Chest radiograph revealed left hydropneumothorax with collapsed lung. His sputum and pleural fluid both were positive for acid fast bacilli and culture confirmed mycobacterium tuberculosis complex. CT thorax showed left hydropneumothorax, collapsed left lung with multiple cavitations and areas of consolidation bilaterally. There was also tree-in-bud appearance in the right lung with fibrotic changes and bulla in right apex. A pleural drainage catheter was placed into left lung and he was subsequently commenced on Akurit-4.

Conclusion

Hydropneumothorax can be a complication of tuberculosis. Our case reports shows that chest tube insertion with or without GUMCO suction is vital in its management. Early recognition and treatment of underlying tuberculosis may prevent complication of hydropneumothorax.

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Case Series of Laryngeal Cleft

Shangari K[1], NM Zainudin[1], A Kassim[1], Z Zahari[1], V Priatharisiny[1], H Ismail[1], N Fafwati[1], Farah H[1], Mazlinda[1], ,

[1] Institut Pediatrik, Hospital Kuala Lumpur*, Kuala Lumpur, Malaysia*

Laryngeal cleft is a rare congenital anomaly of the upper aerodigestive tract, involving a connection between the posterior laryngotracheal tract and anterior oesophagus. A high suspicion of this condition needs to be there for early diagnosis and treatment as it carries a high morbidity and mortality. The Benjamin and Inglis classification system is used to classify the four different types of laryngeal clefts anatomically.

We report 4 cases of laryngeal cleft diagnosed in Institut Pediatrik HKL from 2007-2017. All the children were male. One child was Orang Asli and the other 3 were Malay. The median age at presentation was 16 days of life (birth – 62 days). The median age to diagnosis was 126 days (4 days – 395 days). Stridor and recurrent aspiration were the main presenting complaint. The diagnostic modalities used were bronchoscopy, laryngoscopy, OGDS and upper GI contrast study. Two children were diagnosed with Laryngeal Cleft Type II, and 1 child each were diagnosed with Laryngeal Cleft Type III and IV respectively. All 4 children had comorbidities, mainly some form of malacic airway. 3 out of the 4 children had to have a tracheostomy. This was to overcome the associated abnormalities of subglottic oedema and stenosis, tracheomalacia, recurrent aspiration and a form of operative approach. One of these children have had their tracheostomy decannulated. The patient with the Type IV Laryngeal Cleft died at day 55 of life. All 3 surviving children are on oral feeding with gastrostomy supplementation either due to food aversion or swallowing dysfunction with clinical gastroesophageal reflux disease.

Laryngeal cleft varies in its presentation according to its type and associated co morbidities. Management should be individualized. The outcome of these children with laryngeal cleft are associated not only with the type of laryngeal cleft but also the resources of the treating multidisciplinary team.

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Chronic Cavitary Pulmonary Aspergillosis As A Sequel To Pulmonary Tuberculosis: A Case Report

Ahmad Faizal Rakawi[1], Abdul Aziz Marwan[1&2], Mohamed Faisal Abdul Hamid[1], Andrea Ban Yu-Lin[1]

[1]*Hospital Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia*
[2]*Universiti Sains Islam Malaysia, Kuala Lumpur, Malaysia*

Pulmonary tuberculosis (PTB) infection, whether completely treated or not, can lead to complications, including persistent pulmonary symptoms, progressive loss of lung function and chronic pulmonary aspergillosis (CPA). Among all the long-term PTB complication, CPA is perhaps the most subtle, yet the most severe. CPA is a slowly destructive lung infection, with marked systemic features and pulmonary features almost indistinguishable from PTB. Delayed diagnosis of CPA might be contributed by inadequate facilities to test for immunoglobulin G (IgG) antibodies against *Aspergillus fumigatus* in many places.

We report a case of chronic cavitary pulmonary aspergillosis (CCPA) in a patient previously diagnosed to have PTB whom completed treatment. The patient presented with recurrent respiratory and persistent constitutional symptoms in which was initially treated as relapsed PTB. Following extensive investigation and repeated imaging, eventually she was diagnosed to have CCPA and started anti-fungal therapy.

Reference:
Dai Z et al (2013)
Denning DW (2003)

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Post-obstructive Pulmonary Edema Following Foreign Body Aspiration

Hema Yamini [1], KL Ng[1], Kunjikannan SK[1]

[1] *Respiratory Department, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia*

Post-obstructive pulmonary edema (POPE) is a life-threatening condition causing acute respiratory distress as a result of intense inspiratory effort against an obstructed airway. We report a case of a young boy who developed pulmonary edema due to aspirated foreign body (FB). A 12-year-old boy was brought to the hospital for an acute onset of respiratory distress after FB aspiration. He was eating a chicken burger while walking. Suddenly, he started choking and had difficulty breathing. His father who is a medical assistant did the Heimlich manouvre and administered back blows.He noted the child to be unresponsive. He was cyanosed and had stridor. Throughout the journey to the hospital, his father continued to administer back blows. After 3 minutes, the child coughed out blood and regained consciousness. Upon arrival to the hospital, he was noted to be in respiratory distress with a respiratory rate of 42 breaths per minute, heart rate of 129/min and oxygen saturation of 50% on room air. He was put on a non-rebreather mask with 100% oxygen at a flow of 15 L per minute. Auscultation of lungs revealed bilateral crepitations. Chest radiograph showed bilateral diffuse opacities suggestive of pulmonary edema. He was given a dose of intravenous frusemide 40 mg and was admitted to for close observation. A chest radiograph repeated 48 hours later revealed marked resolution of pulmonary congestion. He was weaned to room air by day 2 of admission. This case illustrates the importance of recognizing POPE in patients who develop acute respiratory distress after FB aspiration. Positive pressure ventilation and diuretics remain the standard of care for POPE. Prompt diagnosis and management allows for its resolution within 24 hours.

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Antisynthetase Syndrome: A Case Report

Hema Yamini [1], Zawahj KL Ng Kunjikannan SK[1]
[1] *Respiratory Department, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia*

Antisynthetase syndrome is an uncommon autoimmune disease characterized by the presence of inflammatory myositis, interstitial lung disease(ILD) and antibodies against aminoacyl t-RNA synthetase. Other clinical features such as Raynaud's phenomenon, hyperkeratotic skin lesions, fever and inflammatory polyarthritis are often reported. We present a case of Antisynthetase syndrome in which ILD is the only manifestation in the absence of inflammatory myositis. A 66-year-old lady presented to us with chronic cough, reduced effort tolerance and weight loss for a duration of 6 months. She had no muscle weakness, joint pain or joint swelling. She was not tachypnoeic. Her oxygen saturation was 96% under room air. Examination of hands revealed fissured hyperkeratosis on the palmar aspects and digits. Fine crepitations were heard bibasally on lung auscultation. Her chest radiograph showed lung fibrosis affecting bilateral lower zones. The patient's creatinine kinase was normal however anti RO52 and anti EJ antibodies were positive. Pulmonary function tests showed a restrictive ventilatory defect with Forced Vital Capacity of 41.5%(1.14L) of the predicted value and Diffusion Capacity of Lungs for Carbon monoxide at 48% (8.9) of the predicted value. High resolution CT thorax revealed a predominantly fibrotic Non-Specific Interstitial Pneumonia pattern. She was then started on oral steroids which was tapered slowly and maintained at 10 mg OD. A follow up HRCT, lung function test and 6-minute walk distance in 12 weeks showed significant improvement. In conclusion, the search for Antisynthetase syndrome should be considered in patients presenting with ILD without other features of an underlying connective tissue disease. Lung involvement may be the first or the only manifestation of the disease.