



# MALAYSIAN THORACIC SOCIETY ANNUAL CONGRESS 2016

28<sup>th</sup> - 31<sup>st</sup> July 2016  
Hotel Equatorial  
Penang



SOUVENIR PROGRAMME & ABSTRACT BOOK

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# MALAYSIAN THORACIC SOCIETY OFFICE BEARERS 2015-2016

<b>President:</b>	Prof Dr Roslina Abdul Manap
<b>Vice-President:</b>	Assoc Prof Dr Pang Yong-Kek
<b>Hon. Secretary:</b>	Dr. Hooi Lai Ngoh
<b>Hon Treasurer:</b>	Assoc Prof Dr Jessie de Bruyne
<b>Hon. Assistant Secretary:</b>	Dr Asiah Kassim
<b>Hon. Assitant Treasurer:</b>	Dr Helmy Haja Mydin
<b>Committee Members:</b>	Dato' Dr Abdul Razak Abdul Muttalif Dr Lalitha Pereirasamy Dr Nurhayati Mohd Marzuki Dr Ahmad Izuanuddin Ismail
<b>Coopted Committee Member:</b>	Dr Irphan Ali Bin Hyder Ali

## MTS ANNUAL CONGRESS 2016 ORGANISING COMMITTEE

<b>Congress Adviser:</b>	Prof. Dr. Roslina Abdul Manap
<b>Organising Chairman:</b>	Dr Irphan Ali Hyder Ali
<b>Scientific Committee:</b>	Dr Helmy Haja Mydin ( <i>Chairman - Adult Programme</i> ) Dr Rus Anida Awang ( <i>Chairman - Paediatric Programme</i> ) Dato' Dr. Abdul Razak Abdul Muttalif Dr Lalitha Pereirasamy Dr Ahmad Izuanuddin Ismail
<b>Secretary / Business Manager:</b>	Dr Hooi Lai Ngoh
<b>Treasurer:</b>	Assoc Prof Dr Jessie De Bruyne
<b>Publicity and Publications:</b>	Assoc Prof Dr Pang Yong-Kek
<b>Social Events:</b>	Dr Sundira Kumar A/L Namasemayam Dr Lalitha Pereirasamy
<b>Audio-Visual Facilities:</b>	Dr Goon Ai Khiang Dr Nurhayati Mohd Marzuki
<b>Local Organising Team:</b>	Dr Irphan Ali Hyder Ali Dr Lalitha Pereirasamy Dr Goon Ai Khiang Dr Ong Choo Khoon Dr Rus Anida Awang Dr Sundira Kumar A/L Namasemayam
<b>Congress Secretariat:</b>	Y. M. Kong and Secretariat of Academy of Medicine of Malaysia



## *Message from President of Malaysian Thoracic Society*

Dear Colleagues and Friends,

I would like to warmly welcome each of you to the Malaysian Thoracic Society Congress 2016 held in the beautiful island state of Penang. This year also marks the 30<sup>th</sup> year of the existence of the Society, which was formed in 1986 under the patronage of His Royal Highness Sultan Azlan Shah, the late Sultan of Perak.

It is currently an exciting time for the Malaysian Thoracic Society. We have slowly but surely, grown from a handful of committed individuals to close to 200 members over this time, comprising both respiratory specialists and allied health professionals. We have collectively witnessed the rapid growth and sub-specialization of the practice of respiratory medicine in Malaysia. Other notable achievements include the realisation of a respiratory medicine training programme, successfully working hand-in-hand with the Ministry of Health and Universities for the advancement of thoracic medicine in the country and the establishment of the Malaysian Lung Foundation for the benefit of patients suffering from lung diseases.

Over the next few days, our scientific programme in the form of symposia, plenary lectures, grand rounds and workshops will cover scientific advances ranging from clinical and molecular medicine, to the challenges of respiratory health in populations. It is our sincere hope that you will go away with the satisfaction of having gleaned new information, ideas and skills that can benefit you. We trust that you will make new acquaintances and renew old friendships whilst delighting in the many cultural flavours that Penang has to offer.

My personal thanks to the Council Members, Organising and Scientific Committees under the leadership of Dr Irhfan Ali, Dr Helmy Haja Mydin and Dr Rus Anida Awang who have tirelessly contributed their invaluable time and effort in making MTS 2016 a success. Finally I wish to express my thanks to our industry partners and sponsors for their continued support.

Enjoy the conference!

**Professor Dr Roslina A Manap**  
*MTS President 2015-2017*



## *Message from the Chairman of Lung Foundation of Malaysia*

Dear colleagues and delegates,

As a co-organiser of this prestigious meeting, the Lung Foundation of Malaysia wishes to warmly welcome all participants to the Malaysian Thoracic Society Annual Congress 2016 and to Penang, the Pearl of the Orient. The Congress will provide the opportunity for participants to engage in the discussion of a comprehensive range of topics in lung diseases and address the latest advances in the diagnosis and treatment. I trust you will find the Congress to be highly educational and interesting. I hope you will also be able to find time to explore Penang with its fascinating culture and colourful heritage, and enjoy the wide selection of street food and fine dining.

As a body that supports and promotes research, the Foundation will present 10 awards for the best research works that are presented in oral and poster presentations at this Congress. We also encourage young doctors/researchers to showcase their research works by offering travel grants to attend and present their works at this Congress. The grants cover the registration, accommodation and travelling expenses.

Being the biggest respiratory meeting in Malaysia, the Annual Congress is not only a place to learn new knowledge or exchange ideas, but also a place to meet up with old friends and make new ones. Do not miss the opportunity to widen your network especially with people who share the same interest with you. I hope you will have an enjoyable and fruitful meeting.

A handwritten signature in dark ink, appearing to read 'Zainudin Bin Md Zin'. The signature is fluid and cursive, with a long horizontal stroke at the end.

**Dato' Dr. Zainudin Bin Md Zin**  
*Chairman, Lung Foundation of Malaysia*



## *Message from Organising Chairman of MTS Congress 2016*

It gives me great pleasure to welcome all delegates to Penang for the Malaysian Thoracic Society Annual Congress 2016. I am deeply grateful to all of you for taking time to attend this congress. Many have traveled from afar and this indicates great enthusiasm in broadening your horizons and increasing your knowledge in Pulmonology, thus providing updated and optimal care for our patients.

The pace of advancement in Pulmonology has been tremendous with rapidly evolving modalities of diagnosis and treatment. It would be folly to any health care worker to ignore these developments and thus we hope this congress will provide all medical personnel the platform to keep abreast of upcoming challenges and developments.

The Organizing Committee have put together a comprehensive programme and worked diligently to ensure there is something of interest to all delegates. Our expert panel of speakers will enlighten delegates on common and well researched respiratory diseases (COPD, Tuberculosis, Asthma, Sleep medicine) to conditions which may not be common but of utmost importance in this day and age (ethics in Pulmonary Medicine, Respiratory Disease in driving, flying and diving). As has become the norm, we end our congress with a tantalizing debate.

Penang is a wonderful place for any congress, ever popular with beautiful beaches, invigorating history and culture, bustling “kopitiams” besides being the ultimate food haven. Thus I wish all delegates an enjoyable and enlightening conference. Take the opportunity to learn, make acquaintances and gain new ideas, while savouring your stay in the Pearl of the Orient.

A handwritten signature in black ink, appearing to read 'Irfhan Ali Hyder Ali'. The signature is stylized with a large, sweeping 'I' and 'A'.

**Dr. Irfhan Ali Hyder Ali**  
*Organising Chairman, MTS Annual Congress 2016*

# Programme Summary

<b>Date Time</b>	<b>Thursday 28th July 2016</b>	<b>Friday 29th July 2016</b>
0700 – 0800		Registration
0800 – 0810		WELCOME ADDRESS
0810 – 0850		<b>PLENARY 1 (P1)</b>
0830 – 1200	<b>Pulmonary Rehabilitation Workshop for Doctor</b> 08.30 – 12.00 Equatorial Hotel	
0850 – 1005		<b>Symposium 1 (S1)</b>
1005 – 1035		Coffee Break
1035 – 1150		<b>Symposium 2 (S2)</b>
1150 – 1230		<b>Sponsored Symposium 2 (SS2)</b> (AstraZeneca)
1230 – 1415		Lunch and Friday Prayers
1400 – 1700	<b>Cardiopulmonary Exercise Testing (CPET) Workshop</b> 1400 – 1700 Equatorial Hotel	
1415 – 1545		<b>Symposium 3 (S3)</b>
1545 – 1625		<b>Sponsored Symposium 3 (SS3)</b> (Cipla Malaysia)
1625 – 1815		Coffee Break & <b>Annual General Meeting</b>
1845 – 1925	<b>Sponsored Symposium 1A (SS1A)</b> (Boehringer Ingelheim)	<b>Sponsored Symposium 1B (SS1B)</b> (Novartis)
		<b>Sponsored Symposium 4 (SS4)</b> (GlaxoSmithKline Pharmaceutical)
2000 – 2130		Dinner



# Programme Summary

Date Time	Saturday 30th July 2016	Sunday 31st July 2016
0700 – 0800	The Year in Review: Tobacco Control	Sunrise Session ATS Bronchoscopy video
0800 – 0840	<b>PLENARY 2 (P2)</b>	<b>PLENARY 3 (P3)</b>
0840 – 1010	<b>SYMPOSIUM 4 (S4)</b>	<b>SYMPOSIUM 6 (S6)</b>
1010 – 1040	Coffee Break	Coffee Break
1040 – 1210	<b>SYMPOSIUM 5 (S5)</b>	<b>PLENARY 4 (P4)</b>
1120 – 1220		Debate
1210 – 1250	<b>Sponsored Symposium 5 (SS5)</b> Novartis	
1220 – 1330		<b>Sponsored Symposium 8 (SS8)</b> (GlaxoSmithKline Pharmaceutical)
1230 – 1400		Lunch
1250 – 1400	Lunch	
1400 – 1500	<b>Concurrent Grand Round</b>	
1500 – 1600	<b>Concurrent Oral and Poster Presentation</b>	
1600 – 1640	<b>Sponsored Symposium 6 (SS6)</b> (Boehringer Ingelheim)	
1640 – 1710	Coffee Break	
1710 – 1750	<b>Sponsored Symposium 7 (SS7)</b> (Mundipharma)	
2000 – 2200	<b>MTS Gala Dinner</b>	



## Congress Workshops

### PULMONARY REHABILITATION WORKSHOP FOR DOCTORS

28<sup>TH</sup> JULY 2016, Hotel Equatorial Penang, Ballroom III

**Coordinators:** *Dr Azlina Samsudin*  
*Dr Lam Yoke Fong*

TIME	TOPIC	SPEAKER
0830 - 0900	Understanding COPD and other chronic lung diseases	<i>Dr Lam Yoke Fong</i>
0900 - 0930	Comprehensive patient assessment for Pulmonary Rehabilitation	<i>Dr Saari Mohamad Yatim</i>
0930 - 1000	Role of the pulmonologist in Pulmonary Rehabilitation	<i>Dr Azlina Samsudin</i>
1000 - 1030	Exercise Prescription in Pulmonary Rehabilitation	<i>Dr Worawan Sirichana</i>
1030 - 1045	Tea break	
1045 - 1115	Trouble shooting	<i>Dr Saari Mohamad Yatim</i>
1115 - 1145	Pulmonary Rehabilitation during acute illness	<i>Dr Worawan Sirichana</i>
1145 - 1215	Q & A Session	<i>All speakers</i>

### CARDIOPULMONARY EXERCISE TESTING (CPET) WORKSHOP

28<sup>TH</sup> JULY 2016, Hotel Equatorial Penang, Ballroom III

**Coordinator**  
*Dr. Lalitha Pereirasamy*

TIME	TOPIC	SPEAKER
1400- 1445	Cardiac and respiratory responses to exercise in health and respiratory diseases	<i>Assoc Prof Dr Loo Chian Min</i>
1445 - 1515	Conducting a CPET Applications of clinical exercise testing	<i>Assoc Prof Dr Loo Chian Min</i>
1515 - 1530	Tea break	
1530 - 1600	Interpreting the results of CPET tests	<i>Dr Nappliḱa Kongpolprom</i>
1600 - 1700	Sample cases. Basic patterns of exercise limitations	<i>Dr Nappliḱa Kongpolprom</i>

# Daily Programme

## 28<sup>th</sup> July 2016, Thursday

1845 – 1925	Sponsored Symposium 1A (SS1A) <i>Boehringer Ingelheim</i> <i>Chairperson:</i> <i>Prof Dr How Soon Hin</i> <i>Topic:</i> The Evolving Landscape of EGFR TKI <i>Speaker:</i> <i>Assoc Prof Dr Pang Yong-Kek</i>	<i>BALLROOM I</i>
1845 – 1925	Sponsored Symposium 1B (SS1B) <i>Novartis</i> <i>Chairperson:</i> <i>Prof Dr Liam Chong Kin</i> <i>Topic:</i> The FLAME Expert Meeting <i>Speaker:</i> <i>Prof Wisia Wedzicha</i>	<i>BALLROOM II</i>

# Daily Programme

## 29<sup>th</sup> July 2016, Friday

0700 – 0800	<b>Registration</b>	
0800 – 0810	<b>WELCOME ADDRESS</b>	BALLROOM I & II
	<ul style="list-style-type: none"> <li>Prof Dr Roslina Abdul Manap <i>President, Malaysian Thoracic Society</i></li> <li>Dr Irhfan Ali Hyder Ali <i>Organising Chairman, MTS Annual Congress 2016</i></li> </ul>	
0810 – 0850	<b>PLENARY 1 (P1)</b> <i>Chairperson: Prof Dato' Dr Azizi Omar</i> Paediatrics to adult medicine: the importance of transitional care <i>Dr Norzila Mohamed Zainudin</i>	BALLROOM I & II
0850 – 1005	<b>SYMPOSIUM 1 (S1)</b> <b>S1A – Chronic Obstructive Pulmonary Disease</b> <i>Chairpersons: Assoc Prof Dr Tidi Hassan / Prof Dr Fauzi Abdul Rani</i> <ol style="list-style-type: none"> <li>Diagnosing COPD: Moving beyond spirometry <i>Prof Dr Roslina Abdul Manap</i></li> <li>The role of beta-blockers in COPD <i>Dr Ahmad Izuanuddin Ismail</i></li> <li>Heterogeneity in COPD: Implications for management <i>Prof Dr Richard Loh Li-Cher</i></li> </ol>	MATAHARI I
0850 – 1005	<b>S1B – Respiratory Infections</b> <i>Chairpersons: Prof Dr How Soon Hin / Assoc Prof Dr Pang Yong-Kek</i> <ol style="list-style-type: none"> <li>The microbiology of bronchiectasis <i>Assistant Prof Dr Sanjay Chotirmall</i></li> <li>Prognostic markers in community-acquired pneumonia <i>Assoc Prof Dato' Dr Basri Mat Nor</i></li> <li>Non-tuberculous Mycobacteria – An enigma in clinical practice? <i>Assoc Prof Dr Pang Yong-Kek</i></li> </ol>	MATAHARI III
0850 – 1005	<b>S1C (Paediatric) – Malaysian Consensus In Paediatric Respiratory Medicine</b> <i>Chairpersons: Dato' Dr Azizi bin Hj Omar / Dato' Dr Ahmad Fadzil Abdullah</i> <ol style="list-style-type: none"> <li>Approach to empyema thoracis <i>Dr Patrick Chan</i></li> <li>Approach to children with snoring <i>Dr Asiah Kassim</i></li> <li>Home respiratory care in Malaysia <i>Dr Norzila Mohamed Zainudin</i></li> </ol>	TERATAI/RAYA
1005 – 1035	Coffee Break	
1035 – 1150	<b>SYMPOSIUM 2 (S2)</b> <b>S2A - Special Populations</b> <i>Chairpersons: Dr Ahmad Izuanuddin Ismail / Dr. Goon Ai Khiang</i> <ol style="list-style-type: none"> <li>Flying and lung disease <i>Lt Col Dr Zulkefley Mohammad</i></li> <li>Diving and lung disease <i>Col Dr Andrew Ng Wei Aun</i></li> <li>Driving and lung disease <i>Dr Lalitha Pereirasamy</i></li> </ol>	MATAHARI I
	<b>S2B – Ethics</b> <i>Chairpersons: Prof Dr Martyn R Partridge / Dr Sundari Ampikaipakan</i> <ol style="list-style-type: none"> <li>To intubate or not to intubate? <i>Dr. Tai Li Ling</i></li> <li>Withdrawing therapy in end-stage respiratory disease <i>Dr. Hilmi Lockman</i></li> <li>Lung transplant – opt-in vs opt-out <i>Dr Hirman Ismail</i></li> </ol>	MATAHARI III

# Daily Programme

## 29<sup>th</sup> July 2016, Friday

	<b>S2C (Paediatric) - Hot Topics In Paediatric Respiratory Medicine</b> <i>Chairpersons: Dr Patrick Chan / Dr Asiah Kassim</i>	TERATAI/RAYA
	<ol style="list-style-type: none"> <li>Severe acute asthma in children <i>Dr Su Siew Choo</i></li> <li>NIV in acute respiratory failure <i>Professor Dr Tang Swee Fong</i></li> <li>Role of hypertonic saline in respiratory illness: a pinch of salt <i>Assoc Prof Dr Jessie de Bruyne</i></li> </ol>	
1150 – 1230	<b>Sponsored Symposium 2 (SS2)</b> <i>Company: Astra Zeneca</i> <i>Chairperson: Dr Helmy Haja Mydin</i> <i>Speaker: Prof Dr Martyn R Partridge</i> Topic: Adherence: The biggest current challenge for respiratory medicine	MATAHARI I
1230 – 1415	Lunch	ETIOLE RESTAURANT
1415 – 1545	<b>SYMPOSIUM 3 (S3)</b>  <b>S3A – Critical Care Medicine</b> <i>Chairpersons: Assoc Prof Dato' Dr. Basri Mat Nor / Dr. Tai Li Ling</i> <ol style="list-style-type: none"> <li>Weaning off mechanical ventilation <i>Dr. Naplika Kongpolprom</i></li> <li>Update on Respiratory Distress Syndromes and management strategies <i>Dr. Maya Nagaratnam</i></li> <li>The role of early pulmonary rehabilitation <i>Assoc Prof. Dr. Loo Chian Min</i></li> </ol> <b>S3B – Lung Cancer</b> <i>Chairpersons: Prof. Dr. Liam Chong Kin / Dr. Nurhayati Mohd Marzuki</i> <ol style="list-style-type: none"> <li>Confocal bronchoscopy – a new diagnostic tool? <i>Assoc Prof. Dr. Tidi Hassan</i></li> <li>Beyond standard lobectomy - increasing resection rates in lung cancer patients <i>Dr. Soon Sing Yang</i></li> <li>Stereotatic Ablative Radiosurgery <i>Dr. Pierre Yves Bondiau</i></li> </ol> <b>S3C (Paediatric) - Gastro-Oesophageal Reflux Disease In Children</b> <i>Chairpersons: Dr. Rus Anida Awang / Dr Dayang Zuraini Sahadan</i> <ol style="list-style-type: none"> <li>The role of pH and impedance study <i>Assoc Prof. Dr. Hasniah Abdul Latif</i></li> <li>When and how to treat GORD in children <i>Prof. Dr. Lee Way Seah</i></li> <li>Controversies surrounding gastro-oesophageal reflux and the lung <i>Assoc Prof. Dr. Anna Marie Nathan</i></li> </ol>	MATAHARI I
1545 – 1625	<b>Sponsored Symposium 3 (SS3)</b> <i>Company: Cipla Malaysia</i> <i>Chairperson: Prof Dato' Dr Hj Abdul Razak Muttalif</i> <i>Speaker: Dr. Raja Dhar</i> Topic: Optimising current treatment for managing severe asthma	MATAHARI I
1625 – 1815	Coffee break  MTS Annual General Meeting	TERATAI/RAYA
1845 – 1925	<b>Sponsored Symposium 4 (SS4)</b> <i>Company: Glaxo SmithKline Pharmaceutical</i> <i>Chairperson: Prof Dr. Roslina Abdul Manap</i> <i>Speaker: Prof. Norbert Berend</i> Topic: The changing natural course of COPD	MATAHARI I
1925 – 2200	<b>DINNER</b>	ETIOLE RESTAURANT

# Daily Programme

## 30<sup>th</sup> July 2016, Saturday

0700 – 0800	<p><i>The year in review</i>  <b>Tobacco Control</b>  <i>Chairperson: Dr Nurhayati Mohd Marzuki</i>  <i>Speaker: Dr Kow Ken Siong</i></p>	TERATAI/RAYA
0800 – 0840	<p><b>PLENARY 2 (P2)</b>  <i>Chairperson: Prof Dr Roslina Abdul Manap</i>  <b>mHealth : Policy and economic ramifications</b>  <i>Assoc Prof Dr Josip Car</i></p>	BALLROOM I AND II
0840 – 1010	<p><b>SYMPOSIUM 4 (S4)</b>  <b>S4A – Quality and Service Improvement</b>  <i>Chairpersons: Dr Irphan Ali / Dr Helmy Haja Mydin</i>            1. Paving the way forward in sponsored clinical research  <i>Dr Akhmal Yusof</i>            2. The National Lung Cancer Registry  <i>Dr Soon Sing Yang</i>            3. Using mHealth to empower respiratory patients  <i>Assoc Prof Dr Josip Car</i>  <b>S4B – Sleep-disordered breathing</b>  <i>Chairpersons: Dr Azza Omar / Dr Kow Ken Siong</i>            1. Dentistry and OSAS - what's the link?  <i>Dr Premthip Chalidapongse</i>            2. OSAS &amp; OHS - Does bariatric surgery play a role?  <i>Mr Mohamad Shukri Jahit</i>            3. Central sleep apnoea  <i>Dr Naricha Chiralkawasan</i>  <b>S4C (Paediatric) - Bronchiolitis Obliterans In Children</b>  <i>Chairpersons: Assoc Prof Dr Jessie de Bruyne / Assoc Prof Dr Hasniah Abdul Latif</i>            1. Who are at risk of Bronchiolitis Obliterans?  <i>Dato' Dr Ahmad Fadzil Abdullah</i>            2. Assessment of children with suspected Bronchiolitis Obliterans  <i>Dr Noor Zehan Abdul Rahim</i>            3. Management of Bronchiolitis Obliterans  <i>Dr Rus Anida Awang</i></p>	<p>MATAHARI I</p> <p>MATAHARI III</p> <p>TERATAI/RAYA</p>
1010 – 1040	Coffee Break	
1040 – 1210	<p><b>SYMPOSIUM 5 (S5)</b>  <b>S5A – Pulmonary Vascular Disease</b>  <i>Chairpersons: Assistant Prof Dr Sanjay Chotirmall / Dr Helmy Haja Mydin</i>            1. Unprovoked VTE – Hunting the cause  <i>Dato' Dr Vijaya Sangkar Jaganathan Naidu</i>            2. The medical management of CTEPH  <i>Dr Sundari Ampikaipakan</i>            3. The changing landscape of treatment for PAH  <i>Prof Dr Paul Corris</i>  <b>S5B - Tuberculosis</b>  <i>Chairpersons: Dr Hilmi Lockman / Assoc Prof Dr Pang Yong-Kek</i>            1. The End TB strategy  <i>Prof Dato' Dr Abdul Razak Abdul Muttalif</i>            2. Advances in TB diagnostics  <i>Dr Rukamani Devi</i>            3. Tobacco Cessation into regular TB services for tuberculosis patients- Does it work?  <i>Dr Tara Singh Bam</i></p>	<p>MATAHARI I</p> <p>MATAHARI III</p>

30<sup>th</sup> July 2016, Saturday

TERATAI/RAYA

1. Identifying patients at risk of developing complications post cardiac surgery  
*Dr Su Siew Choo*
2. Clinical presentations: when to suspect?  
*Dr Rus Anida Awang*
3. Respiratory Assessment and Management following cardiac surgery  
*Dr Dayang Zuraini Sahadan*

MATAHARI I

Topic: FLAME: Unlocking the role of bronchodilators in prevention of exacerbations in high risk COPD patients

ETIOLE RESTAURANT

MATAHARI I

1. Dr Chan Swee Kim (Hospital Umum Sarawak, Kuching, Sarawak)
2. Dr Raymund Dass (Institut Perubatan Respiratori, Kuala Lumpur)
3. Dr Lem Li Khen (Hospital Pulau Pinang, Penang)

MATAHARI III

Speaker: *Dr Dennis Tan Gan Pin*

TERATAI/RAYA

1. Dr Eng Ying Rui (Hospital Seberang Jaya)
2. Dr Khor Wan Teng, (Hospital Sultanah Bahiyah, Alor Setar)
3. Dr Louise Ngu (Hospital Umum Sarawak, Kuching, Sarawak)

MATAHARI I

MAWAR

Linkway leading to Grand Ballroom  
Coordinator: *Dr Rus Anida Awang*

MATAHARI I

Topic: Optimising bronchodilator therapy in COPD patients

MATAHARI I

Topic: The BIG question on small airways disease: Delivering treatment to where it matters

Ballroom I and II

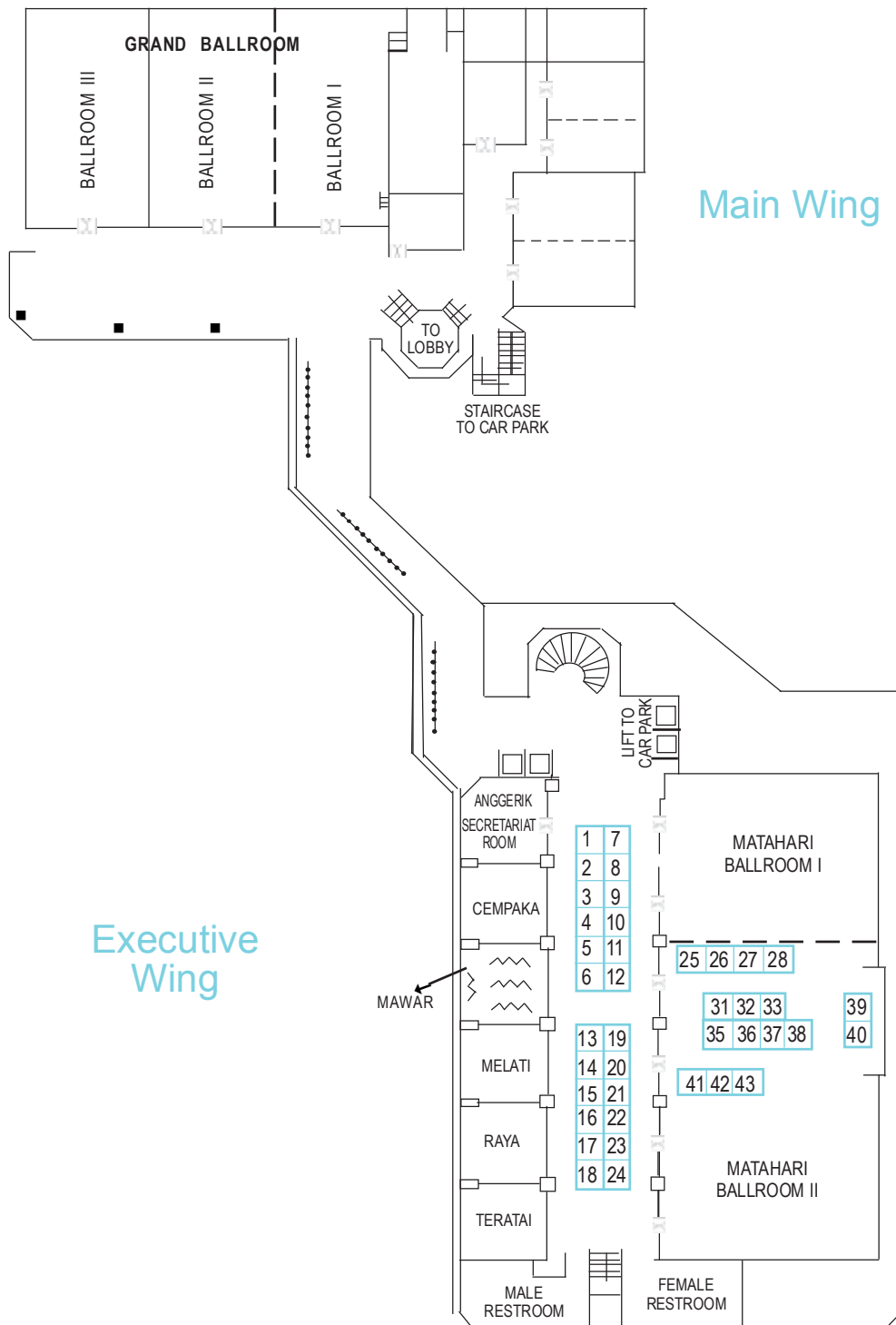
# Daily Programme

## 31<sup>st</sup> July 2016, Sunday

0700 – 0800	<b>Sunrise Session</b> Moderator: <i>Dr Tan Jiunn Liang</i> ATS Discovery Session: Past, present and future of bronchoscopy <i>Dr Atul Mehta</i>	TERATAI/RAYA
0800 – 0840	<b>Plenary 3 (P3)</b> Chairperson: <i>Dato' Dr Zainudin Md Zin</i> 30 years of heart and lung transplants: Lessons for the future <i>Prof Dr Paul A Corris</i>	MATAHARI I
0840 – 1010	<b>Symposium 6 (S6): Asthma</b> Chairpersons: <i>Dr Andrea Ban / Prof Dr Richard Loh Li-Cher</i> 1. Occupational asthma <i>Dr Tan Keng Leong</i> 2. The role of macrolides in the management of asthma <i>Prof Dr Fauzi Abdul Rani</i> 3. Late-onset asthma – Does it exist? <i>Dr Azza Omar</i>	MATAHARI I
1010 – 1040	Coffee Break	
1040 – 1120	<b>Plenary 4 (P4)</b> Chairperson: <i>Prof Dato' Dr Abdul Razak Abdul Muttalif</i> “The Captain of All These Men of Death” – A History of Tuberculosis <i>Tan Sri Dr K. Ampikaipakan</i>	MATAHARI I
1120 – 1220	<b>Debate</b> “This House believes that tuberculosis is a greater threat to Malaysia than dengue” Chairperson: <i>Dr Irphan Ali Hyder Ali</i> For : <i>Prof Dato' Dr Abdul Razak Abdul Muttalif</i> Against: <i>Dr Chow Ting Soo</i>	MATAHARI I
1220 – 1300	<b>Sponsored Symposium 8 (SS8)</b> Company: Glaxo SmithKline Pharmaceutical Chairperson: <i>Dr Tharishini Mohan</i> Topic: COPD Expert Forum #2: A discussion on “Recent Publication on ICS/LABA” Speaker: <i>Prof Norbert Berend</i>	MATAHARI I
1220	Lunch	MATAHARI I



# MALAYSIAN THORACIC SOCIETY CONGRESS 2016 EQUATORIAL HOTEL, PENANG.



## GLOSSARY OF EXHIBITORS

Booth No.	Company Name
1, 2, 7, 8	AstraZeneca Sdn Bhd
3, 4, 9, 10	GlaxoSmithKline Pharmaceutical Sdn Bhd
5, 6 11, 12	Novartis Corporation (M) Sdn Bhd
13, 14, 19, 20	Boehringer Ingelheim (Malaysia) Sdn Bhd
15	AFT Pharmaceutical S.E. Asia) Sdn Bhd
16	Bayer Co. (M) Sdn Bhd
17	Acucare Systems (M) Sdn Bhd
18	Philips Respironics
21	Easmed Sdn Bhd
22	Clinical Research Malaysia
23	Insan Bakti Sdn Bhd
24	Somnotec (M) Sdn Bhd
25	Pahang Pharmacy Sdn Bhd
26	A. Menarini Singapore Pte Ltd
27	Exeltis Pharma
28	BioCare Pharmaceutical (M) Sdn Bhd
31, 35	Cipla Malaysia Sdn Bhd
32	Go Ingenious Sdn Bhd
33	Medi-Life (M) Sdn Bhd
36	Kate TWS Gallery
37	Lung Foundation of Malaysia
38	Pfizer (Malaysia) Sdn Bhd
39	Pharmaniaga Marketing Sdn Bhd
40	CME Distribution
41	Olympus (Malaysia) Sdn Bhd
42	DanMedik Sdn Bhd
43	Medien Sdn Bhd
Melati Room	Mundipharma Pharmaceuticals Sdn Bhd
Cempaka Room	Orient Europharma (M) Sdn Bhd

## **UNDERSTANDING COPD AND OTHER CHRONIC LUNG DISEASES**

**YF Lam**

*Hospital Raja Permaisuri Bainun, Ipoh, Perak*

Increasing evidence indicates that chronic obstructive pulmonary disease (COPD) is a complex disease that involves more than airflow obstruction. Airflow obstruction profoundly affects cardiac function and gas exchange with systemic consequences. As COPD results from inflammation and/or alterations in repair mechanisms, the 'spill-over' of inflammatory mediators into the circulation may result in systemic manifestations of the disease, such as skeletal muscle dysfunction and cachexia. This systemic inflammation may initiate or worsen comorbid diseases, such as ischaemic heart disease, heart failure, osteoporosis, lung cancer, depression and diabetes. Comorbid diseases potentiate the mortality of COPD, with increased hospitalizations, mortality and healthcare costs. These systemic effects add to the respiratory morbidity and should be considered in the clinical assessment and the treatment of affected patients.

## **CARDIAC AND RESPIRATORY RESPONSES TO EXERCISE IN HEALTH AND RESPIRATORY DISEASES**

**Loo Chian Min**

*Department of Respiratory and Critical Medicine, Singapore General Hospital, Singapore*

Heart and lungs work closely together and their responses to exercise are closely coupled. Various disease states give unique patterns of cardiorespiratory response. This session will review these responses to exercise in health and illness.

## **CONDUCTING A CPET: APPLICATIONS OF CLINICAL EXERCISE TESTING**

**Loo Chian Min**

*Department of Respiratory and Critical Medicine, Singapore General Hospital, Singapore*

This session will review the clinical application of CPET, discussing the indications and how this test may help disease management.

## **INTERPRETING CPET RESULTS**

**Dr. Napplika Kongpolprom**

*Division of Respiratory Diseases and Critical Care Medicine, Chulalongkorn University, Thailand*

Cardiopulmonary exercise test (CPET) provides valuable diagnostic and prognostic information regarding patients with cardiovascular and pulmonary disease. The test is used for 1.) evaluation of exercise tolerance 2.) evaluation of undiagnosed exercise intolerance 3.) evaluation of patients with cardiovascular diseases 4.) evaluation of patients with respiratory diseases/symptoms 5.) preoperative evaluation 6.) exercise evaluation and prescription for pulmonary rehabilitation 7.) evaluation of impairment/disability and 8.) evaluation for lung, heart, and heart-lung transplantation. CPET should be considered when specific questions remain unanswered after consideration of basic clinical data and laboratory investigation.

The purpose of this lecture is to provide scientific knowledge and interpretative strategies for CPET. The scope of the lecture includes strategies for determining the likely pathophysiology causes of exercise intolerance and algorithms for differential diagnosis of exercise response patterns. Basically, patients are divided into those with normal or reduced exercise capacity. Patients with decreased exercise capacity (low peak oxygen uptake or low VO<sub>2</sub>) are divided to normal, reduced or indeterminate anaerobic threshold(AT). Subsequently, physiologic responses, namely heart rate, ventilation and gas exchange are used in the process of making diagnosis. The algorithm guides physicians to interpret the integrative and complex tests although this analytic method is not ideal in all instances.

## **SAMPLE CASES OF BASIC PATTERNS OF EXERCISE LIMITATION**

**Dr. Napplika Kongpolprom**

*Division of Respiratory Diseases and Critical Care Medicine, Chulalongkorn University, Thailand*

This topic is intended to provide sample cases with common cardiopulmonary disorders that reduce exercise capacity. Usual exercise response patterns in different clinical entities will be discussed. Appropriate clinical data and laboratory tests will be presented to enhance the physiologic- clinical correlation. Systematic approach to interpretation of exercise performance will be demonstrated. To identify the causes or pathophysiology of exercise intolerance, 6 following issues must be considered. The first issue is aerobic capacity. There is no significant functional impairment in patients with normal VO<sub>2</sub> peak, except for very fit athletes. The second issue is appropriate metabolic response during exercise-amount of VO<sub>2</sub> per given work rate (VO<sub>2</sub>-WR relationship). The low VO<sub>2</sub>-WR ratio appears in obesity, poor exercise technique and hyperthyroidism. Other three issues are cardiovascular functions, respiratory mechanics and gas exchange including hypoxemia, inefficient ventilation and increased dead space ventilation. Additionally, the last issue is premature metabolic acidosis, which is commonly seen in patients with COPD, ILD, pulmonary vascular disease, heart failure and deconditioning. Physicians should integrate all 6 issues to identify patterns of exercise response and correlate these data with clinical profile to diagnose the causes of exercise intolerance.

# PAEDIATRICS TO ADULT MEDICINE: THE IMPORTANCE OF TRANSITIONAL CARE

**Norzila Mohamed Zainudin**

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The survival rates of children with chronic illnesses to adulthood has improved dramatically due to recent advances in paediatric care. It is estimated that more than 85% of children born today with chronic medical conditions will live to adulthood<sup>1</sup>. Many will have life-long or ongoing health care needs

Transition in health care is not equivalent to transfer of patient from paediatric to adult service. In 1993, the American Society for Adolescent Medicine defined transition as 'the purposeful, planned movement of adolescents and young adults with chronic physical and medical conditions from child-centered to adult-oriented health-care system'<sup>2</sup> Health services transition is an essential component of high-quality health care. The transition of care from adolescence to adulthood represents a significant risk period for many young people, particularly those at highest risk of poor health outcomes. However, there are little data to guide the best practice for this important transition of care.

The transition program is mostly problem oriented and its participants include patients, families, paediatricians, nurses, adult healthcare providers, and other healthcare professionals. Preliminary data from the first controlled trial of transitional care in any chronic illness showed significant improvement in health related quality of life, condition related knowledge, satisfaction in health care and vocational readiness markers<sup>3</sup>). Poor transition results in measurable adverse consequences in terms of morbidity, mortality and long-term prognosis, as well as educational and social outcomes<sup>4</sup>

Many young people with chronic illness felt a sense of abandonment and uncertainty when they are required to leave their trusted paediatric health professionals whom they had known all or most of their life<sup>5</sup>. At the same time they may be anxious about leaving a familiar setting and having to meet and develop a relationship of trust with 'new' health professionals in an unknown setting. If health care professionals do not handle transition correctly and sensitively, young adults with chronic health conditions can become resistant, angry and/or defensive

On the other hand, some health professionals can also be 'reluctant to relinquish responsibility for the young people whom they have cared for through many stages of their lives, and whose complex needs they know in detail'.

Barriers to a successful transition could be structural or individual. Irregular contact with services and gaps in the health system will allow young people to fall through health service nets and/or become lost in the system Uncoordinated health care with poor communication between paediatric and adult health services is another major hurdle<sup>6</sup>.

Transition planning should be flexible in timing but should commence early in adolescence to allow the young person to increase their capacity for self-care. Consideration needs to be given to education around their condition, promotion of self-management skills as well as assessment of their psychosocial needs. Preparation for transition planning should generally commence from age 12 years with education towards self-management followed by active transition planning from age 16 years. Successful transition needs to be planned, coordinated and collaborative. It should also be gradual, flexible, responsive, well time and proceeded by adequate groundwork.

In conclusion concerted efforts must be made by both paediatric and adult respiratory adult physicians to develop a good transitional program for paediatric patients with underlying chronic respiratory diseases who survived into adulthood.

## References.

1. Reid, G. J., Irvine, J. M., McCrindle, B. W., Sananes, R., Ritvo, P. G., Siu, S. C., et al. (2004). Prevalence and correlates of successful transfer from pediatric to adult health care among a cohort of young adults with complex congenital heart defects. *Pediatrics*, Vol 113 (3) pp e197-e205.
2. Blum, R. W., Garell, D., Hodgman, C. H., Jorissen, T. W., Okinow, N. A., Orr, D. P., et al. (1993). Transition from child-centered to adult health-care systems for adolescents with chronic conditions. A position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health*, 14(7), 570-76.
3. Robertson, L. P., McDonagh, J. E., Southwood, T. R., & Shaw, K. L. (2006). Growing up and moving on. A multicentre UK audit of the transfer of adolescents with juvenile idiopathic arthritis from paediatric to adult centred care. *Annals of the Rheumatic Diseases*, 65(1), 74-80.
4. Jackson R & Pencharz PB (2003) Transition of care between paediatric and adult gastroenterology. Cystic fibrosis. *Best Pract Res Clin Gastroenterol*, 17(2), 213-35
5. Fiorentino, L., Phillips, D., Walker, A., & Hall, D. M. B. (1998). Leaving paediatrics: the experience of service transition for young disabled people and their family carers. *Health and Social Care in the Community*, 6(4), 260-70.
6. Sawyer, S. M., Collins, N., Bryan, D., Brown, D., Hope, M. A., & Bowes, G. (1998). Young people with spina bifida: Transfer from paediatric to adult health care. *Journal of Paediatrics and Child Health*, 34(5), 414-17.

## DIAGNOSING COPD: MOVING BEYOND SPIROMETRY

**Roslina Abdul Manap**

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Spirometry is considered the gold standard for confirming the diagnosis of chronic obstructive pulmonary disease (COPD). It is used to determine whether airflow limitation is present and whether it is partially or fully reversible, the severity of the airflow limitation, assess the response to medications and follow disease progression. Spirometry should be performed in patients with suggestive symptoms and screening spirometry is not currently recommended. Traditionally, a post-bronchodilator  $FEV_1/FVC$  ratio less than 0.7 has been considered diagnostic of airflow limitation. The  $FEV_1$  is known to decrease slightly out of proportion to the FVC with aging. Hence,  $FEV_1/FVC$  ratio decreases with age, such that using a cut-off of 0.7 may underdiagnose younger patients and overdiagnose older patients. Use of the lower limit of normal (LLN) of the  $FEV_1/FVC$  ratio, rather than the absolute value of  $<0.7$ , has been advocated by some as a dividing point for the diagnosis of COPD.

Regardless of the cutoff used, spirometry needs to be interpreted in clinical context, as reference values are based on a “healthy general population” with no consideration of smoking status, genetic predisposition for COPD, or exposure to air pollution or particulates shown to cause the disease.

Despite the benefits of spirometry, it is just one element of correct COPD diagnosis and management. Recent GOLD guideline updates reflect this, suggesting that healthcare practitioners incorporate symptom assessment tools into decisions about treatment, eg. COPD Assessment Test (CAT) and/or the Modified British Medical Research Council (mMRC) questionnaire every 2–3 months to identify trends and changes, rather than relying only on annual spirometry to assess symptoms.

Several studies have also shown that impulse oscillometry measurements can identify abnormalities in patients who report symptoms of COPD but do not yet have abnormal spirometry. Meanwhile, other modalities such as HRCT and biomarkers may play a more important role in diagnosing COPD in future.



## THE ROLE OF BETA-BLOCKERS IN COPD

**Ahmad Izuanuddin Ismail**

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Chronic obstructive pulmonary disease (COPD) is characterized by persistent poorly reversible airflow limitation, with significant chronic systemic inflammatory response to tobacco smoking. The systemic inflammation promotes atherosclerosis, of which beta-blockers are paramount to treat the complications. Apart from comorbidities, exacerbations also contribute to overall severity in individual patients with COPD.

Beta-blockers traditionally have been considered contraindicated in patients with COPD despite having clear proven mortality benefit in hypertension, congestive heart failure and coronary artery disease, common comorbidities in these patients. This leads to unnecessary avoidance by longstanding worry that beta-blockade might precipitate bronchospasm. In the Cochrane database (Salpeter, 2005), they concluded that there were no significant adverse respiratory effects with cardio-selective beta-blockers in patients with mild to moderate COPD.

More recently, Bhatt et al (2016) in a prospective observational study concluded that usage of beta-blockers is not only safe in patients with severe COPD, but also associated with a significant reduction in COPD exacerbation. Most of the evidence however derived from observational, retrospective studies or small randomized controlled trial. We do however need properly planned randomized controlled trial to test and prove this important finding, something that is currently ongoing.

During this presentation, I will review the current evidence pertaining to the usage of beta-blockers in COPD patients especially in term of its safety, as well as its importance in reducing the rate of exacerbation and mortality.

## HETEROGENEITY IN COPD: IMPLICATIONS FOR MANAGEMENT

**Richard Loh Li-Cher**

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Chronic obstructive pulmonary disease (COPD) is more syndromic than asthma. Its heterogeneity can defy our efforts to accurately define the variety of risk factors, pathologic mechanisms and what is the best standard-of-care management. From research perspective, the classic classification of chronic bronchitis and emphysema appears to have gained popularity once more. This phenotypic differentiation that has well recognised underpinned pathology seems to explain well the disease prognosis and observed differences in treatment response. However studies have shown that composite assessment, for example those that comprises of physiologic, functional, morphologic and/or demographic considerations, is better than a single measurement like FEV<sub>1</sub> alone to map prognosis and guide management. Asian COPD may also be different from Caucasian COPD in terms of exposure of risk factors (notably pulmonary TB and indoor biomass burning) and disease progression. This has important implication in diagnosis and disease prevention. Despite all these advances in our understanding, our armory of therapies still rests on bronchodilators for the moment. The more effective they are the better. Inhaled corticosteroids are now less favoured because of its risk-benefit balance that tilts towards infections. Mucolytic agents may show promise especially in 'chronic bronchitis' phenotype. Non-pharmacological treatment like physical activities and nutritional supplements may also be particular relevant for certain COPD phenotypes.

## THE MICROBIOLOGY OF BRONCHIECTASIS

Sanjay H. Chotirmall

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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 is higher than that described in both Europe and North America. Described as a pathologic condition rather than disease, and, commonly pre-fixed with 24 'non-cystic fibrosis (CF)' no pathological difference exists from that seen in CF hence we can learn much from the microbiology of the CF airway. While much aetiology is described, large proportions, up to 50% remain idiopathic. The commonest cause particularly in Asia remains post-infectious, with both tuberculosis (TB) and non-tuberculosis mycobacterial (NTM) infection dominating. Phenotypic subsets of patients with other respiratory diseases: asthma and COPD do illustrate co-existing clinically significant bronchiectasis which remains incompletely understood. Whether bronchiectasis in these settings is inter-related to the existing respiratory pathology or a separate entity remains undetermined. The mucus-rich lung in bronchiectasis fosters micro-organism growth: *P. aeruginosa*, *H. influenza* and NTM are commonly isolated while *S. pneumonia* and *S. aureus* less so. Fungi such as *A. fumigatus* are emerging pathogens and remain globally understudied. Most traditionally isolated organisms in bronchiectasis are well studied: NTM while common is difficult to eradicate and the presence of *P. aeruginosa* correlates with severer disease, worse lung function, more frequent exacerbations and reduced quality of life. Little focus however has been paid to emerging pathogens such as fungi and its potential clinical effects in non-CF bronchiectasis. My group and others have defined the existence and importance of microbial diversity in bronchiectasis with particular focus on the fungi *Aspergillus* in European populations. We are currently building a research platform to better understand this phenomenon in Asia and this presentation will discuss what is currently known and unknown about the airway microbiology in non-CF bronchiectasis.

## PROGNOSTIC MARKERS IN COMMUNITY-ACQUIRED PNEUMONIA

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Biomarker is a characteristic that is objectively measured and evaluated as an indicator of normal biologic process, pathogenic processes or pharmacological responses to a therapeutic intervention. To be considered clinically relevant, a biomarker must have a high diagnostic accuracy. In management of infection, it is expected to fulfil three functions; to establish or confirm the diagnosis of infection (or sepsis); secondly to quantify the severity of the disease and predict the prognosis and lastly to monitor the course of disease or response to treatment and guide therapeutic decision. There are no gold standard biomarkers in clinical practice since they are specific to different types of infection e.g. bacterial, viral or fungal. Some biomarkers are useful for both prediction of infection and prognosis.

Two most promising are procalcitonin (PCT) and C-reactive protein (CRP). Recent studies showed that PCT levels correlate with the severity of pneumonia. Biomarkers that have been studied for prediction of mortality and showed high AUROC values were pro-adrenomedullin, prohormone forms of atrial natriuretic peptide, cortisol, PCT, copeptin and CRP. Studies are inconsistent regarding whether biomarkers are better than CAP specific scores for predicting prognosis. Adding biomarkers to scores such as Pneumonia Severity Index, CURB-65, APACHE II and SOFA improved their predictive capability as indicated by a significant increase in AUROC curves. Future studies should look at how biomarkers can be best used in clinical practice, which ones are the most appropriate and which cut-off levels should be applied for predicting prognosis. In predicting prognosis the concept of dynamic changes are more valuable. In one study, PCT levels increased over time in non-survivors but decreased in survivors. Further studies should examine whether changes in biomarker levels during the course of the disease (biomarker non-clearance) may help physicians to identify patients at higher risk of deterioration and poor outcomes.

## NON-TUBERCULOUS MYCOBACTERIA – AN ENIGMA IN CLINICAL PRACTICE?

Yong-Kek Pang

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Nontuberculous mycobacteria (NTM), also known as environmental mycobacteria, are ubiquitous and can be found in water, soil and animals. Its infection in human is usually transmitted directly from these sources and rarely from another infected human/animal.

There are 4 different clinical syndromes which NTM infection manifests. These include: 1. Pulmonary infection; 2. Superficial lymphadenitis; 3. Disseminated infection; 4. Skin and soft tissue infection. Disseminated infection usually only occurs in severely immunocompromised hosts, such as AIDS patients.

Worldwide, the prevalence of NTM infection is increasing, although the type of infection varies in different geographical locations. In general, this infection is more commonly encountered in the tropic and subtropic regions. The exact frequencies of various NTM species are largely unknown due to the lack of compulsory registry. Other factors which affect the prevalence of certain NTM species include the pathogenicity of the NTM species and the prevalence of certain co-morbidities in human hosts. Till date, there are about 160 NTM species identified; however, only a few are common pathogens in clinical practice - these include *Mycobacterium avium complex*, *Mycobacterium kansasii*, *Mycobacterium abscessus*, *mycobacterium fortuitum*, etc

Symptoms and radiographic imaging are generally not specific for this infection. Hence, its diagnosis requires the isolation and identification of specific NTM from the clinical samples. If the species is isolated from sterile sites, the diagnosis is straightforward. On the other hand, if it is isolated from non-sterile sites, e.g. sputum or bronchial lavage, further evaluation needs to be made to ascertain if the organism is a pathogen or just a commensal. The most commonly employed diagnostic criteria are those recommended by the 2007 ATS/IDSA *Diagnostic Criteria for NTM infection*.

Once infection is ascertained, decision will still have to be made if treatment is indicated and for how long. Unlike tuberculosis, different NTM species require quite different treatment regimens - many have not been tested prospectively in the randomised clinical trials. In addition, in vitro sensitivity does not always predict in vivo response. Apart from macrolides sensitivity testing, other sensitivity testings are currently not routinely recommended.

## APPROACH TO EMPYEMA THORACIS

**Patrick WK Chan**

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Community-acquired pneumonia is a common and significant paediatric infection; most cases are mild with only small number of children requiring in-hospital treatment.

It is estimated that about 5% of children hospitalized with CAP develop a para-pneumonic effusion that may evolve to empyema thoracis. It should be considered when there is a lack of resolution or worsening of symptoms, persistent systemic toxicity and persistent or new lung signs.

The management approach to empyema thoracis include:

1. Recognition and staging of the effusion and empyema by radio-imaging ie chest x-ray and ultrasound chest. A CT scan of the chest is not routinely required.
2. Pleural drainage is a crucial prerequisite in the successful management of empyema thoracis and must be done early in the disease. Intra-pleural fibrinolysis is currently recommended adjunct therapy for empyema thoracis.
3. Identification of the infective pathogen for the most appropriate anti-microbial therapy. *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Staphylococcus aureus* and occasionally *Mycoplasma pneumoniae* are the more common infective pathogens isolated in empyema thoracis. Intravenous antimicrobial therapy is administered until there is resolution of systemic toxicity and successful drainage of the empyema, followed by prolonged oral anti-microbial therapy for up to 2 to 4 weeks.

S1C (Paediatric) - Malaysian Consensus In Paediatric Respiratory Medicine

## APPROACH TO CHILDREN WITH SNORING

**Asiah Kassim**

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A task force was formed in 2015 involving multidisciplinary teams in Ministry of Health

Malaysia, Universities and private hospitals. It consists of all experts including Respiratory Paediatrician, General Paediatrician, Neuromedical Paediatrician, Paediatric Intensivist, Otorhinolaryngologist, Paediatric Otorhinolaryngologist, General Anaesthetist and Paediatric Anaesthetist. The main objective of this Task Force is to formulate a standardised approach for children with snoring in Malaysia in view of differences in availability of resources and expertise.

In general, all children with snoring will be evaluated for their risk of obstructive sleep apnea and their medical risks like neuromedical, morbidly obese, pulmonary hypertension, heart failure etc. A child who snores due to adenotonsillar hypertrophy without other risk factors and co morbidities will be managed by Otorhinolaryngologist for adenotonsillectomy. However, any children who snore and associated with other risk factors and comorbidities must be assessed by at least by a General Paediatrician and referred to a Respiratory Paediatrician when indicated. Patients with high risk factors and comorbidities must have their surgical procedure done in a centre which can provide post-operative ICU care including non-invasive ventilation.

In summary, all children who snore need to be evaluated completely before any intervention or therapy is initiated.

## HOME RESPIRATORY CARE IN MALAYSIA

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Home care is the provision of services and equipment in the place of residence of individuals and families who have needs resulting from acute illness, long-term health conditions, permanent disability, or terminal illness. In the United States, home care includes home health care (episodic, often post-acute care provided on an intermittent basis), hospice (palliative and end-of-life care provided for the terminally ill), chronic home care services (private duty services provided on an hourly basis), and home medical equipment (oxygen, respiratory equipment, nebulized medications, infusion therapy, and in-home supplies).

In Malaysia, home respiratory care is defined as a service of providing long term respiratory support in children who requires long term oxygen therapy or Ventilatory support beyond the boundary of the hospitals usually home. In addition the children may be on other modalities of treatment such as tracheostomy, or infusion feeding via gastrostomy or jejunostomy.

The goals of providing home care in children with respiratory disorders are to increase survival, decrease morbidity, improve function and quality of life, support independence and self-management, encourage positive health behaviors, and promote optimal growth and development. For patients with terminal illnesses, home care goals include physical and psychological comfort, and making dying at home possible.

Advances in medical knowledge and technology, have made it possible for critically ill children requiring ventilation to survive. As a result, many of these children developed chronic respiratory disorders requiring various technological interventions ranging from supplemental oxygen to long-term ventilation from various paediatric units in Malaysia. In view of the increasing number of children who are technology dependent, there is a need to develop a consensus document with regards to the care of these children.

The goals of the document are to develop standards of care for children on long-term oxygen therapy or home ventilation, to provide a standard pathway of referral for these children and to provide a list of equipment related to respiratory support at home.

Whether it is long term oxygen therapy or home ventilation, a multidisciplinary team involvement in the care of these children is essential. There should be an agreement by the team on the aims and indications of the therapy. The underlying diagnosis must be made and the criteria for home oxygen therapy or ventilation is met. The patients should be referred to the Paediatric Respiratory Team for assessment on the need for long-term oxygen therapy or ventilatory support. The referring doctors should have a clear understanding of the primary disease with regards to prognosis and aim of therapy. The document discusses the monitoring, assessment and the follow up protocol when they are discharged home. Decision for treatment and palliative care will also require multidisciplinary team discussion and initiated at the point of diagnosis. Patients on home ventilation therapy with advanced and progressive respiratory failure despite on optimal therapy should be considered for non-escalation of therapy after a thorough discussion between patient/caregiver and multidisciplinary team.

### References

1. Malaysian Consensus Guidelines on paediatric long term ventilation 2015
2. Malaysian Consensus Guidelines on paediatric long term oxygen therapy 2015
3. Guidelines for home oxygen in children. Thorax, Volume 6. August 2009.
4. American Thoracic Society. Statement on home care for patients with respiratory disorders. Am J Respir Crit Care Med. 2005;171(12):1443-64.

## FLYING AND LUNG DISEASE

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Any passenger with lung disease should receive medical advice prior to air travel. A Data showed respiratory symptoms were the third most frequent cause of medical flight diversion.

It is commonly thought that current passenger aircraft are pressurized in order to allow a normal sea-level environment. However, this is untrue as most are pressurized to cabin altitude up to 8000 feet. At this cabin altitude, the partial pressure of oxygen will dropped to the equivalent of breathing 15.1 % oxygen at sea level. A healthy person will experience a fall in arterial oxygen tension to 53-64 mmHg and arterial oxyhaemoglobin saturation to 85-94%. This leads to concern that this altitude exposure may exacerbate hypoxaemia in person with lung disease. Furthermore, during flight, the reduction in ambient pressure will cause a rapid expansion of any cavity like lesion. For example, at 8000 feet, a pneumothorax will increase by 30% compared with at sea level. Therefore understanding the basic gas laws such as Boyle's Law and Dalton's Low of Partial Pressure are very essential for understanding of altitude physiology. There is also a need to have standard recommendation for managing passenger with lung disease planning for air travel.

## DIVING AND LUNG DISEASE

**A Ng**

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Human beings are land based creatures and thus face environmental, physical and physiological challenges when they venture underwater. To be able to dive, the diver need to use specialized breathing apparatus, be physically and medically fit, and be well trained.

All divers should undergo a Diving Medical Examination to determine fitness to dive. In Malaysia, for recreational diving, the diver is not required to undergo a diving medical unless during a self-declared questionnaire it was found that he or she has certain medical condition. However, in commercial diving, the divers are required to obtain a yearly Fitness to Dive certificate from a doctor qualified to perform diving medical examinations.

During a diving medical examination, the respiratory system is given particular attention. Various lung diseases can influence the physical fitness of a diver. Changes in pressure during diving can cause pulmonary barotrauma and lead to significant morbidity and even death. Certain lung disease can predispose to decompression illness, and depending on the oxygen concentration used during diving, pulmonary oxygen toxicity may also be of concern.

In this presentation, we will discuss four important questions when determining fitness to dive:

- a) does the condition or disease affect the diver's safety in water?
- b) does the disease or condition affect the safety of the diver's buddy?
- c) will diving exacerbate the condition or disease? and
- d) will diving result in any long term sequelae in the presence of the condition or disease?

Using these 4 questions, the issues and controversies of various lung diseases as it relates to diving will be discussed.



## DRIVING AND LUNG DISEASE

**Lalitha Pereirasamy**

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Most patients with chronic pulmonary diseases of various aetiologies will have no difficulty maintaining their driving privilege. However, two pulmonary disorders which deserve special attention are Chronic Obstructive Pulmonary Disease (COPD) and Obstructive Sleep Apnea (OSA).

Cognitive defects in patients suffering from COPD has been described in previous literature and hypoxaemia has been identified as a possible cause. Those individuals suffering from COPD with dyspnea on exertion or at rest and those on oxygen therapy should have their driving skills evaluated.

OSA is a common disorder with far-reaching health implications. One of the major consequences of OSA is the impact on neurocognitive functioning. Left untreated, OSA results in increased daytime sleepiness and decreased attentiveness. Several studies demonstrate that these patients have two to three times more auto accidents than other drivers. Almost one quarter of these patients report frequently falling asleep while driving.

Recognizing the potential neurocognitive decline affecting driving skills, particularly amongst patients with COPD and OSA is an important preventive measure to reduce road traffic accidents.

### S2B - Ethics

## TO INTUBATE OR NOT TO INTUBATE?

**Tai Li Ling**

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Acute-on-chronic respiratory failure challenges patients, their families and clinicians with treatment options, such as intubation, invasive mechanical ventilation and tracheostomy. Too often, these patients are not well informed of their respiratory condition and are unable or too ill to make a decision. Intensivists are forced to make decisions, despite having no information about the patients' wishes.

In patients with chronic respiratory failure, it is important for clinicians to educate and discuss with patients and their families regarding diagnosis and probable disease progress, treatment, prognosis, palliative care options and advance care planning. These discussions are often difficult and painful but necessary. Every patient has the right to be informed of all the treatment options available to him and participate actively in decision-making. When guiding the patient in his decision-making, his values, beliefs, culture and wishes should be given due consideration.

Quality at the end-of-life is just as important as quality at the beginning of life. At the end-of-life, the burden of disease and treatment usually outweigh the benefits. Dying on a ventilator in an ICU is not a quality death. In these patients, the goals of care should be aimed towards comfort rather than cure and towards calming rather than painful treatments. They should also be given the option of spending their last moments at home, with loved ones if desired.

## WITHDRAWING THERAPY IN END-STAGE RESPIRATORY DISEASE

Hilmi Lockman<sup>1</sup>

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**Life and death.** This is the cycle of life. The process towards the end is a varied one and controversial when it comes to those with a chronic debilitating disease. This is something that is not well recognised or managed by medical health professionals. No one is comfortable with this topic: the patient.....the family.....most definitely the doctors and nurses who has to do this repeatedly throughout their clinical careers.

Being aware of medical treatment limitations and taking into account the wishes of the patient including relatives should form the basis of making an end of life care plan. This is usually linked with terminal cancer. In cases not linked to this the process is usually much more difficult.

It is important this process involves a multidisciplinary team approach. The patient and family should not be forced to accept the suggestion. Communication is key in this process with the patient should always be central to the discussion.

### References

1. Treatment and care towards the end of life: Good practice in decision making. General medical Council. 20 May 2010. [http://www.gmc-uk.org/Treatment\\_and\\_care\\_towards\\_the\\_end\\_of\\_life\\_\\_\\_English\\_1015.pdf\\_48902105.pdf](http://www.gmc-uk.org/Treatment_and_care_towards_the_end_of_life___English_1015.pdf_48902105.pdf) (last accessed 14 June 2016)

## S2B - Ethics

### LUNG TRANSPLANT – OPT-IN VS OPT-OUT

Hirman Ismail

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There are many strategies that have been widely discussed and implemented in many countries to increase donor pool and organ transplantation rate. These include among others strengthening central and local organisational structure, establish good transplant/ donor coordinator network, raising public awareness, addressing professional awareness and competencies, incentive (to donor, staff & medical institution), establish mechanism for potential deceased donor identification, ABO incompatible transplant, paired exchange programme, domino transplant, extended donor criteria and regional organ sharing. Legislation has been implicated to be as one of the many ways to improve organ and tissue donation rate in particular through the implementation of opting out system. Opting out system or also known as presumed consent is a system by which consent to donate organ and tissue is presumed unless a person has expressly indicated otherwise during his/her lifetime. Contrary to the opting out system, in opting in system however, consent to donate has to be explicit through verbal or written consent expressed by the donor when he/she was still alive. Legal and ethical barrier in implementing opting out system arises because of the fact that such system would exclude the next of kin from the decision making process when a donor passes away. In Malaysia, the law that governs the authorisation of removal of organ and tissue from a deceased is Human Tissues Act 1974 [Act 130]. Malaysia practices an opting in system as specified in subsection 2(1) of the Act 130 but the final decision to authorise the removal of organ and tissue of the deceased donor rest on the spouse or the next of kin, as specified in subsection 2(2). At the moment, the Ministry is in the process of drafting a new more comprehensive law on transplantation in which the option for possible implementation of opting out system was discussed. Even though it is thought that opting out system may increase donor pool as demonstrated in some countries, the challenges to its implementation is much more complex and shall be tailored to consider local sensitivity, level of awareness/ acceptance and also cultural/ religious values.

## SEVERE ACUTE ASTHMA IN CHILDREN

**Su Siew Choo**

*Hospital Tengku Ampuan Rahimah, Klang, Malaysia*

Severe acute asthma is one of the most common medical emergencies in children and is responsible for a significant proportion of admissions to the paediatric intensive care unit each year. An increasing prevalence of paediatric asthma has led to increasing burdens of critical illness in children with severe acute asthma exacerbations, often leading to respiratory distress, progressive hypoxia, and respiratory failure. Effective treatment depends on the accurate and rapid assessment of disease severity at presentation, and repeated serial objective assessments with a stepwise clinical approach. The mainstay of management includes rapid administration of oxygen, inhaled bronchodilators and systemic corticosteroids. Patients with worsening clinical status should be progressively treated with continuous inhaled  $\beta_2$ -agonists and anti-cholinergics as well as intravenous  $\beta_2$ -agonists, magnesium sulphate and/or aminophylline, coupled with high-flow oxygen. Non-invasive ventilation may be required to limit the work of breathing, hypoxaemia, and possibly hypercarbia. Despite this, if clinical status worsens, mechanical ventilation may be required.

## NIV IN ACUTE RESPIRATORY FAILURE

**Tang Swee Fong**

*Department of Paediatrics, Universiti Kebangsaan Malaysia Medical Centre*

Noninvasive ventilation (NIV) refers to the delivery of mechanical ventilatory support without the use of endotracheal intubation. Acute respiratory failure in children require prompt intervention as it is associated with increased morbidity and mortality. Mechanical ventilatory support, invasive and non-invasive, is an important intervention for children with acute respiratory failure. Invasive mechanical ventilatory support, although life-saving, has been associated with complications such as ventilator-induced lung injury and ventilator-associated pneumonia. As such, in recent years, NIV has been proposed as a valuable alternative. Physiological studies have demonstrated the beneficial effects of NIV in children with ARF while several paediatric clinical studies have suggested the effectiveness of this modality in ARF due to acute (upper and lower airway obstruction) and certain parenchymal lung disease. Noninvasive ventilation has also been utilised for postoperative and postextubation ARF as well as to facilitate extubation. The use of NIV has been associated with an improved gas exchange, reduced work of breathing as well as avoidance of endotracheal intubation. In most clinical studies, NIV has been well tolerated with few major complications. Studies have shown that predictors of NIV failure in children with ARF include high fractional inspired oxygen needs and high partial pressure of carbon dioxide on admission or within the first few hours of starting NIV. Despite its increased use, there remains many unanswered questions including identification of suitable patients, the right time and optimal setting for NIV application. Further studies are needed to add to the current knowledge of NIV which will allow us to optimise the use of this intervention.

## ROLE OF HYPERTONIC SALINE IN RESPIRATORY ILLNESS: A PINCH OF SALT

**Jessie A de Bruyne**

*Department of Paediatrics, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia*

Respiratory diseases are often associated with an increase in thick, viscid secretions that are difficult to clear and or serve as a nidus of infection. There are attractive arguments for the use of hypertonic saline delivered via nebulizer in this situation. Firstly, it has several mucolytic mechanisms that can improve transportability and hence clearance of mucus. It also deposits itself on and draws water into the airway, making the rheological properties of mucus more suitable for clearance. Importantly, it stimulates cough thus enhancing mucus clearance but also impacting tolerability. It may also protect against oxidative injury.

However, the use of hypertonic saline delivered via nebulizer in 2 main areas in respiratory illness – bronchiolitis in infants and young children and cystic fibrosis has elicited much discussion.

There has been a lack of consistently effective management for infants with bronchiolitis. Early studies on nebulized hypertonic saline showed promise of a relatively cheap and effective method of management and the Cochrane review actually stated that “current evidence suggests nebulized 3% saline may significantly reduce the length of hospital stay among infants hospitalized with non- severe acute viral bronchiolitis and improve the clinical severity score in both outpatient and inpatient populations”. However, later studies, albeit not as methodically robust, have called this into question.

In cystic fibrosis, nebulized hypertonic saline increased the yield of sputum expectorated and produced a reduction in frequency and duration of exacerbations and an improvement both in spirometry and quality of life. Questions remain on the ideal strength of the solution and whether it should be used together with other agents like hyaluronic acid. Hypertonic saline has also been used in non-cystic fibrosis bronchiectasis.

The role of nebulized hypertonic saline in respiratory disease continues to evolve.

## WEANING OFF MECHANICAL VENTILATION

**Napplika Kongpolprom**

*Division of Respiratory Diseases and Critical Care Medicine, Chulalongkorn University, Thailand*

Patients need ventilatory support when they have severe respiratory diseases or hypercatabolic condition. Respiratory drive of some patients placed on mechanical ventilation is incapable to initiate adequate respiratory activities. Moreover, patients' ventilatory capability is outstripped by the demand, resulting in hypercapnia and refractory hypoxemia. After stabilizing their conditions, physicians have to find the optimal time for weaning the patients from mechanical ventilation. Premature weaning compromises gas exchange and worsens the diseases. In contrast, delayed weaning leads to increased morbidities, including ventilator associated pneumonia and ventilator induced lung injury. Furthermore, patients who fail multiple weaning trials often have complicated conditions, so physicians should use individual approach for the discontinuation from mechanical ventilator.

For this topic, it includes general approach to wean patients from mechanical ventilation, management of patients who fail a weaning trial, selection of parameters for prediction of weaning failure and common pitfalls in weaning.

## UPDATE ON RESPIRATORY DISTRESS SYNDROMES AND MANAGEMENT STRATEGIES

**Maya Nagaratnam**

*Pantai Hospital, Kuala Lumpur, Malaysia*

This broad-based talk will give an overview of the updates on pathogenesis, current thinking practices of ventilation strategies and a better understanding of the acute and longer term consequences of ICU management on a patient's outcome and trajectory.

## THE ROLE OF EARLY PULMONARY REHABILITATION

**Loo Chian Min**

*Department of Respiratory & Critical Care Medicine, Singapore General Hospital, Singapore*

Pulmonary rehabilitation has been well studied and applied in COPD. Its use has been extended to other pulmonary diseases like interstitial lung disease, asthma and post-ARDS rehabilitation. However, there is little data outside COPD. In the ICU setting, many critically-ill patients suffer from critical illness myopathy/neuropathy. Many such patients have difficulty weaning from the ventilator. Patients who survived the ICU take a long time to recover from their weakness and have poor quality of life. In addition, many patients suffer from persistent respiratory failure after recovering from critical illness. Recent studies suggest that early rehabilitation may prevent occurrence of ICU acquired weakness. The concepts of pulmonary rehabilitation may be safely applied to critically-ill patients with positive outcomes. This session will discuss some of this evidence and how it may be done.

### S3B - Lung Cancer

## CONFOCAL BRONCHOSCOPY – A NEW DIAGNOSTIC TOOL?

**Tidi Hassan**

*Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*

In recent years, new endoscopic methods have been developed to improve the detection of early bronchial cancers including autofluorescence bronchoscopy, narrow band imaging and optical coherence tomography. Another emerging technique includes probe-based confocal endomicroscopy (pCLE), in which *in-vivo* minimally invasive, 'pathological grade' evaluation of abnormal bronchial or parenchymal lung tissues can be evaluated.

Due to the fluorescent properties of the respiratory tract and tissue, pCLE for example, produces very precise microscopic fluorescent images of the bronchial basement membrane zone in which the modelling of the bronchial walls with underlying premalignant epithelia is significantly altered. In addition, with the use of non-toxic cellular dye, acting as an exogenous fluorophore, it is possible to reproducibly image the normal and cancerous epithelial layer of the main bronchi, as well as cellular patterns of solid peripheral nodules.

Another advantage of pCLE using the miniprobe approach is to image distal structures *in vivo*, such as the alveolar ducts, sacs and intra-acinar, extra-alveolar and capillary microvessels. For example, a specific tobacco-induced fluorescence is observed in smoking subjects. There are growing literature related to the application of pCLE in alveolar diseases including pulmonary alveolar proteinosis, diffuse emphysema, amiodarone-induced pneumonitis and acute lung allograft rejection. More prospective studies however are necessary to standardize pCLE descriptive criteria and validate its application in both central and peripheral lung diseases.

## BEYOND STANDARD LOBECTOMY - INCREASING RESECTION RATES IN LUNG CANCER PATIENTS

**Soon Sing Yang**

*Heart Centre, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Lobectomy for early stage lung cancer is the treatment of choice, providing patients with the best long term outcomes. However, in the absence of an effective lung cancer screening programme, many patients continue to present in the later stages with potential for chest wall, mediastinal, vascular and large airways involvement. In addition, such patients often have multiple co-morbidities and therefore have increased surgical risks and complexities.

Adequate pre-operative investigations are required for optimisation, accurate risk stratification and counselling prior to resection. These may include physiological and functional testing such as dynamic lung volumes and transfer factor, split lung function testing, shuttle walk test and cardiopulmonary exercise testing. Risk stratifications system include the European Society of Thoracic Surgeons (ESTS) risk model, the Veterans Affairs model and the Thoracscore. Currently, Thoracscore remains the most discriminating.

Complete resection remains the best option for cure in lung cancer patients, therefore attempts must be made to increase resection rates either singularly or as part of multi-modality management. Lung parenchymal sparing resections such as bronchoplastic and angioplastic techniques should be employed whenever possible to lower perioperative risks and increase post operative quality of life. Minimal access resection is gaining widespread adoption among the surgical fraternity especially in the developed countries. The synergistic effects of minimising surgical trauma and preserving lung parenchyma without compromising resection margin is the gold standard for surgical resection. This is especially pertinent in borderline patients with compromised physiology and multiple co-morbidities.

S3B - Lung Cancer

## STEREOTACTIC ABLATIVE RADIOSURGERY

**Pierre Yves Bondiau**

*Centre Antoine Lacassagne, Nice, France*

Lung cancer remains in 2016 the leading cause of cancer-related deaths. Although surgery still constitutes the standard treatment for lung cancer, it is not feasible for a large number of patients. Treatment of lung tumors thus requires an innovative treatment solution. The ability of the CyberKnife® stereotactic radiotherapy system to track and automatically correct for respiratory motion allows an increase of the radiation dose, and thus gives the opportunity to improve the efficacy of the treatment. In this presentation an overview of this technology, the indication and its clinical benefits is provided showing that it can offer an effective and safe option in the treatment of lung tumors, whether they are primary and early stage, recurrent, or secondary, as well as peripheral or central.



## THE ROLE OF pH AND IMPEDANCE STUDY

**Hasniah Abdul Latif**

*Paediatric Department, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia*

Gastro-oesophageal reflux (GOR) is defined as the retrograde flow of gastric contents into the esophagus and is universally present in infants and children. When GOR causes significant symptoms or complications, it is referred to as GOR “disease” (GORD). The diagnosis is conventionally based on clinical history. However, diagnostic challenges arise in infants and children with less specific symptoms.

The existing evidence shows that increased acid exposure is a significant pathophysiological factor in GORD. The 24-hour esophageal pH monitoring is able to detect pH changes in the esophagus and thus acid GOR. The results are highly reliant on the reflux index (the percentage of time with an esophageal pH of below 4), whereas its cutoff value for pathological GOR is still a matter of debate.

A test that could show all GOR episodes would be preferable and could probably help clarify symptom genesis, especially in those patients not responding to acid suppressive therapy.

Multichannel intraluminal impedance study provides a more accurate assessment of reflux either acid or non-acid, visualization bolus flow and direction as well as the extent of the GOR episodes.

*S3C (Paediatric) - Gastro-Oesophageal Reflux Disease In Children*

## WHEN AND HOW TO TREAT GORD IN CHILDREN

**Lee Way Seah**

*Department of Paediatrics, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia*

Gastro-oesophageal reflux disease (GORD) is a condition that develops when there is reflux of stomach contents, which typically manifests as heartburn and regurgitation. These oesophageal symptoms are well recognized; however, there are extra-oesophageal manifestations of GORD, which include asthma, recurrent pneumonia, chronic cough, laryngitis and sinusitis. GORD in children may be difficult to manage, as the presenting symptoms are diverse and often difficult to correlate a presenting symptom to the presence of underlying GORD. In infants, regurgitation is a common physiological condition. Nevertheless, when it occurs frequently (>4 times per day) and causes distress, parents often seek medical help. In children 2-10 years of age, GORD is often considered to cause extra-oesophageal symptoms, despite the absence of such evidence. Diagnostic investigations usually lack validation and the signs and symptoms of GORD may overlap with a host of other conditions such as cow's milk protein allergy and eosinophilic oesophagitis. Parental education and reassurance, dietary treatment and positional adaptations are usually sufficient in a majority of infants and children with uncomplicated GORD. For complicated GORD or in those with troublesome symptoms, anti-acid medication may be considered. However, in many instances, PPIs is not indicated and may be in fact be over-prescribed in infants and children. The management of GORD in children older than 10 years is similar to that in adults. Prokinetics have been used to treat non-erosive reflux disease, although most of the prokinetics used have not been subjected to vigorous scientific trials. Today, the adverse effects of each prokinetic has largely outweigh its potential benefits. Laparoscopic surgery is indicated in children who have life-threatening symptoms or in cases of drug dependence.

## CONTROVERSIES SURROUNDING GASTRO-OESOPHAGEAL REFLUX AND THE LUNG

**Anna Marie Nathan**

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Gastroesophageal reflux (GER) is very common in children due to the immaturity of the antireflux barrier. However gastroesophageal reflux disease (GERD) is less common and yet many diseases have been attributed to it. One such organ that may be affected by GERD is the lung. However there are many controversies with regards to this, especially proving causality rather than just an association. The areas which I will be talking about are summarised below: 1) GERD and asthma: Treatment of reflux with anti-acid medication have not improved asthma symptoms but increased risk of infections.<sup>1</sup>

2) GERD and recurrent pneumonia: no evidence.<sup>2</sup> 3) Positive airway pressure worsens GER: On the contrary, it reduces GER.<sup>3</sup> 4) Laryngomalacia and GERD: Literature review has showed that there is an association but causality has not been proven.<sup>4</sup>

5) GERD and chronic cough: Cough is significantly associated with weakly acidic GER and children of younger age are at higher risk. Yet association of cough with the reflux is difficult to prove. However use of Multiple channel Intraluminal Impedance probes with pH monitoring increases the likelihood of demonstrating a temporal association between the cough and all types of reflux.<sup>5</sup> There may also be a significant proportion of weakly-acid GER may precede cough episodes in young children with persistent cough, possibly explaining the inconstant effects of anti-acid treatment on respiratory symptoms.<sup>6</sup>

### References:

1. Lansoprazole for Children With Poorly Controlled Asthma A Randomized Controlled Trial. Writing Committee for the American Lung Association Asthma Clinical Research Center  
JAMA 2012 Jan 25; 307(4):373-383 **Writing Committee for the American Lung Association Asthma Clinical Research Center**  
JAMA 2012 Jan 25; 307(4):373-383
2. Clinical profile of recurrent community-acquired pneumonia in children. Francesca Patria et al. BMC Pulmonary Medicine 2013, 13:60
3. **Inhibitory Effect of Nasal Intermittent Positive Pressure Ventilation on Gastroesophageal Reflux**  
Danny Cantin1.PLOS ONE | DOI:10.1371/journal.pone.0146742 January 19, 2016

## TOBACCO CONTROL

**Kow Ken Siong**

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Globally tobacco is exacting a huge burden, and 1 in every 4 people is a smoker. Billions of people are going to die from tobacco in this century if no action is taken and half of them will die prematurely.

The global economic cost of tobacco use is huge and will increase by 2040 and is estimated to reach 1 trillion US dollars. I will discuss Tobacco control by reviewing the existing literature and cover the major issues associated with Tobacco control globally in the past 1 year. These includes electronic cigarettes and the growing epidemic of electronic cigarette usage leading to perhaps a new generation of addicts; the impact of electronic cigarettes advertisements that could ultimately make smoking culturally acceptable again and the impact of the controversial declaration earlier this year by The Royal College of Physician that electronic cigarettes should be offered to smokers and how this could affect both patients and health practitioners perception of the benefit and perceived harm in the face of a paucity of real world data. We also looked at the threats of illicit cigarettes as expert increasingly moot the concept of a Tobacco endgame post 2015 and finally on the evidence for plain packaging; a strategy that is increasingly adopted by developed countries as the Tobacco endgame begins which reorients discussion away from the persistent control of tobacco toward plans for ending the tobacco epidemic, and envisions a tobacco free future and really would require new out-of-the box ideas and strategies that are necessary to greatly reduce the global tobacco-related disease burden.

## mHEALTH: POLICY AND ECONOMIC RAMIFICATIONS

**Josip Car**

*School of Public Health, Imperial College, London*

Nearly half of the earth's population (3.3 billion people) have a mobile phone – penetration being more than 90 per 100 persons in the developed world, and more than 33 per 100 in the developing world.

With an apparent bond between mobile penetration and economic development, adoption of mHealth technologies can improve communication, reduce unproductive travel time, improve logistics, enable faster decision-making, and empower businesses, to cut costs and improve healthcare quality alongside bringing changes in behaviour to strengthen prevention. Productivity gains worth \$305 billion have been projected over the next 10 years in medicine with the aid of mHealth.

A connexion of health, technology, and finance, mHealth is a complex modality where development of sustainable business models is challenging. There is a need to break a number of barriers to enable mHealth to transform health systems and service delivery. A range of initiatives need to be undertaken at the policy levels as well. For instance, changing traditional reimbursement models to create incentives to improve health outcomes that allow for payment for interventions that take place remotely, and also, defining new areas of medical liability. A big challenge is to engage all the stakeholders towards coordinated efforts for scaling mHealth from small but promising experiment to a global healthcare solution.

The mHealth industry is at a crucial phase before rapid transformation. To fully realize industry's full potential to revolutionize healthcare, its evolution warrants for concerted leadership and long term top-down strategies from government and from the health, technology, and financial sectors. Developing strong evidence will be just one of the essential building blocks.

## PAVING THE WAY FORWARD IN CLINICAL SPONSORED RESEARCH

**Akhmal Yusof**

*Clinical Research Malaysia, Kuala Lumpur, Malaysia*

The Malaysian government has committed funding to improve the healthcare systems in order to further support clinical research. Clinical Research Malaysia (CRM), a non-profit organisation - wholly owned by the government of Malaysia, was established develop infrastructure for the Clinical Research Centre networks, and to support global industry sponsored research (ISR) requirements.

CRM focuses on its five key strategies; grow the number of Principal Investigators and sites, attract new ISRs to Malaysia, enhance cooperation and collaboration with the stakeholders, create awareness of CRM among the medical fraternity, public and patients, and lastly, commit to developing human capital.

CRM has invested heavily in improving the facilities at the various clinical research sites as well as sponsoring Investigator's Award in conjunction with the State Research Day. These initiatives were undertaken to grow the number of investigators and sites. Apart from this, CRM has improved the efficiency of its feasibility process by creating a dedicated database of PIs. This effort improved the number of feasibilities by 300% compared to previous years, with a 50% growth in new Sponsors. By actively participating in national and international conferences and exhibitions, CRM managed to create awareness among the local and foreign industry players. This resulted in a 200% growth in inquiries from interested parties about ISR opportunities in Malaysia.

To date, Malaysia has more than 80 ISR trial sites which have been approved by the Ministry of Health (MOH) that consists of an amalgamation of public and private hospitals. At the end of 2015, 201 new ISR trials were approved by the institutional review board (IRB). CRM targets 221 new trials for 2016, and their vision for 2020 is to conduct 1000 new and ongoing trials in Malaysia.

*S4A - Quality and Service Improvement*

## THE NATIONAL LUNG CANCER REGISTRY

**Soon Sing Yang**

*Heart Centre, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Lung cancer has the highest incidence and mortality among all cancers worldwide. There are various types of registries for the treatment of lung cancer but are mainly either speciality (i.e. cardiothoracic surgery / oncology) based or population (i.e national/ regional) based.

The proposed National Lung Cancer Registry aims to capture all incidences of lung cancer in Malaysia and its subsequent management. It is a one stop data entry and analysis system for all clinicians involved in lung cancer care. The registry is web/ cloud based and can be accessed securely and remotely anywhere with internet connection. It has end to end encryption and the data is hosted in a local server in Malaysia.

In addition, it is multi disciplines with data entry fields from pulmonology, radiology, pathology, cardiothoracic surgery and oncology. This allows patient care to be tracked even as patients move across hospital or disciplines. Each discipline will be in charge of ensuring completeness and validity of their data entry.

The registry will allow policy makers and clinicians real time access to the state of lung cancer management in Malaysia. It will also allow analysis of various aspects of lung cancer treatment, including time of presentation to diagnosis, time to treatment (radical or palliative), surgical and oncological performances and subsequent outcomes. This should lead to improved care, workflow, service provision, research and facilitating clinical trials.

## USING mHEALTH TO EMPOWER RESPIRATORY PATIENTS

**Josip Car**

*School of Public Health, Imperial College, London*

The rising cost of healthcare worldwide has lead providers to seek new ways to care for patients with chronic conditions. With 6.9 billion mobile subscriptions globally and 96% of the world population having access to mobile technological advances mHealth has the potential to empower respiratory patients. Industry estimates suggest that, by 2018, over one billion individuals worldwide will use a health or fitness app.

Examples include:

- Real-time measurement of clinical, behavioural and environmental factors to allow accurate monitoring of the progression and treatment of respiratory diseases as well as environmental factors such as air quality.
- Strengthening communication between patient, family and the healthcare personnel to minimize exacerbation associated dangers alongside diminishing related social barriers
- Digitally empowering patients for self-management

The growth of mobile ownership and the wealth of complimentary connected technologies have enabled the development of intelligent mHealth programs which go beyond simple apps and are driving a shift towards person-centered care model by personalised information, motivation and support to patients and their healthcare professionals to monitor progress and better manage their condition. This is promising to be translated into improved health outcomes and patient quality of life as well as decreasing the overall cost of treatment by reducing the number of unplanned hospital admissions and clinical interventions.

The advances in mHealth will enable researchers in further identifying chronic respiratory disease endotypes and utilising patient-specific profiles, integrating symptoms and medication utilization with environmental and genomic data to identify personalized treatments.

## DENTISTRY AND OSAS – WHAT’S THE LINK?

**Premthip Chalidapongse**

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Multidisciplinary approach from certain specialties including dentists is necessary for management of Obstructive Sleep Apnea Syndrome (OSAS). Besides teeth and oral soft tissue dentists are trained to evaluate craniofacial, maxilla-mandible relationship, oropharynx, tonsils, and adenoid tissue. Early detection children with potential of OSAS due to craniofacial abnormality and receiving orthodontic treatment can prevent OSAS in adults. Dentists with special training in dental sleep medicine can screen and treat OSAS adult patients by using oral appliances or maxillo-mandibular advancement (MMA) surgery. The qualified dentists for OSAS management are dentists who have board certified dental sleep medicine for which there are small numbers<sup>1</sup>. The others are dentists who have board of occlusion and orofacial pain, board of oral and maxillofacial surgery, and dentists who interested and take a continuing education in dental sleep medicine. A good collaboration of dentists and physicians are essential in effective management of OSAS. The new practical guideline for oral appliance therapy<sup>2</sup> as a task force from American Academy of Sleep Medicine and American Academy of Dental Sleep Medicine has been published recently and should be used for a guideline in OSAS patients that needed oral appliance treatment. Dual ownership, coordination, communication, collaboration between dental sleep medicine practitioners and sleep medicine physicians ensures that we achieve the ultimate goal-the highest quality care for patients with OSAS. This topic will raise the issue of how dentists can be a part of OSAS management in view of dentists' role, mechanism and characteristic of appropriate oral appliances, effectiveness and integrative role of oral appliances with other treatments, effectiveness of MMA and orthodontic treatment, and the proposed protocol of dentist-physician collaboration.

1. American Academy of Dental Sleep Medicine (AADSM) website. [www.aadsm.org/findadentist.aspx](http://www.aadsm.org/findadentist.aspx) accessed 26/04/2016
2. Ramar K., Dort LC., Katz SG., et al. Clinical practice guideline for the treatment of obstructive sleep apnea and snoring with oral appliance therapy: and update for 2015. J Clin Sleep Med. 2015; 11:773-827.

## S4B - Sleep-disordered breathing

## OSAS & OHS – DOES BARIATRIC SURGERY PLAY A ROLE?

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Malaysia is the most obese population among the ASEAN country in the recent obesity survey. Commonly obesity is known to have significant correlation with the prevalence of metabolic disorders which affects the socio-economic progress of Malaysia. Not known to the majority medical fraternity is that obesity also brings about other issue that impact greatly in the quality of life and to certain extent the productivity of the person affected. This is the issue of hypoventilation or commonly known as Obesity Hypoventilation Syndrome (OHS) and Obstructive Sleep Apnoea (OSA).

Obese patients have a larger amount of fatty tissue around their upper airways thus during sleep when muscles relax the weight of the surrounding soft tissue around the throat may partially or completely collapses the upper airways. Repetitive collapse of the upper airway may make them prone to apnoea. Asian populations have an increased prevalence of OSA at a lower BMI than in our Caucasian counterpart. Untreated this will lead to various complications such as increased risk of hypertension, heart rhythm irregularities, heart attacks and stroke. OHS in the other hand is the development of diurnal hypercapnia (PaCO<sub>2</sub> .45 mm Hg) in obese individuals (BMI > 30 kg/m<sup>2</sup>) in the absence of other reasons for hypoventilation. OHS is associated with a significantly greater degree of morbidity and mortality.

Commonly OSA and OHS are treated with CPAP. However this does not solve the root of the problem but merely prevents morbidity and daytime sleepiness associated with this hypoventilation syndrome. When lifestyle changes promises improvement of hypoventilation syndrome from reduction in weight it may not be a sustainable approach. Bariatric surgery has been shown to give a long term sustainable weight reduction with significant improvement in all obesity related morbidities including hypoventilation syndrome.

## CENTRAL SLEEP APNOEA

Naricha Chiralkawasan

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According to the most recent international classification for sleep disorders

(ICSD 3)<sup>1</sup>, central sleep apnea is categorized into 6 groups.

1. Central sleep apnea with Cheyne-Stokes breathing
2. Central sleep apnea due a medical disorder without Cheyne-Stokes breathing
3. Central sleep apnea due to high altitude periodic breathing
4. Central sleep apnea due to a medication or substance
5. Primary central sleep apnea
6. Primary central sleep apnea of infancy
7. Primary central sleep apnea of prematurity
8. Treatment-emergent central sleep apnea

The two common conditions encountered in sleep medicine practice are central sleep apnea with Cheyne-Stokes breathing and treatment-emergent central sleep apnea

### **Central sleep apnea with Cheyne-Stokes breathing (CSA-CSB)**

CSA with Cheyne-Stokes breathing (CSA-CSB) is characterized by crescendo-decrescendo changes in tidal volume that result in central apneas or hypopnea.<sup>2</sup> The current diagnostic criteria for CSA-CSB according to ICSD 3 includes (A or B)+C+D.<sup>1</sup>

**A.** The presence of one or more of the following:

1. Sleepiness
2. Difficulty initiating or maintaining sleep, frequent awakenings, or nonrestorative sleep
3. Awakening short of breath
4. Snoring
5. Witnessed apneas

**B.** The presence of atrial fibrillation/flutter, congestive heart failure, or a neurological disorder

**C.** Polysomnography (PSG) (during diagnostic or positive airway pressure initiation) shows all of the following:

1. Five or more central apneas and/or central hypopneas per hour of sleep
2. The total number of central apneas and/or central hypopneas is >50% of the total number of apneas and hypopneas
3. The pattern of ventilation meets criteria for Cheyne-Stokes Breathing (CSB)

**D.** The disorder is not better explained by another current sleep disorder, medication use (e.g., opioids), or substance use disorder

Potential risk factors for CSA-CSB in congestive heart failure include male (uncommon in female), age > 60, atrial fibrillation, and pCO<sub>2</sub> awake < 38.<sup>3</sup> Mechanisms for CSA-CSB development in congestive heart failure include a long circulation time, increase in CO<sub>2</sub> chemosensitivity, and lack of increase in PCO<sub>2</sub> at sleep onset.<sup>4</sup> Hypocapnia due to hyperventilation in response to stimulation of pulmonary vagal irritant receptors by pulmonary edema suppresses ventilation (undershoot), leading to central apneas and associated hypercapnia, which in turn stimulate excessive ventilation (overshoot). Interestingly, CSA-CSB seems to be more frequently observed during NREM sleep compared to REM sleep. In order to diagnose CSA-CSB, polysomnography is required as well. The first step in the management of CSA-CSB should be optimization of CHF treatment in accordance with published guidelines. Interestingly, CPAP can attenuate CSA-CSB but the effect may be gradual. The CANPAP trial (the Canadian Continuous Positive Airway Pressure for Patients with Central Sleep Apnea and Heart Failure) demonstrated no overall improvement in



transplantation-free survival when CPAP was utilized in patients with congestive heart failure in addition to optimal contemporary medical therapy; however in post-hoc analysis in the group of patients with suppression of AHI <15/hour; CPAP had shown to increase LVEF and heart transplantation-free survival.<sup>5,6</sup> Adaptive servoventilation (ASV) which is a machine sensing and responding appropriately to the changes in breathing pattern thus reducing overventilation had shown to suppress CSA in patients refractory to CPAP.<sup>7</sup> However recent study demonstrated that ASV may increase mortality in congestive heart failure patients with predominant central sleep apnea with LVEF <45%.<sup>8</sup>

### **Treatment-emergent central sleep apnea (complex sleep apnea)**

The diagnosis of treatment-emergent central sleep apnea (complex sleep apnea) is based on the characteristic of predominantly obstructive events during the diagnostic sleep study with persistence or emergence of CSA during administration of positive airway pressure without a backup rate.<sup>1</sup> The current diagnostic criteria for treatment-emergent central sleep apnea (complex sleep apnea) according to ICSD 3 includes A-C (all must be met).<sup>1</sup>

**A.** Diagnostic PSG shows five or more predominantly obstructive respiratory events (obstructive or mixed apneas, hypopneas or RERAs) per hour of sleep

**B.** PSG during use of positive airway pressure without a backup rate show significant resolution of obstructive events and emergence or persistence of central apnea or central hypopnea with all of the following:

1. Central apnea-central hypopnea index (CAHI)  $\geq$  5/hour
2. Number of central apneas and central hypopnea is  $\geq$  50% of total number of apneas and hypopneas
- C. The central sleep apnea is not better explained by another CSA disorders

Potential risk factors include more severe OSA<sup>9</sup>, central apnea index (CAI)  $\geq$  5/hour during diagnostic PSG<sup>9</sup>, use of opioids<sup>9</sup>, the presence of excessive daytime sleepiness<sup>10</sup>, and male sex.<sup>11</sup> However, patients with complex sleep apnea syndrome are mostly similar to those with OSA until one applies continuous positive airway pressure.<sup>11</sup> High loop gain moving eupneic CO<sub>2</sub> closer to the apnea threshold (reduction in CO<sub>2</sub> reserve) may explain the pathophysiology of treatment-emergent central sleep apnea. CPAP which opens the upper airway may make the arterial CO<sub>2</sub> tension lower for any given set of ventilatory conditions. Activation of lung stretch receptors, which may inhibit central respiratory motor output. Washout of CO<sub>2</sub> from the anatomical dead space may occur if mask leak or mouth breathing develop at high CPAP levels. Initiation of CPAP can worsen sleep quality, and transitions from sleep to wake to sleep can contribute to central apneas associated with state instability. These are among the potential explanations for the development of treatment-emergent central sleep apnea.<sup>12</sup> PSG with administration of PAP often reveals adequate titration during REM sleep and stage N3 sleep but repetitive episodes of central events during stage N1 and N2.<sup>1</sup> Generally, CPAP can still be tried as central apneas were observed to be transitory and was eliminated within 8 weeks after CPAP therapy.<sup>9</sup> ASV and Bilevel positive airway pressure (BPAP) with back up rate are potential other treatment options. ASV appears to be more effective than BPAP with back up rate.<sup>13</sup>

### **References**

1. American Academy of Sleep Medicine. International classification of sleep disorders, 3<sup>rd</sup> ed. Darien, IL: American Academy of Sleep Medicine, 2014
2. Sharma B, McSharry D, Malhotra A. Sleep disordered breathing in patients with heart failure: pathophysiology and management. *Curr Treat Options Cardiovasc Med*. 2011;13(6):506-16.
3. Sin D, Fitzgerald F, Parker JD, et al. Risk factors for central and obstructive sleep apnea in 450 men and women with congestive heart failure. *Am J Respir Crit Care Med* 1999;160:1101-6.
4. Javaheri S. Central sleep apnea. *Clin Chest Med*. 2010;31(2):235-48.
5. Bradley TD, Logan AG, Kimoff RJ, et al. Continuous positive airway pressure for central sleep apnea and heart failure. *N Engl J Med*. 2005;353(19):2025-33.
6. Arzt M, Floras JS, Logan AG, et al. Suppression of central sleep apnea by continuous positive airway pressure and transplant-free survival in heart failure: a post hoc analysis of the Canadian Continuous Positive Airway Pressure for Patients with Central Sleep Apnea and Heart Failure Trial (CANPAP). *Circulation*. 2007;115(25):3173-80.
7. Arzt M, Wensel R, Montalvan S, et al. Effects of dynamic bilevel positive airway pressure support on central sleep apnea in men with heart failure. *Chest*. 2008;134(1):61-6.
8. Cowie MR, Woehrle H, Wegscheider K, et al. Adaptive Servo-Ventilation for Central Sleep Apnea in Systolic Heart Failure. *N Engl J Med* 2015;373:1095-105.
9. Javaheri S, Smith J, Chung E. The prevalence and natural history of complex sleep apnea. *J Clin Sleep Med* 2009;5(3):205-11.
10. Kuzniar TJ, Pusalavidyasagar S, Gay PC, et al. Natural course of complex sleep apnea—a retrospective study. *Sleep Breath*. 2008;12(2):135-9.
11. Morgenthaler TI, Kagramanov V, Hanak V et al. Complex sleep apnea syndrome: is it a unique clinical syndrome? *SLEEP* 2006;29(9):1203-9.
12. Malhotra A, Bertisch S, Wellman A. Complex sleep apnea: it isn't really a disease. *J Clin Sleep Med*. 2008;4(5):406-8.
13. Allam JS, Olson EJ, Gay PC, et al. Efficacy of adaptive servoventilation in treatment of complex and central sleep apnea syndromes. *Chest* 2007;132:1839-46.

## WHO ARE AT RISK OF BRONCHIOLITIS OBLITERANS?

**Ahmad Fadzil Abdullah**

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Bronchiolitis obliterans (BO) is a clinical syndrome that characterized by chronic obstruction of the small airways. BO is a final process to common lung injury. Several causes of the BO have been described such as by viruses, atypical germ or bacteria, foreign body or gastric content aspiration, inhalation of toxins and bone marrow transplant. The most common is the post- infectious especially the adenovirus.

Histological findings are similar regardless the aetiology which suggests that BO corresponds to final response to different insults to epithelial cells of small airway which advances by mean of intraluminal healing instead of the normal repair path. There are two histologically well define types of BO: constrictive bronchiolitis which is 90% of all cases and proliferative bronchiolitis.

Epidemiology studies showed BO incidence is higher among Asian ethnicities suggest that the genetic predisposition in developing of BO. The southern hemisphere also has higher incidence compare to northern hemisphere. Is the environment also a risk factor is still not conclusive. Infection with certain serotype adenovirus can result in higher risk of developing BO. Other risk factors include hospitalization more than 30 days, multifocal pneumonia, need of mechanical ventilation and hypercapnia.

Why some children developed BO is still controversial and more understanding of how our immune system response to the infection and the tissue repair mechanism need further understanding so that children who are at risk developing BO can be prevented from having BO.

*S4C (Paediatric) Bronchiolitis Obliterans In Children*

## ASSESSMENT OF CHILDREN WITH SUSPECTED BRONCHIOLITIS OBLITERANS

**Noor Zehan Abdul Rahim**

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Bronchiolitis obliterans (BO) refers to a chronic obstructive airflow disease associated with inflammatory lesions of the small airways. In children, BO is usually preceded by infection of the lower airways caused mainly by adenovirus.

The diagnostic investigation of BO includes chest x-ray, lung function test, high resolution computed tomography (HRCT) and less commonly, lung biopsy. Apart from this, investigations to rule out the underlying cause that may contribute to chronic airflow obstruction such as gastro esophageal reflux (GORD), pulmonary tuberculosis, immunodeficiency and cystic fibrosis should be carried out.

## MANAGEMENT OF BRONCHIOLITIS OBLITERANS

A Rus Anida<sup>1</sup>

<sup>1</sup> Hospital Pulau Pinang, Penang, Malaysia

Bronchiolitis obliterans (BO) is a rare form of chronic obstructive lung disease that follows a severe insult to the lower respiratory tract, resulting in fibrosis of the small airways. In the non-transplant pediatric population, adenovirus infection is the most common cause. Treatment is largely supportive and prognosis is mainly related to the underlying cause and to the severity of the initial insult.

If an underlying cause can be found, like aspiration or inflammation, treatment to prevent further damage to the lung is recommended. However, for many BO patients, the treatment is mainly supportive, and for some, the underlying cause is not understood.

BO children often have laboured breathing, which uses more calories than normal. As a result, poor weight gain (failure to thrive) is often seen. Optimising the child's nutritional status to promote adequate growth is important for overall health.

Oxygen supplementation may also be required. The amount of oxygen needed varies in BO patients. It may be normal during awake. However, chronic hypoxaemia, particularly during sleep or physical activity, can lead to pulmonary arterial hypertension (PAH) and cor pulmonale when not detected at an early stage. Overnight oximetry is used to evaluate chronic hypoxaemia.

Chest physiotherapy should be prescribed for BO children especially those with bronchiectasis to mobilise secretions and minimise chronic inflammation that may lead to recurrent infection. Common colds and flu can be more severe in BO patients, so limiting exposure to respiratory infections is also important. Seasonal flu shots are recommended. Oral corticosteroids, which are used to decrease inflammation, have been shown to be helpful in some patients. However, these have strong side effects and the patients should be monitored closely for signs of osteoporosis, adrenal failure, and other complications. The use of  $\beta$ -adrenergic agonists is also controversial and should be based on the positive response to bronchodilator during pulmonary function tests and on clinical criteria.

Antibiotics are often prescribed, particularly during exacerbations. It may be critical to prevent more lung damage. Macrolide may have a beneficial effect in lung transplant recipients with BO. It has anti-inflammatory property and is associated with the reduction in certain cytokines. The patients had an improvement in their pulmonary function after 3 to 4 months of use of macrolide on alternate days. Based on those results, some authors have recommended the use of azithromycin for Post Infectious BO, although no studies have evaluated its efficacy in this group of patients. Other treatment options including surgical resection or lung transplant will be discussed further.

## UNPROVOKED VTE – HUNTING THE CAUSE

**Vijaya Sangkar Jaganathan Naidu**

*Pantai Hospital, Kuala Lumpur, Malaysia*

Unprovoked venous thromboembolism occurs in a patient with no antecedent major clinical risk factors for VTE ie hormonal replacement therapy, active cancer, inherited or acquired thrombophilia and family history of VTE.

Initial assessment with detailed clinical history would differentiate in most instances between provoked and unprovoked. The commonest cause of provoked VTE in clinical practice remains prolonged immobility either during the post-operative period or immobility due to acute medical conditions.

The clinical therapeutics of unprovoked VTE is essentially the same as provoked VTE with exception to selection of anticoagulation of choice in some clinical situations. Determining the underlying causative factor is a challenge because exclusions ideally require many investigations. To generally subject every individual to undergo the list of test may not be cost effective. Few clinical scenarios will be presented and current thoughts in clinical practice will be discussed.

## THE MEDICAL MANAGEMENT OF CTEPH

**Sundari Ampikaipakan**

*Pantai Hospital, Kuala Lumpur, Malaysia*

An overview of chronic thromboembolic pulmonary hypertension (CTEPH) from diagnosis, risk factors to management.

The main focus of this talk will be the current therapeutic options for inoperable CTEPH based on best evidence-based practice.

## THE CHANGING LANDSCAPE OF DIAGNOSIS, MANAGEMENT AND TREATMENT OF PAH

**Paul A Corris**

*Faculty of Medical Sciences, University of Newcastle, Newcastle, United Kingdom*

Registries have provided a wealth of information on the clinical and disease characteristics of patients living with pulmonary arterial hypertension (PAH) since the 1980s. Certain PAH demographics, such as the prevalence of various PAH subgroups and preponderance of female patients, appear to have remained stable over time. Contemporary registry data indicate that the average age of patients diagnosed with PAH has increased, at least in the Western world. Older patients with PAH are more likely to be diagnosed with a more advanced stage of the disease, have lower exercise capacity and present with multiple comorbidities. They also have worse survival compared with younger patients. Within the PAH population, there is also a subset of patients with a lower diffusing capacity of the lung for carbon monoxide who are generally older and display more severe disease characteristics. The presentation will discuss the implications that the increased age of the PAH population at diagnosis has on the treatment and management of the disease, as well as the need for earlier and improved diagnosis in these patients.

Treatment has to date focused on targeting three pathways known to be important in the aetiology of PAH comprising Prostacycline, Nitric Oxide and Endothelin. Although inflammation has been recognized to be present in lesions there has been few attempts to target this in a structured way. The current focus is to combine the targeting of the three pathways although it is recognized that many patients will not respond to one or more of the drugs. Accordingly personalized medicine approaches are being developed with deep phenotyping to better predict patient responses. Specific anti-inflammatory biologics are also being used to target populations and drugs developed to target the BMPR 2 receptor mutations which are the commonest cause of familial disease and also occur sporadically.

A major problem for developing countries relates to the costs of all these therapies, though generic drugs are now available. Trials are underway however addressing large populations with iron replacement and dietary supplementation of nitrates which would address this issue.

There is no field in Medicine offering more activity regarding improved patient care

### S5B - Tuberculosis

## THE END TB STRATEGY

**Abdul Razak Abdul Muttalif**

*Institut Perubatan Respiratori, Kuala Lumpur, Malaysia*

TB now ranks as a leading infectious disease killer globally alongside HIV. Through the implementation of the DOTS strategy (1994-2005) and the Stop TB Strategy (2006-2015), countries – especially those with a high burden of TB – established the basics required for providing high-quality TB diagnosis and treatment. These efforts contributed greatly to meeting the TB-related target of the Millennium Development Goals (MDGs) of halting and beginning to reverse the TB epidemic. Between 2000 and 2014, improvements in quality-assured diagnosis and treatment of TB contributed to saving 43 million lives worldwide. While enhancing access to diagnosis and treatment remarkably improved outcomes in terms of reducing suffering and death, it had very little effect on achieving the desired impact in terms of declining the incidence rates and driving down the TB epidemic.

The End TB Strategy, whose aim is to end the TB epidemic, aims to combine a holistic mix of health and social interventions. The End TB Strategy envisions universal access to high-quality TB care and goes beyond it to promote TB prevention. Countries will need to strengthen their health and social sectors to drive down the TB epidemic more rapidly. Ending the TB epidemic will also require new tools – a point-of-care test for diagnosing infection and disease; shorter and better regimens to treat disease and infection; and, ideally, a pre- and post-exposure vaccine. Preventive TB therapy is also an important tool in the End TB Strategy.

National TB programmes will require greatly enhanced support from all stakeholders (public, private, universities and NGOs), transitioning from “stopping TB” to “ending the TB epidemic”.

## ADVANCES IN TB DIAGNOSTICS

**Rukumani Devi**

*University Malaya, Kuala Lumpur, Malaysia*

Tuberculosis as it has been for centuries, continues to be one of the most prevalent infectious diseases known to humans. It is also the leading cause of mortality from a single infectious disease worldwide.

Advances in and efficient tuberculosis diagnostic methods are important when dealing with TB in a high burden country like Malaysia.

This is because providing fast and accurate diagnosis not only helps to treat the diseases but helps to prevent the transmission of active disease to the society.

Laboratory methods play a crucial role not only in establishing the correct diagnosis but also in monitoring therapy, preventing transmission and detecting multidrug resistant strain. In this presentation, I will be discussing the latest methods that are used in my laboratory to detect Mycobacterium Tuberculosis complex.

Discussion will also include the 1<sup>st</sup> line drugs and the 2<sup>nd</sup> line drugs detection methods and the detection of latent TB in Malaysia. Thus, rapid development and availability of a variety of new molecular technologies present the clinician with an array of options for the accurate diagnosis of this chronic treatable infectious disease.

S5B - Tuberculosis

## TOBACCO CESSATION INTO REGULAR TB SERVICES FOR TUBERCULOSIS PATIENTS – DOES IT WORK?

**Tara Singh Bam**

*International Union Against Tuberculosis and Lung Disease, Singapore*

### Description:

Smoking increases the risk of TB infection and TB diseases, delay in TB diagnosis, worse treatment outcomes and relapse. Therefore helping TB patients to quit or never become a smoker will help to control tuberculosis in the community. The Union ABC (A= Ask, B= Brief advice, C= Cessation support) approach presents an intervention that TB services can use in their routine activities to help patients quit smoking and make their homes smokefree. The approach keeps smoking cessation simple, short and systematic; it can be delivered within as little as 5-10 minutes by any health care worker, and it does not require specialized staff, clinics or medicine.

### Objectives:

To share the outcomes and lessons learnt from implementing Smoking cessation for tuberculosis patients through regular DOTS services

To discuss importance of integration of tobacco cessation into National Tuberculosis Program and other public health interventions

### Results:

The ABC was piloted in Bangladesh, Benin, Brazil, China, Mongolia, South Africa, Japan, India and Indonesia. Published results have shown high quit rates of tobacco use in Bangladesh (82%), India (67.3%), Indonesia (66.8%) and China (66.6%) among TB patients.

### Conclusion:

Brief advice of 5-10 minutes with minimum cessation support at every visit of TB patients resulted in high quit rates and higher awareness of health impacts of secondhand smoke exposure, which led patients to make smoke-free homes and health providers to make tobacco free health-care. Smoking cessation intervention at TB clinic would promote cure rates and thus cut a chain of transmission of TB disease.

**Key Words:** Smoking, Cessation, Tuberculosis

## IDENTIFYING PATIENTS AT RISK OF DEVELOPING COMPLICATIONS POST CARDIAC SURGERY

**Su Siew Choo**

*Hospital Tengku Ampuan Rahimah, Klang, Malaysia*

Respiratory complications are the most common form of postoperative morbidity experienced by paediatric patients who undergo surgical cardiac procedures. There is currently no gold standard preoperative evaluation to predict the patient's response postoperatively.

Immediate postoperative respiratory complications include pneumonitis, bronchospasm, atelectasis, prolonged mechanical ventilation and generalized pulmonary dysfunction as a result of changes in lung volumes that occur in response to dysfunction of muscles of respiration and other changes in chest wall mechanics.

Preoperative risk factors that have been associated with developing postoperative complications include younger patients, lighter in body weight, Down syndrome, history of respiratory tract infection, preoperative pulmonary hypertension, and preoperative ventilatory support. While there have been studies demonstrating its significance, there have also been studies that showed no significant increase in the risk of developing complications postoperatively in these patients. Other risk factors include complexity of underlying heart disease and cardiac surgery as well as intraoperative variables (duration of bypass and circulatory arrest time).

Preoperative evaluation includes echocardiography, chest X-ray, haematological workup, blood gas, and lung function test. Of these, FVC, pH and WBC have been shown to be good predictors of postoperative respiratory complications. Long term complications include diaphragm and vocal cord paralysis which may cause persistent respiratory sequelae. Dynamic airways disorders such as tracheobronchomalacia are common referrals to the paediatric respiratory team post cardiac surgery, however these are not true "complications" of cardiac surgery but pre-existing conditions commonly associated with congenital cardiac lesions and vascular ring.



## CLINICAL PRESENTATIONS: WHEN TO SUSPECT?

**Rus Anida Awang**

*Paediatric Department, Hospital Pulau Pinang, Penang, Malaysia*

Respiratory complications are common after cardiac surgery especially after open heart surgery. The various components of the respiratory system are subjected to damage caused by a variety of processes associated with cardiac surgery and cardio pulmonary bypass (CPB). Sternotomy or thoracotomy has deleterious effects on the function of the muscle pump and the chest wall. Nerve supply to the vocal cords (Recurrent Laryngeal Nerve and Superior Laryngeal Nerve are branches of the Vagus Nerve) and diaphragms (Phrenic Nerve) can be damaged from cold topical solution or direct injury.

The most common pulmonary complication after cardiac surgery is atelectasis occurring in about 70% of cases. This is due to the lungs not perfused and allowed to collapse to functional residual capacity during CPB. After the lungs are subsequently re-expanded there will be variable degree of pulmonary atelectasis remains. This atelectasis will predispose the patient to postop pneumonia and recurrent pneumonia.

There is an increase in the pulmonary capillary permeability due to activation of complements and neutrophils during the surgery. Thromboxane released from platelets activated by extra corporeal circuit has profound effects on vasoconstriction and platelet aggregation which could further injure the microcirculation. All these will contribute to the progression to acute respiratory distress syndrome (ARDS).

Common respiratory complications after cardiac surgery can present in various ways:

1. Requiring **increasing respiratory support** after cardiac surgery. This could be due to development of acute respiratory distress syndrome (ARDS), pleural effusion or pneumothorax.
2. **Prolong ventilation** could be related to atelectasis, recurrent pneumonia or diaphragm paralysis due to phrenic nerve injury.
3. **Failed extubation** due to diaphragm paralysis or vocal cords palsy.
4. **Hoarse voice or stridor** post-extubation due to vocal cords palsy or subglottic stenosis from prolong ventilation.
5. Malacic airway associated with airway compression from vascular ring presented with **worsening of stridor** after cardiac surgery.
6. **Postop pneumonia** and recurrent pneumonia.

These complications are highlighted using case studies.

*S5C (Paediatric) - Respiratory Complications After Cardiac Surgery*

## RESPIRATORY ASSESSMENT AND MANAGEMENT FOLLOWING CARDIAC SURGERY

**Dayang Zuraini Sahadan**

*Respiratory Unit, Paediatric Institute, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Pulmonary dysfunction in post cardiac surgery patients is a common problem. It contributes to morbidity and mortality and increases hospitalization stay and its associated costs. Its pathophysiology is complex and its mechanisms are not clear. Even so, there are many surgery related factors that predispose cardiac surgical patients to the pathogenesis of postoperative pulmonary complications, such as the effects of general anaesthesia combined with the effects of median sternotomy incision, cardiopulmonary bypass (CBP), internal mammary artery dissection, extracorporeal circulation (ECC) and mechanical ventilation.

Clinical assessment in post cardiac surgery patients will guide the strategy for further respiratory evaluation. It may vary from one patient to another. Further evaluation may include arterial blood gases, radiological imaging and flexible bronchoscopy.

Protective ventilation strategy can reduce the incidence of atelectasis and pulmonary infections in post-cardiac surgery patients. It has been demonstrated that it able to attenuate the inflammatory response and improve gas exchange parameters and postoperative pulmonary functions with a better residual functional capacity (FRC) when compared with a conventional ventilatory strategy. Additionally, maintaining low frequency ventilation during ECC is shown to decrease the incidence of pulmonary complications after cardiac surgery and preserving lung function. Some patients with malacic airway may require longer CPAP or BIPAP support. Finally, post-operative pulmonary rehabilitation and optimization of nutrition will also help in fast recovery.



## 30 YEARS OF HEART AND LUNG TRANSPLANTS: LESSONS FOR THE FUTURE

**Prof Dr Paul A Corris**

*Faculty of Medical Sciences, University of Newcastle, Newcastle, United Kingdom*

I was privileged to be one of the Pioneers of lung Transplantation, playing a key role in the development of this therapy from an experimental procedure into a safe clinical treatment.

In 1987 Newcastle performed the first successful single lung transplant in Europe thus replicating the early success reported by Toronto in 1986. Prior to this only transplantation of Heart and Lungs had proven successful since 1980. Bilateral lung transplantation using bi-bronchial anastomoses soon followed.

The challenges in the 1990's were all about the diagnosis and treatment of acute rejection and infection and learning about immunosuppression. Survival of more than a year was initially regarded as success and chronic allograft dysfunction only beginning to be recognized. Much of the research was focused on understanding the physiology of the transplanted lung which remained denervated.

Over the years we have learned to understand immunosuppression better though surprisingly use very similar combinations as in the beginning. Arguments still arise regarding the role of induction therapy.

There has however been a huge development in our ability to treat infections and with careful management of metabolic syndrome, systemic hypertension and prevention of renal dysfunction, survival is now over 10 years for the majority.

Two major challenges remain: Firstly the relative scarcity of donor lungs available for transplantation given the demand and secondly prevention of chronic allograft dysfunction.

The first issue is being addressed by use of ex vivo perfusion and targeted repair of lungs to render lungs that are unsuitable for transplantation transplantable. Work also continues to try and develop humanized organs from animals that could be utilized

The second issue continues to be a major problem though is the focus of a huge amount of collaborative work and much has been learned about the phenotyping of different forms of this problem to allow personalized medicine approaches.

Lessons for the future from the history of yesterday tells us that man will continue to strive and improve patient care via research but that nature also can find a way of thwarting progress as a result of evolutionary biology. Lung transplantation remains an art based on science and probably always will be.

## OCCUPATIONAL ASTHMA

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Occupational asthma is defined as asthma due to conditions attributable to work exposures and not to causes outside the workplace. Occupational asthma is a legally notifiable and compensable occupational disease in many countries. 9% to 15% of adult asthmatics may have occupational asthma. Two types of occupational asthma are distinguished by whether they appear after a latency period. Sensitiser-induced asthma is characterised by a variable time (latency period) during which “sensitisation” to a specific agent present in the worksite takes place. Irritant-induced asthma occurs without a latent period after substantial exposure to an irritating dust, mist, vapour or fume. Causative agents are classified either as high molecular weight allergens or low molecular weight compounds. The diagnosis of occupational asthma is made by establishing the presence of asthma, demonstrating relationship between asthma symptoms and work, and establishing exposure to a specific causative agent. Serial peak expiratory flow rate during periods at work and away from work is a useful tool for the objective documentation of work-relatedness. A positive specific inhalation challenge test to the causative agent is considered the gold standard for the diagnosis of occupational asthma. Appropriate management and prevention of occupational asthma is important because of the medical, socio-economic and legal consequences. Continued exposure to the causative agent may lead to irreversible chronic airflow limitation, resulting in persistent asthma even after removal from exposure. Identification of the specific causative agent and early removal from exposure may prevent the risk of a severe or fatal asthmatic attack in the workplace.

Symposium S6 - Asthma

## THE ROLE OF MACROLIDES IN THE MANAGEMENT OF ASTHMA

ARM Fauzi

Fakulti Perubatan UiTM, Kampus UiTM Sg Buloh, Kuala Lumpur, Malaysia

Asthma is a chronic disease in which inflammation of the airways causes symptoms such as coughing, wheezing, and dyspnoea. There are many causes that lead to airway inflammation, most commonly being a reaction to infection in the lungs. The interest in macrolides as a treatment in asthma stems from the knowledge that macrolides are antibiotics that have antimicrobial and anti-inflammatory activities and therefore have been used for a while to control asthma symptoms. To answer the question of its use in asthma a recent Cochrane Database Systematic Review by Kew KM et al is very insightful. In the exercise, twenty-three studies randomizing a total of 1513 participants to receive macrolide or placebo were looked at. The quality of evidence was generally very low due to incomplete reporting of study methodology and clinical data, suspected publication bias, indirectness of study populations, risk of bias and imprecision (because of small numbers of patients and events). Most of the included studies reported data from patients with persistent or severe asthma, but inclusion criteria, interventions and outcomes were highly variable.

Existing evidence does not show macrolides to be better than placebo for the majority of clinical outcomes. However, they may have a benefit on some measures of lung function, and we cannot rule out the possibility of other benefits or harms because the evidence is of very low quality due to heterogeneity among patients and interventions, imprecision and reporting biases.

The review highlights the need for researchers to report clinically relevant outcomes accurately and completely using guideline definitions of exacerbations and validated scales. The possible benefit of macrolides in patients with non-eosinophilic asthma based on subgroup analyses in two of the included studies may require further investigation

## LATE ONSET ASTHMA - DOES IT EXIST?

**Azza Omar**

*Respiratory Unit, Department of Medicine, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan, Malaysia*

Late onset asthma has been used widely but poorly defined term, the major confounding factor being the lack of appreciation by clinicians of the difference between truly late onset asthma, COPD and late diagnosis of asthma. Thus adult onset asthma is characterized by absence of atopy and is often severe requiring treatment with high dose of inhaled and/or oral steroids. Variety of risk factors and nonatopic nature of adult-onset disease suggest that variety of mechanisms is involved in the disease pathogenesis and that these mechanisms differ from the pathobiology of childhood-onset asthma with prevailing Th2 airway inflammation.<sup>(1)</sup>

The estimated adult incidence of asthma from pooled general population studies appears to be 4.6 cases per 1,000 person-years in females and 3.6 in males, and there is a trend towards a higher incidence with age.<sup>(2)</sup>

Compared to childhood-onset asthma, adult-onset asthma has worse prognosis and poorer response to standard asthma treatment. Many risk factors responsible for the onset of asthma in adulthood have been recognised, varying from respiratory infections to environmental sensitizers, hormonal factors, obesity and stress. The development of understanding adult onset asthma phenotypes bringing us to various new exciting possibilities for more targeted therapies for better control of asthma.

### Reference

1. Pinja Ilmarinen et al. Review Article Phenotypes, Risk Factors, and Mechanisms of Adult-Onset Asthma Mediators of Inflammation, Volume 2015, Article ID 514868.
2. Eagan TM, Brogger JC, Eide GE et al. The incidence of adult asthma: a review. *Int J Tuberc Lung Dis* 2005; 9: 603-612.
3. "Adult-onset asthma: is it really different?" Selma B. de Nijs, Lisette N. Venekamp and Elisabeth H. Bel. *Eur Respir Rev* 2013; 22: 44-52. - June 01, 2013

## **“THE CAPTAIN OF ALL THESE MEN OF DEATH” – A HISTORY OF TUBERCULOSIS**

**K. Ampikaipakan**

*Pantai Hospital, Kuala Lumpur, Malaysia*

Tuberculosis has affected human beings for thousands of years. For years respiratory physicians were known only as “TB doctors.” This talk will focus on the history of tuberculosis from antiquity through to the present day, the evolution of treatment options and current challenges.

## ORAL PRESENTATIONS

- OP 1 A RANDOMIZED, DOUBLE-BLIND CLINICAL TRIAL COMPARING TREATMENT WITH NEBULIZED 3% HYPERTONIC SALINE PLUS SALBUTAMOL VERSUS NEBULIZED 0.9% SALINE PLUS SALBUTAMOL IN PATIENTS WITH ACUTE BRONCHIOLITIS** 53  
**Awang N;** Nasir A; Rowani MR; A Taib F  
<sup>1</sup> *Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kelantan, Malaysia*
- OP 2 RAPID DIAGNOSIS OF PLEURAL TUBERCULOSIS BY XPERT MTB/RIF ASSAY USING PLEURAL BIOPSY AND PLEURAL FLUID SPECIMENS** 54  
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*Institute of Respiratory Medicine, Kuala Lumpur, Malaysia*
- OP 3 THE OUTCOME AND COST EFFECTIVENESS OF IMPLEMENTING BREATHE EASY PROGRAMME (BEP) IN ASTHMA PATIENTS IN KULIM HOSPITAL** 55  
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<sup>1</sup>*Kulim Hospital, Kulim, Kedah, Malaysia.*
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CL Lim<sup>1</sup>, PS Wong<sup>1</sup>, TS Chow<sup>1</sup>, KN Leong<sup>1</sup>, **L Pereirasamy<sup>2</sup>,** PP Ang<sup>2</sup>  
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# A RANDOMIZED, DOUBLE-BLIND CLINICAL TRIAL COMPARING TREATMENT WITH NEBULIZED 3% HYPERTONIC SALINE PLUS SALBUTAMOL VERSUS NEBULIZED 0.9% SALINE PLUS SALBUTAMOL IN PATIENTS WITH ACUTE BRONCHIOLITIS

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**Introduction:** Acute bronchiolitis is a common cause of hospital admission in the country. Treatment with nebulized hypertonic saline need to be evaluated further as previous clinical trials had shown mixed findings on the impact on length of hospital stay, severity score and hospital admission rate.

## Objectives:

To evaluate the effectiveness of nebulized 3% hypertonic saline plus salbutamol compared to nebulized 0.9% saline plus salbutamol

## Methods:

This was a prospective, double-blinded randomized controlled trial conducted from 1<sup>st</sup> April 2014 till 31<sup>st</sup> May 2016 in patients 18 months old and younger admitted to Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia. Patients fulfilling the inclusion and exclusion criteria were randomized to receive either nebulized 3% hypertonic saline plus salbutamol (study group) or nebulized isotonic saline plus salbutamol (control group).

## Outcomes/measures:

The two groups were compared. The primary outcome was the clinical severity score at 8, 24, 48 and 72 hours post treatment and the secondary outcome was the length of hospital stays (days).

## Results:

One hundred one (101) patients with acute bronchiolitis were included in this study (study, n=52; control, n=49). The two groups showed no statistical difference in the demography. The mean age of the study group was 7.1 months and control group was 8 months. Compared to the control group, the study group showed a significantly reduced length of hospital stay (*p-value*, 0.041) but no difference in the clinical severity score (*p-value* of 0.250).

## Conclusions:

Treatment with nebulized 3% hypertonic saline plus salbutamol may reduce the length of hospital stay of children admitted with acute bronchiolitis.

# RAPID DIAGNOSIS OF PLEURAL TUBERCULOSIS BY XPert MTB/RIF ASSAY USING PLEURAL BIOPSY AND PLEURAL FLUID SPECIMENS

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## INTRODUCTION

Early diagnosis of pleural tuberculosis (TB) using routinely available diagnostic methods is challenging due to the paucibacillary nature of the disease.

## OBJECTIVE

The aim of this study was to investigate the diagnosis accuracy of the Xpert MTB/RIF (Xpert) (Cepheid, Sunyvale, CA) assay using pleural fluid and pleural biopsy specimens in patients with suspected pleural TB but who had a negative sputum acid-fast bacilli (AFB) smear.

## METHODS

In this study, 70 pleural fluid and 5 pleural biopsy specimens were tested for *Mycobacterium tuberculosis* by standard smear-microscopy, Lowenstein-Jensen and mycobacterial growth indicator tube (MGIT) culture, and the Xpert assay. Mycobacterial culture was used as a reference standard for sensitivity and specificity calculations. Detection of rifampicin resistance was compared with the MGIT method.

## RESULTS

Of total 75 evaluable specimens for both pleural fluid and pleural biopsy, 18 (24%) received a diagnosis of pleural TB with 16 and 2, respectively. The sensitivity of the Xpert assay using pleural fluid specimens for the diagnosis of pleural TB was 53.33% (95% CI, 26.59 to 78.73%), and specificity was 85.45% (95% CI, 73.34% to 93.50%). The sensitivity and specificity of the Xpert assay in pleural biopsy were 100% (95% CI, 2.5% to 100%) and 75% (95% CI, 19.41% to 99.37%) respectively.

## CONCLUSION

The Xpert assay on pleural fluid/ biopsy specimens may provide an accurate diagnosis of pleural TB in patients who had a negative AFB smear.

Keywords: Pleural tuberculosis, Xpert MTB/ RIF assay

# THE OUTCOME AND COST EFFECTIVENESS OF IMPLEMENTING BREATHE EASY PROGRAMME (BEP) IN ASTHMA PATIENTS IN KULIM HOSPITAL.

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## Introduction:

Asthma is a chronic inflammatory disease of the airways. A baseline study showed only 30% of our patients reached well controlled asthma; therefore Breathe Easy Programme (BEP) was introduced. The primary component of BEP is the Integrated Asthma Clinic (IAC) which is driven by doctors & pharmacist. Patients under BEP are followed-up through the IAC. Other components of BEP are Asthma Diary, Written Asthma Action plan and a special Asthma Camp for the patients. CMEs for doctors and pharmacist are also included in this programme.

## Objectives:

The primary objective is to determine the outcome and cost effectiveness of implementing BEP. Specific objectives are to compare percentage of BEP patients achieve well control asthma (defined by Asthma Control Test (ACT) score  $\geq 20$ ), hospitalization/emergency room (ER) visit rate and cost effectiveness of BEP vs control group (usual care).

## Methods:

This is a randomized controlled trial conducted in the Chest Clinic and Medical Outpatient Department, Kulim Hospital from December 2012 to December 2013. 68 adult asthma patients were randomly selected and assigned to either BEP (n=34) or control (n=34). The data were collected through clinic notes, asthma diary, in-patient records, discharge summaries and questionnaires. Both direct and indirect cost of BEP was determined.

## Results:

Eighty two percent of BEP patients achieved well controlled asthma vs 32% in Control group ( $p < 0.001$ ). BEP patients showed lower hospitalization/ER visit rate due to exacerbation,  $0.53 \pm 0.31$ /patient/year vs Control ( $2.56 \pm 0.89$ /patient/year) ( $p < 0.001$ ). BEP also found to be more cost effective, with Incremental Cost effective Ratio (ICER) BEP vs Control was -RM 93.29 for every patient achieved well control asthma. BEP found to be more cost effective because patients experienced lower hospitalization/ER visit compared to the control group.

## Conclusion:

BEP increases the proportion of patient achieving well controlled asthma, reduces hospitalization/ER visit rate and found to be cost effective.



## A RETROSPECTIVE ANALYSIS OF OUTCOME OF ISONIAZIDE PREVENTIVE THERAPY IN ADULTS LIVING WITH HIV IN PENANG, MALAYSIA.

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### Introduction:

Tuberculosis (TB) is a major cause of opportunistic infection and death among people living with HIV. Isoniazide preventive therapy (IPT) is now recognised a standard intervention by WHO for preventing TB in PLHIV.

### Objective

1. To assess the completion rates of IPT among PLHIV in Penang
2. To determine the rates of adverse events
3. To assess the incidence of active TB within one year of initiating IPT.

### Methodology :

This is a retrospective study. Data was collected from clinic records of HIV patients commenced on IPT between year 2011 and 2014, in two major hospitals in Penang. Isoniazide (INH) 300mg daily was given to these patients after ruling out active TB. IPT completion was defined as taking IPT for at least 6 months.

### Results :

A total of 242 patients were included. The median age was 37 years with male predominance (84.3%). The median baseline CD4 count was 315.5 cell/uL. However, 31.4% of patients had CD4 counts below 200. 72.7% (176 patients) were on concurrent HAART. A total of 193 (81.1%) patients completed IPT. Major reasons for non-completion of IPT were development of adverse events (46.7%) and lost to follow-up (37.8%). Patients on concurrent HAART had higher completion rates (86.1%) compared to HAART naïve patients (67.7%). Forty patients (18%) developed adverse events during IPT. Nineteen patients (8.56%) developed hepatitis. Patients with Hepatitis B and/or C co-infection were noted to have a higher risk of drug-induced hepatitis. Adverse cutaneous reactions occurred in 12 patients (5.41%). None of the patients who received IPT developed active TB within 1 year of follow-up.

### Conclusions:

The completion rates of IPT was acceptable among our patients. IPT was well tolerated and relatively safe. Patients with Hepatitis B and/or C co-infection had increased risk of drug-induced hepatitis. IPT prevented active TB among our patient cohort.

## FLEXIBLE BRONCHOSCOPY: IS IT AN IDEAL APPROACH TO CHILDREN WITH RECURRENT PNEUMONIA?

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### **Introduction:**

Estimated incidence of recurrent pneumonia is 7-9% of all children with pneumonia. Flexible bronchoscopy is one of the recommended approach in these children.

### **Objective:**

The main objective of this study is to determine the diagnostic yield and association of positive flexible bronchoscopy findings in children with recurrent pneumonia.

### **Methods:**

This is a descriptive retrospective observational study. The records of all patient underwent flexible bronchoscopy from Jan 2014 to December 2015 were reviewed and analysed.

### **Results:**

Total of 131 flexible bronchoscopy procedures were done during these 2 years period involving children age from birth to 17 year old. 58% of them were boys. Out of 131 procedures done, 48% (n=63) were done in patient with history of recurrent pneumonia. Other than persistent chest- ray changes and collapse lung, 16% of these children interestingly presented with stridor. Following the flexible bronchoscopy, 77% of it showed abnormal airway findings (p-value 0.052) included stenosis, malacic airway, external compression, hypoplastic or agenesis of the airway bronchus and intraluminal mass with 82% involving multiple abnormality instead of single types of airway abnormality. The flexible bronchoscopy findings in children with recurrent pneumonia significantly change the diagnosis and management with p-value of 0.004.

### **Conclusion:**

Flexible bronchoscopy is important procedure in recurrent pneumonia in which the positive yield is significant in altering the final diagnosis and treatment.

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# RISK FACTORS FOR COMPLICATED PNEUMONIA IN CHILDREN

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## Introduction:

Pediatric complicated pneumonia (CP) has increased substantially over the past 10 years and reasons for this rise remains not fully explained.

## Objective:

We investigated baseline characteristic associated with CP in children with community-acquired primary pneumonia (CAP).

## Methodology:

A retrospective study of all children below 16 years, who presented with radiologically confirmed pneumonia to University Malaya Medical Centre from 2012 to 2014 was performed. Several baseline data were analyzed and the quantitative variables were described in mean (SD).

## Results:

Three hundred and forty three children were enrolled; of which 53% were male and 58 (17%) developed CP. CP was seen more in Chinese (41.5%) children ( $p < 0.05$ ) and in those with a significantly reduced duration of breastfeeding ( $p < 0.01$ ). Exposure to parental smoking ( $p < 0.05$ ) and prolonged antibiotics prior to hospitalization ( $p < 0.0001$ ) was associated with CP. Baseline clinical parameters measured on admission showed children with CP had significantly higher respiratory rate ( $p < 0.05$ ), platelet ( $p < 0.05$ ) and C-reactive protein (CRP) ( $p = < 0.0001$ ) compared those with CAP.

## Conclusion:

Shorter duration of breastfeeding, parental smoking and prolonged duration of antibiotics prior to admission were significant risk factors associated with complicated pneumonia. Increased CRP and respiratory rate may be used as a predictor of complicated pneumonia.

# CHARACTERISATION OF THE INFLAMMATORY AND FIBROTIC RESPONSES OF FIBROBLASTS ISOLATED FROM NON-DISEASED LUNGS

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## Introduction

Idiopathic pulmonary fibrosis (IPF) is a chronic progressive, fibrotic lung disorder that has a prevalence of 5000 new cases each year in the UK. IPF patients have mostly resorted to lung transplant surgery. Today, lung transplant surgeries are a burden to the National Health Services (NHS) UK as a huge amount of costs is involved. Besides, finding a suitable donor is also one of the current issues faced by the transplant surgeons around the world.

The pro-inflammatory cytokine Interleukin-6, has a vital role in inducing lung injury and consequently, fibrosis of the lung tissues. There is also an increased in collagen-1 in IPF. Hence, an elevated collagen-1 may be used as a biomarker for IPF.

## Objectives

To stimulate fibroblast isolated from non-diseased lungs with pro-inflammatory and pro-fibrotic ligand, IL-1 $\alpha$  and TGF- $\beta$ .

## Methodology

The fibroblast cells which was isolated from non-diseased transplanted lungs were cultured and stimulated with human IL-1 $\alpha$  and TGF- $\beta$ . The RNA is then extracted and cDNA was then synthesised. Subsequently, a PCR was then done on a 96-well plate for IL-6, Col-1, MMP-1, MMP-3, aSMA and Fibronectin. Then, an ELISA was done on the 96-well plate using specific capture and detection antibodies. It was then followed by Western blotting.

## Results

The gene expression of IL-6 is much higher in IL-6 is much higher in IL-1 $\alpha$  than in TGF- $\beta$ . However, treatment with TGF- $\beta$  shows the greatest gene expression in aSMA, followed by fibronectin, collagen-1, MMP-3 and MMP-1. These results from the fibrotic profile suggest that TGF- $\beta$  is a pro-fibrotic cytokine which causes fibrosis in the lungs.

## Conclusion

IL-1 $\alpha$  gives a pro-inflammatory phenotype while TGF- $\beta$  gives more of pro-fibrotic phenotypes in lung



# EVALUATION OF XPRT MTB/RIF FOR DIAGNOSIS OF TUBERCULOUS MENINGITIS: SINGLE CENTRE EXPERIENCE

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## INTRODUCTION

Tuberculous meningitis (TBM) is the most severe form of tuberculosis. Microbiological confirmation is rare, and treatment is often delayed, increasing mortality and morbidity.

## OBJECTIVE

We aimed to evaluate the performance of Xpert MTB/RIF for direct detection of *Mycobacterium tuberculosis* (MTB) in cerebrospinal fluid (CSF) specimens, and to compare it to conventional culture method.

## METHODS

This is a retrospective analysis on CSF specimens of patients with suspected TBM that were submitted for Xpert (Cepheid, Sunnyvale, CA) assay to our lab from January 2014 to December 2015. There were total of 66 specimens tested for Xpert. CSF specimens were tested by Ziehl-Neelsen smear microscopy, Lowenstein-Jensen (LJ) and mycobacterial growth indicator tube (MGIT) culture, and the Xpert assay. Mycobacterial culture from CSF specimens was used as a reference standard for sensitivity and specificity calculations. Detection of rifampicin resistance was compared with the MGIT culture.

## RESULTS

Overall, 5 out of 66 patients (7.6%) MTB detected by Xpert. Two out of 5 patients detected were culture positive. One of the specimen was Rifampicin resistance (1.5%) which was confirmed to be multidrug-resistant (MDR) by LJ culture. All CSF samples for Ziehl-Neelsen smear microscopy were negative.

The sensitivity and specificity of the Xpert assay in CSF in our centre were 40% [95% confidence interval {CI}, 5.27 to 85.34%], and 95.08% [95% CI, 86.29 to 98.97%], respectively.

The Xpert assay correctly identified 100% of phenotypic rifampicin-resistant cases.

## CONCLUSION

The Xpert MTB/RIF is a rapid and specific test for the diagnosis of TBM, and represents a significant advance in the early diagnosis of this devastating condition.

Keywords: Tuberculous meningitis, Xpert MTB/RIF assay



## PERSONALIZING RESPIRATORY CARE IN RHEUMATOLOGY PATIENTS: A TERTIARY HOSPITAL EXPERIENCE

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### Introduction:

Lung involvement is a common extra-articular manifestation of rheumatic diseases that confers significant morbidity and mortality. However, the correlations between the two diseases has not been well established. Selayang Hospital (HS) is a tertiary rheumatology and respiratory centre in Malaysia. An established monthly combined Rheumatology-Respiratory (RR) clinic, was started in 2013. We sought to study the types and proportion of rheumatology patients who presented with respiratory manifestations and look for any correlation between the two conditions.

### Methods:

Single-centre, retrospective analysis of the baseline visit of 54 consecutive patients who attended the RR clinic from January 2013- January 2015 was conducted. Besides clinical assessments, patients underwent pulmonary function test and echocardiography. Patients' information and clinical data were obtained from HS online system, and analysed via Statistical Package for the Social Sciences (SPSS) software for statistical analysis.

### Results:

25 Mixed Connective Tissue Disease (MCTD), 11 Overlap syndrome (OS), 18 Systemic sclerosis (Ssc) patients (mean age 49.6 years; range 18 – 83; 51 (94.4%) were female; 51.9% Malay, 32.3% Chinese, 7.4% Indian, 5.6% Orang Asli, 1.9% Others) were recruited. In MCTD, OS and Ssc, ILD predominates (40.9%, 70.0% and 33.3%), followed by mixed ILD and PHT in MCTD, OS and Ssc (13.6%, 10.0% and 22.2%). 38.9% had respiratory symptoms, and the commonest respiratory symptoms was dyspnoea (29.6%), followed by cough (11.1%). Only 31.6% of the patients were receiving respiratory medications, 50.0% has reduced 6MWT of < 500m. 37.0% has significantly high pulmonary artery pressure (>30mmHg). 20.0% have reduced FVC <50% predicted, and 70.4% have co-morbidities. There was no statistical correlation between rheumatic diseases and respiratory manifestations.

### Conclusion:

ILD is the commonest respiratory manifestations in rheumatology patients, which can be complicated by PHT in some patients. Respiratory conditions are commonly underdiagnosed, as patients are usually asymptomatic. Hence, screening with appropriate tests is warranted to detect early disease, and prevent late complications. A multidisciplinary approach is the best way to treat patients who presented with both rheumatology and respiratory conditions. More studies with larger samples and inclusion of laboratory parameters will provide more conclusive findings.

## CORRELATION OF RESTING HEART RATE AND EXACERBATION FREQUENCY

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Resting heart is often a readily available clinical data. In COPD patients, it has shown that the resting heart rate can predict mortality (1). However, there is a lack of study showing its association with exacerbations. This is a longitudinal multi-centre cohort study in Malaysia (total of 8 centres) of COPD patients whom were followed up during clinic visit. A total of 226 subjects were recruited after an acute exacerbation. The data on resting heart rate at 3 months after an acute exacerbation during clinic visit were recorded. Patient's exacerbation histories were recorded at 3 months, 6 months, 9 months, 12 months and 15 months after an acute exacerbation. Mean baseline resting heart rate for those who exacerbate compared to those who do not exacerbate is significantly higher within 3 months and 6 months after an acute exacerbation. This trend is followed through at 9 months after an acute exacerbation but normalises at 12 months onwards. There is a statistically significant positive linear correlation between heart rate at baseline and exacerbation frequencies in all of the months except at 15 months after an acute exacerbation. Baseline resting heart rate can be a predictor of whether patient is an exacerbator or a non exacerbator up to 9 months after an acute exacerbation. The higher the heart rate the higher the risk of exacerbation. However, this study is limited by its sample size and further larger study is needed to assess these relationships.

### Reference

1. Jensen MT, Marott JL, Lange P, Vestbo J, Schnohr P, Nielsen OW, *et al*. Resting heart rate is a predictor of mortality in COPD. *Eur Respir J*. 2013;42(2):341-9.

# THE STUDY OF POPULATION FOR RISK PERCEPTION AND AWARENESS SMOKING INDIVIDUAL WAY TO STOP SMOKING

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## Background:

Smoking is a modifiable risk factor for respiratory illnesses. We aim to understand the public perception of smoking and to determine their awareness on smoking cessation methods.

## Methods:

A cross-sectional descriptive study was performed on randomly selected visitors of the health education booth organised by Respiratory Unit of UiTM, on World No Tobacco Day celebration 2015. Data collection was performed using questionnaire method.

## Results:

Of 62 participants, 60 were included in the study (mean age 30.25 (20-65) 50% male). 2 subjects were excluded as incomplete data was given. Most participants were currently non-smokers (95%, n=57), with 85% (n=51) and 6.7% (n=4) were passive and ex-smokers, respectively. Most perceived smoking as hazardous to health (95%, n=57), even to passive smokers (100%), while 63.3% (n=38) thought that smoking is a waste of money. Only 15% (n=9) associated smoking with trendy and sociable lifestyle, 3 of which were current smokers. Among smoking cessation methods available, 60% participants would choose peer education (n=36), followed by nicotine replacement therapy (nicotine gum) (18.3%, n=11) and to seek medical attention (15%, n=9). With regards to perception on e-cigarette, more than half felt it is bad for health (60%, n=36) and 21.7% (n=13) was unsure about it.

## Conclusions:

Most participants, particularly passive smokers, understand the adverse effects of smoking. However, the level of awareness on medically available smoking cessation methods was rather limited. More data is needed on the safety of e-cigarettes for the public to make an informed decision when selecting a tobacco-smoking cessation method. Hence, public health education on smoking cessation interventions should be targeted to passive smokers.

# EFFECT OF PULMONARY REHABILITATION PROGRAM FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) ON PATIENTS' QUALITY OF LIFE

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## Introduction

Reduced exercise tolerance and deconditioning of muscle performance is common in patients with COPD leading to limitations in performing daily activities. Pulmonary Rehabilitation Program (PRP) can help to improve health related quality of living in terms by reducing symptoms and improving activity of daily living. St. George's Respiratory Questionnaire and 6 Minute Walk Test (6MWT) both measure the projected improvement on the health related quality of life in these patients.

## Objective

To evaluate the effect of Pulmonary Rehabilitation Program on quality of life in COPD patients.

## Methods

Recruited subjects were enrolled for PRP, lasted for 8 sessions (once a week) consisting of standardised physical strengthening and endurance exercise. SGRQ and 6MWT were performed at baseline and following completion of the program.

## Results

*Exercise capacity and health related quality of life at baseline and following 8 weeks of training.*

	Baseline	8 Weeks	Differences
6MWT (m)	323 ± 25.1	371. ± 20.9	48 ± 9.84
SGRQ Symptoms	50.74 ± 4.9	37.21 ± 4.3	14 ± 2.9
SGRQ Activity	67.5 ± 6.8	26 ± 3.7	31.5 ± 5.1
SGRQ Impacts	49.9 ± 4.6	25 ± 2.3	24.8 ± 3.3
SGRQ Total	55.7 ± 4.7	30.6 ± 2.6	25 ± 3.3

Mean ± standard error of mean. 6MWT: 6-minute walk test; SGRQ: St. George's Respiratory Questionnaire. All results were significant, p – value < 0.05.

## Conclusion

PRP is beneficial in COPD patients as it helps to improve quality of life measured by SGRQ score. Prevention, medication and physical maintenance are the complete formula in achieving the best management for COPD patients.

## CORRELATION OF RESTING HEART RATE ON SPIROMETRIC DATA

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### Introduction :

Resting heart rate is proven to be one of the predictor of mortality in COPD patients (1). We aim to assess the correlation between resting heart rate and spirometric parameters in COPD patients.

### Methods :

This is a cross-sectional multi-centre study in Malaysia (total of 8 centres) of COPD patients whom were followed up during clinic visit. A total of 389 patients were included in the study. The resting heart rate and spirometric data is recorded.

### Results :

The mean heart rate is  $86.81 \pm 16.5$  beats per minute. The mean for FVC is  $1.83 \pm 0.69$ , for FEV1 is  $1.09 \pm 0.54$  and for ratio of FEV1/FVC is  $59.20 \pm 16.09$ . There is a statistically significant negative correlation between heart rate and FEV1 ( $R = -0.213$ ,  $p < 0.001$ ), FVC ( $R = -0.124$ ,  $p = 0.017$ ) and Ratio of FEV1/FVC ( $R = -0.163$ ,  $p = 0.002$ ). There is a statistically significant difference in mean FEV1, FVC and Ratio of FEV1/FVC between patients with heart rate  $< 80$  beats per minute and heart rate  $\geq 80$  beats per minute.

### Conclusion :

Resting heart rate can be a significant surrogate clinical marker of spirometric parameters. Further larger studies are needed to explore this relationship and whether reduction in heart rate improves spirometric parameters in COPD patients.

## EFFECT OF AN ACUTE EXACERBATION OF COPD ON MEAN CAT SCORE : 21-MONTH FOLLOW UP DATA

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An acute COPD exacerbation has many known consequences among which are lung function decline. CAT score is one of the modalities commonly use to assess COPD symptoms and is also part of the GOLD combined assessment. We aim to assess the effect of exacerbation on CAT score. This is a multicentre longitudinal observation study of COPD patients. A total of 310 patients were recruited during an acute exacerbation of COPD. The CAT scores during an acute exacerbation and 1 month prior to an acute exacerbation were recorded. Subsequently patients were followed up at 3 months, 9 months, 15 months and 21 months after an acute exacerbation with their CAT score during clinic visit recorded. The mean CAT score was  $20.72 \pm 7.36$  prior to exacerbation,  $23.91 \pm 7.64$  during acute exacerbation,  $20.19 \pm 7.23$  at 3 months after,  $18.88 \pm 7.38$  at 9 months after,  $18.14 \pm 6.23$  at 15 months after and  $18.05 \pm 8.31$  at 21 months after an acute exacerbation. There is a statistically significant change in mean CAT score between an acute exacerbation and 1 month prior to exacerbation ( $T = -3.68$ ,  $p < 0.001$ ) and between an acute exacerbation and at 3 months ( $T = 7.50$ ,  $p < 0.001$ ), 9 months ( $T = 7.18$ ,  $p < 0.001$ ), 15 months ( $T = 8.17$ ,  $p < 0.001$ ) and 21 months ( $T = 8.12$ ,  $p < 0.001$ ). The full results are displayed in Table 1 and Figure 1 below. This study shows that a CAT score deterioration of more than 3 may indicate an acute deterioration in COPD symptoms and exacerbation. Patient's symptoms assessed by CAT score does improve by 7 to 8 scores after an acute exacerbation and the improvements seems to plateau at 9 months after an acute exacerbation.

# LONGITUDINAL GROWTH AND LUNG FUNCTION OVER 4 YEARS IN CHILDREN WITH CHRONIC SUPPURATIVE LUNG DISEASE: A PROSPECTIVE STUDY

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## INTRODUCTION:

Data on the progression of lung function in children with CSLD, from developed countries is lacking.

## OBJECTIVE:

To evaluate growth and lung function over 4 years, in children with chronic suppurative lung disease (CSLD)

## METHODS:

This prospective study, from 1<sup>st</sup> January 2012 to 31<sup>st</sup> December 2015 included all children followed-up in the Paediatric Respiratory Clinic, UMMC, with CSLD who were able to perform spirometry. Children who had died or were lost to follow up were excluded. Yearly growth parameters and spirometry over the 4 years were collected. Sputum cultures were also noted.

## RESULTS:

Eighteen patients were recruited. Their median (IQR) age was 15(12, 19) years. Median (IQR) duration of disease was 12(9, 18) years. Commonest aetiology of CSLD was cystic fibrosis (n=6, 33.3%), post-infectious (n=4, 22.2%) and idiopathic (n=3, 16.7%). Pseudomonas species (n=21, 26%) was the predominant organism isolated from the sputum of these patients. There were significant improvements in weight with z score from -1.58 to -0.82 (p=0.04) but no significant improvement for height, z score from -1.6 to 1.27 (p=0.26). There was no significant deterioration in FVC z-score (slope 0.26, 95% CI -0.34 to 0.87, p=0.20), FEV<sub>1</sub> z-score (slope 0.14, 95% CI -0.28 to 0.55, p=0.30) while in FEF<sub>25-75</sub> z-score (slope -0.41, 95% CI -0.35 to 0.26, p=0.62) there was a small but insignificant decrease. In non-CF patients, FVC (p=1.00) and FEV<sub>1</sub> (p=0.21) did not significantly improve except for FEF<sub>25-75</sub> (p=0.05) which reduced. Patients with pseudomonas infection (p=0.12) or who were non-compliant to physiotherapy (p=0.07) had lower lung function. **CONCLUSION:** Children with CSLD showed significant improvement in weight over the 4-year period. Lung function was stable but did not normalise with treatment. Pseudomonas infection and non-compliance were associated led to deterioration in lung function.

## COMPARISON BETWEEN $FEV_1/FEV_6$ AND $FEV_1/FVC$ AS SCREENING OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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### Introduction:

$FEV_1/FEV_6$  has been proposed as a valid and reproducible alternative to  $FEV_1/FVC$  for the diagnosis of chronic obstructive pulmonary disease (COPD). This is a study conducted in a state hospital of Malaysia to compare  $FEV_1/FEV_6$  to the gold standard  $FEV_1/FVC$  in screening for COPD.

### Objective:

To demonstrate the reliability of  $FEV_1/FEV_6$  as a screening tool for COPD compared to the standard spirometry ( $FEV_1/FVC$ ).

### Methods:

We analyzed the  $FEV_1/FEV_6$  and  $FEV_1/FVC$  results of 117 subjects in the spirometric diagnosis of COPD. Demographic data and spirometric variables were tabulated. A scatter plot graph with Spearman's correlation was constructed to study the correlation between  $FEV_1/FEV_6$  and  $FEV_1/FVC$ . The sensitivity, specificity, positive and negative predictive values of  $FEV_1/FEV_6$  were determined with reference to the gold standard of  $FEV_1/FVC$  ratio  $< 0.70$ . Receiver-operator characteristic (ROC) curve analysis and Kappa statistics were used to determine the  $FEV_1/FEV_6$  ratio in predicting an  $FEV_1/FVC$  ratio  $< 0.70$ .

### Results:

Spearman's correlation with  $r = 0.636$  ( $P < 0.001$ ) was demonstrated. The area under the ROC curve was 0.862 (95% confidence interval [CI]: 0.779 – 0.944,  $P < 0.001$ ). The  $FEV_1/FEV_6$  cut-off with the greatest sum of sensitivity and specificity was 0.75.  $FEV_1/FEV_6$  sensitivity, specificity, positive and negative predictive values were 93.02%, 67.74%, 88.89% and 77.78% respectively. There was substantial agreement between the two diagnostic cut-offs ( $\kappa = 0.634$ ; 95% CI: 0.471 – 0.797,  $P < 0.001$ ).

### Conclusions:

The  $FEV_1/FEV_6$  ratio can be considered to be a good alternative to the  $FEV_1/FVC$  ratio for the screening of COPD. Larger multicenter study and better education on spirometric techniques can validate similar study outcome and establish reference values appropriate to the population being studied.



## ADDRESSING THE CO- MORBIDITIES: TOWARDS A PERSONALIZED ASTHMA CARE

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### Introduction:

The goal of asthma therapy is to achieve disease control, which often failed, partly due to the presence of co-morbidities. However, correlation between asthma control and the impact of co-morbidities remains unexplored. We sought to evaluate the impact of asthma co-morbidities towards asthma control, in order to personalize and effectively manage our patients.

### Methods:

Single-centre, retrospective analysis of the baseline and subsequent visits (after 6 months and 1 year) of patients who attended UiTM Selayang Respiratory clinic from 2010 till 2015. Besides clinical assessments, patients also filled up the Asthma Control Test (ACT) score form, and were given appropriate treatment. Patients' information and clinical data were obtained from UiTM Clinic online system and analysed via Statistical Package for the Social Sciences (SPSS) software for statistical analysis.

### Results:

A total of 201 asthmatic patients (33.8% Male, 66.2% Female) with mean age of 54.58 years (SD: 41.01) were recruited. At baseline, the Asthma Control Test (ACT) mean score was 17.77 (SD: 5.26) with 55.2% uncontrolled (ACT score <20). Among the patients: 29.9% had Allergic Rhinitis (AR), 9.5% had Gastroesophageal Reflux Diseases (GERDS), 4.9% had Eczema, 10.9% had Obesity and 0.9% had Obstructive Sleep Apnoea (OSA). There were significant differences between baseline ACT score in asthmatic patients with and without AR ( $p=0.033$ ) and between those who were on Montelukast and who were not ( $p=0.02$ ). After 6 months treatment of asthma, AR and GERDS, the mean ACT score rose to 18.40 (SD: 5.30) ( $p=0.075$ ) with 45.6% uncontrolled, and it further rose to 18.69 (SD: 4.62) ( $p=0.229$ ) with 48.4% uncontrolled after 1 year of treatment.

### Conclusion:

AR, Obesity and GERDS are common co-morbidities in asthma patients. Treating the co-morbidities lead to improved asthma control as manifested by improved ACT score. Personalizing asthma treatment, especially in targeting the co-morbidities is paramount to ensure optimized care.

## ROLE OF SOCIOECONOMIC STATUS IN PATIENTS DIAGNOSED WITH PULMONARY TUBERCULOSIS IN HOSPITAL LABUAN

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### Objective(s):

To assess the role of socioeconomic status and demographic characteristics of in-patients diagnosed with pulmonary tuberculosis in Hospital Labuan.

### Methodology:

Retrospective and observational study of all suitable in-patients diagnosed with pulmonary tuberculosis, as measured via symptoms, sputum smears and chest radiography results admitted from May 2015- May 2016 (Study Period). The study is inclusive of patients with both smear positive and smear negative pulmonary tuberculosis.

### Results:

A total of 24 in-patients were diagnosed with pulmonary tuberculosis during the Study Period. 20 (83.3%) were males and 4 (16.7%) were females. The mean age was 49 years. 17 (70.8%) patients were Malaysians and 7 (29.2%) were foreigners. 17 (70.8%) were non-smokers and 7 (29.2%) were smokers. Amongst the in-patients, 18 (75%) had less than 7 years of schooling, 6 (25%) had 7-11 years of schooling and none of the patients had achieved and/or completed tertiary level of education. 8 (33.3%) were employed, 1 (4.1%) was self employed and 15 (62.5%) were unemployed. Monthly household income was less than RM500 for 3 (12.5%) patients, between RM 500 to RM1000 for 11 (45.8%) patients and more than RM 1000 for 10 (41.7%) patients.

### Conclusion:

Based on the findings of our study, it is apparent that majority of the in-patients diagnosed with pulmonary tuberculosis were males. Further, the highest rate of tuberculosis was among those who had lower levels of education and were unemployed. Special attention must be given for surveillance and prevention of TB in these groups of people.

## RADIOLOGICAL PROFILING OF INTERSTITIAL LUNG DISEASE: A RHEUMATOLOGY COHORT

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Interstitial Lung Disease (ILD) is a potentially devastating complication of many rheumatological diseases. The type of ILD will determine the type of treatment for the patient. However, the type of ILD and its correlations with rheumatological diseases has not been well studied and reported. A retrospective study has been conducted among patient who attended the Rheumatology-Respiratory clinic in Hospital Selayang (HS) and had undergone a high-resolution computed tomography (HRCT), pulmonary function test and echocardiography. Results showed Lymphoid Interstitial Pneumonia (LIP) is the commonest type of ILD among our rheumatological patients in HS. Differences in occurrence of ILD subtypes in HS population compared to previous study could be due to different demographics and genetics in the study population, and also small sample size.

## MORTALITY REVIEW ON LUNG CANCER: 2008 – 2015 EXPERIENCE

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This is a review on 66 patients who were diagnosed and managed in our centre from 2008 to 2015 in eight years period, and unfortunately succumbed to lung cancer as the documented cause of death. From the cancer registry in chest clinic, all relevant medical records were retrieved and reviewed for 89 patients. However, 23 were excluded due to missing information or had a different direct cause of death. The findings are:

1. Gender: 47 (71.2%) male; 19 (28.8%) female
2. Ethnicity: 39 (59%) Malays; 23 (35%) Chinese; 4 Indians (6%)
3. 42 (63.6%) were smokers; 24 (36.4%) were non-smokers
4. Duration of symptom(s) prior to presentation: 1.64 +/- 1.33 (standard deviation/SD) months [Interval: 1 week – 6 months]
5. Mean age of presentation is 62 +/- 8.6 (SD) [Age range: 41 – 81]
6. Histology: 36 (54.5%) adenocarcinoma; 8 (12.1%) small cell carcinoma (SCC); 1 (1.5%) large cell carcinoma; 21 (31.8%) squamous cell carcinoma
7. Staging: All SCC were extensive on diagnosis; among the 58 patients with non-SCC 11 (19%) were stage III, 47 (81%) were stage IV on presentation
8. Performance status ECOG 0: 8 (12.1%); ECOG 1: 25 (37.9%); ECOG 2: 16 (24.2%); ECOG 3: 15 (22.7%); ECOG 4: 2 (3.0%)
9. 4 patients with adenocarcinoma received tyrosine kinase inhibitors as first line therapy. A majority of 23 (34.8%) received palliative supportive treatment with no chemo/radiotherapy; 19 (28.8%) received radiotherapy; 33 (50%) patients received chemotherapy; 13 (19.7%) received both chemo and radiotherapy.

Improving the survival of lung cancer patients remains a challenge. Palliative supportive care has a central role for advance lung cancer and should be integrated routinely into our care.

# PRE INTENSIVE PHASE HEALTH RELATED QUALITY OF LIFE (HRQOL) AMONG PATIENTS WITH ACTIVE TUBERCULOSIS IN HOSPITAL SULTANAH NUR ZAHIRAH KUALA TERENGGANU: ITS ASSOCIATED FACTORS AND COMPARISON WITH POST INTENSIVE PHASE

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## Background

Tuberculosis is a chronic infectious disease that not only gives an impact physically but also affects the quality of life. The quality of life in tuberculosis patients diminish by multiple factors. The objective of this study is to determine the health related quality of life in active tuberculosis patients at the beginning and at the end of the intensive treatment and the associated factors of quality of life at the beginning of the treatment.

## Methodology

This is a cross-sectional prospective study done between September 2014 until March 2015 involving 60 tuberculosis patients in which 35 of them were infected with pulmonary tuberculosis, 18 patients were infected with extrapulmonary tuberculosis and 7 patients had both pulmonary and extrapulmonary Tuberculosis. All eligible patients were asked to complete a self-administered SF36v2 questionnaire at the diagnosis and at the end of the intensive phase treatment of tuberculosis. The quality of life score was scored into eight health domains, physical and mental component summary. The difference of the quality of life score at the beginning and at the end of the intensive phase was assessed using paired t-test and multiple linear regression to assess the associated factors for the quality of life score.

## Result

The quality of life score significantly improved all eight domains as well as the physical and mental component summary at the end of the intensive phase. For the PCS, the mean score at the beginning of treatment was 39.2 (SD $\pm$ 10.19), at the end of intensive phase was 49.1 (SD $\pm$ 9.03) and the mean difference was -9.89. While for the mean MCS scores at the start of the treatment, after the intensive phase and the mean difference were 42.00 (SD $\pm$ 10.77), 50.24 (SD $\pm$ 8.79) and 8.20, respectively. The number of symptoms at the diagnosis and being HIV infected patients were the predictive difference in PCS score at the beginning of the treatment of anti-tuberculosis. Being HIV infected patients were the factors that negatively affect the MCS score at the beginning of treatment.

## Conclusion

This study showed that the HQOL improved with intensive phase of treatment. The number of symptoms at the diagnosis and being HIV patients were the associated factors that lower the physical component summary score (PCS). Similarly, the mental component summary score (MCS) was lower in HIV patients than non HIV patients.

# THE PROGNOSTIC ABILITY OF CURB-65 IN PREDICTING OUTCOMES OF HOSPITALISED PATIENTS WITH COMMUNITY ACQUIRED PNEUMONIA IN HOSPITAL UNIVERSITI SAINS MALAYSIA.

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## Introduction

Morbidity and mortality associated with CAP is high and it remains as one of the leading cause of death. There are several validated tools to assess severity, predict mortality in patients admitted with CAP. These tools may guide a clinician to make a decision with regards to the level of intervention.

## Objective

The purpose of this study is to determine the prognostic ability of CURB-65 as a pneumonia severity score in predicting outcomes in hospitalized patients with CAP.

## Methodology

This was an observational retrospective cohort study performed for patients admitted to medical ward and ICU, HUSM that fulfilled diagnosis for CAP, from June 2012 till May 2014. The clinical profiles for CAP in HUSM were elaborated in a descriptive study. The outcomes that were investigated in this study were the use of inotropic support, the need for ventilatory support, ICU admission and in hospital mortality. The prognostic ability of CURB-65 in predicting outcomes were analysed using Chi square test, SLR, ROC curve analysis and sensitivity, specificity and predictive values. The recommended cut off points to indicate higher CURB-65 score was 3 to 5.

## Results

The majority of patients were Malay (95.4%) with equal male to female distribution with a mean age of 63.29 (SD±16.55) years. The proportion of in hospital mortality was 8.8%, use of inotropic support was 11.1% , need for ventilation was 12.6% and need for ICU admission was 6.9%. CURB-65 demonstrated high sensitivity (89-100%), specificity (84-88%), negative predictive value (99-100%) and significant association with all the adverse outcomes. It also had good to excellent discriminative values (0.853-0.938).

## Conclusion

Our study showed CURB-65 has the ability to prognosticate and predict outcomes i.e: need for admission , use-of inotropic support, need for ventilatory support and inhospital mortality in with CAP with high sensitivity and specificity.

## PREVALENCE OF MANTOUX TEST AMONG HEALTHCARE WORKERS IN HOSPITAL MIRI FROM YEAR 2012 TILL 2016

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### Introduction:

Healthcare workers (HCW) are at increased risk of contracting tuberculosis due to the increased exposure as well as lack of preventive measures. Hence, Mantoux test has been performed among the HCWs as a screening tool.

### Objective:

To determine the relationship between positive Mantoux test and the occupational risk groups.

### Methology:

We performed retrospective study of all HCWs in Hospital Miri who have undergone Mantoux test from year 2012 to April 2016. Retrospective review of their respective occupations, departmental units and reading of the Mantoux test were performed. We had stratified the HCWs into 3 groups which are low risk, medium risk and ongoing potential transmission based on the classification as suggested by CDC. A reading of 15mm and above was considered as positive. Data was tabulated and analysed using SPSS software.

### Results:

A total of 1162 health care workers have undergone Mantoux test from 2012 to April 2016. Out of these patients, 412 (35.5%) were in the ongoing potential transmission groups, followed by 595 (51.2%) in medium risk group, 92 (7.9%) in the low risk group and the risk for the remaining 63 (5.4%) HCWs were not known. In the ongoing potential transmission, medium risk group and low risk group, 22 (5.34%), 35 (5.88%) and 6 (6.52%) HCWs were found to have positive Mantoux test respectively.

### Conclusions:

The prevalence of positive Mantoux test among HCWs does not show a demonstrable relationship with the occupational risk groups. However, this study is limited by the small sample size and low participation among the population concerned. The usage of Mantoux test as possible screening tool will have to be evaluated further using a larger sample size and proper documentation of results.

## EFFECT OF GROWTH HORMONE THERAPY ON SLEEP DISORDERED BREATHING IN CHILDREN WITH PRADER WILLI SYNDROME: A RETROSPECTIVE STUDY

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### INTRODUCTION:

Growth hormone (GH) is used to improve neuromuscular outcome in children with Prader-Willi syndrome (PWS). However, a known side-effect of this treatment is obstructive sleep apnea.

### OBJECTIVES:

To determine the effect of recombinant human growth hormone (rhGH) therapy on (a) anthropometric measurements, (b) motor development and (c) sleep-disordered breathing (SDB), in children with PWS.

### METHODS:

This retrospective study included children less than 18 years old with genetically confirmed PWS, who were referred to the paediatric endocrinology clinic from 1<sup>st</sup> Jan 2010 till 31<sup>st</sup> December 2016 for rhGH. Anthropometric measurements and polysomnography (PSG) or oximetry results were reviewed.

### RESULTS:

Ten children with a median (range) age of 4.67(1.42-10.92) years, were reviewed. Five who were on rhGH were included. Only children with no symptoms of OSA had rhGH. Treatment with rhGH was for median 4 years (range: 0.25 to 4.58 years). Height Standard Deviation Scores (SDS) after rhGH (median -2.06 cm [range: -3.09 to -0.29 cm]) were higher than height SDS before rhGH (median -8.89 cm [range, -10.29 to -3.28 cm]) ( $p = 0.068$ ). Median weight SDS after rhGH was -1.04 kg [range, -2.57 to 0.58 kg], which was also higher than weight SDS before rhGH (median -3.77 kg [range, -4.24 to -2.29 kg]) ( $p = 0.068$ ). Therefore, median BMI SDS was -0.07 kg/m<sup>2</sup> (range: -1.19 to +1.32 kg/m<sup>2</sup>) higher than before rhGH (median -0.92 kg/m<sup>2</sup> (range: -1.99 to -0.48 kg/m<sup>2</sup>) [ $p = 0.068$ ]. There was no significant effect on motor development in rhGH group ( $p = 0.389$ ). After rhGH, children ( $n=3$ ) had mild to moderate OSA: median apnoea hypopnoea index = 4.6 [range 3.3-12.0], median central apnoea index = 0.8 [range 0.0 -2.4] and median obstructive apnoea hypopnoea index = 2.5 [range 1.3 - 8.6].

### CONCLUSION:

GHT improved weight loss and maintained a good height velocity. However, GHT increased symptoms of OSA.



## OUTCOME OF PATIENTS ADMITTED TO PICU WITH SEVERE ASTHMA: HOSPITAL PULAU PINANG EXPERIANCE

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### Objectives:

To study and report the outcome of pediatric patients admitted to PICU.

Study was done to determine the management, complication and outcome of children admitted to PICU with severe asthma.

### Methods:

This is a retrospective study looking at case sheets of patients requiring ICU admission between January 2015 to March 2016. A total of 40 patients were recruited in this study.

### Results:

Patients who presented with saturation less than 92% to casualty had a 68% chance of requiring noninvasive ventilation (BIPAP/CPAP). None of the patients admitted to PICU required mechanical ventilation. There was no complications like pneumothorax documented. All patients survived. Only 42% of these patients were compliant to the preventers.

### Conclusion:

Asthmatic patients who were non-compliant to preventer medication contributed towards majority of admission to PICU. Early administration of corticosteroids and intravenous salbutamol played an important role in the outcome.

# CLINICAL AND ECONOMIC IMPACT OF RESPIRATORY MEDICATION THERAPY ADHERENCE CLINIC (RMTAC) VERSUS STANDARD CARE ON ASTHMA PATIENTS IN HOSPITAL SULTANAH NUR ZAHIRAH, KUALA TERENGGANU

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## Background:

Respiratory Medication Therapy Adherence Clinic (RMTAC) managed by pharmacists was introduced in Respiratory Unit, HSNZ to ensure maximal therapeutic benefits for asthmatic patients.

## Objectives:

To compare clinical and economic impact between asthmatic patients who managed under RMTAC and patients on usual standard care.

## Method:

All clinical data and costs of treatments were collected retrospectively from 1<sup>st</sup> January 2013 to 1<sup>st</sup> August 2015. The inclusion criteria was according to the RMTAC protocol. The clinical outcome was compliance and asthma control status at the fourth clinic visit using Modified Morisky Adherence Score (MMAS) and Asthma Control Test (ACT) respectively, as well as emergency visits and hospitalizations. Meanwhile, total direct costs from the first to fourth visit as the economic indicator.

## Results:

There was a significance higher MMAS score ( $p = <0.05$ ) and ACT score ( $p = <0.05$ ), among RMTAC ( $n=40$ ) than standard care patients ( $n=31$ ). The total number of emergency visits and hospitalizations for RMTAC patients decreased by 20% and 38% respectively, whereas Standard Care patients had reduction in emergency visits by 7.8% but increased in the number of hospitalization by 14%. The total cost of treatment for RMTAC patients of four visits was lower at RM61533.08 while Standard Care was RM62157.04. The average cost effectiveness ratio (ACER) for every 1% ACT increment was RM745.86 for RMTAC patients while RM1,134.25 for standard care patients.

## Conclusion:

The new RMTAC approach had demonstrated better clinical outcomes for asthma patient. However, further analysis is required to observe for a comprehensive economic effect.

# A STUDY OF THE PREVALENCE OF STREPTOCOCCUS PNEUMONIAE SEROTYPES IN PATIENTS HOSPITALISED FOR COMMUNITY-ACQUIRED PNEUMONIA

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## Introduction:

The prevalence of *Streptococcus pneumoniae* in community-acquired pneumonia (CAP) is well known. Since the era of conjugated vaccines, pneumococcal serotyping has received renewed interest. Multiplex polymerase chain reaction (PCR) is useful to detect this organism and isolate its different serotypes. In Malaysia, studies on the prevalence of *S. pneumoniae* serotypes in adults admitted for CAP is limited.

## Objective:

To determine the prevalence of *S. pneumoniae* and its serotypes in the adult patients with CAP hospitalised in Universiti Kebangsaan Malaysia Medical Center (UKMMC).

## Methods:

Adult patients hospitalised in UKMMC medical wards from December 2014 to August 2015, who met the criteria for CAP, were recruited. Multiplex PCR was performed on sputum samples to detect *S. pneumoniae* and its serotypes. Blood and sputum cultures as well as atypical bacteria serology, were also done.

## Results:

A total of 68 patients (39 male, 29 female) were recruited. The median age was 67(59-76) years. Forty-five patients (66.2%) had CURB-65 score of 0-1 and median length of hospital stay was 5(4-8) days. Aetiological agents were identified in 27 patients (39.7%). *S. pneumoniae* was the commonest bacteria detected ( $n=10$ ;14.7%), followed by *P. Aeruginosa* ( $n=6$ ;8.8%), *M. pneumoniae* ( $n=6$ ;8.8%) and *S. aureus* ( $n=4$ ;5.9%). *S. pneumoniae* was identified by PCR alone in 80% of cases ( $n=8$ ), and 2 serotypes were isolated; 33F( $n=8$ ) and 8F( $n=1$ ).

## Conclusion:

*S. pneumoniae* is the commonest cause of CAP and serotype 33F was found to be the most prevalent in our patients. Multiplex PCR use on sputum samples increases the detection of *S. pneumoniae* by identifying 13.2% of cases.

## THE EFFECT OF DIABETES MELLITUS ON THE PLASMA CONCENTRATION OF ANTITUBERCULOSIS AGENTS

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### Introduction:

The effect of diabetes mellitus on the plasma concentration of antituberculosis agents is not well defined; therefore we conducted this case-control study to find out the effect of diabetes mellitus on the plasma concentration of isoniazid, rifampicin, and pyrazinamide.

### Methods:

A case control study was conducted among the pulmonary tuberculosis patients in Pulau Pinang Hospital. Patients with a confirmed diagnosis of tuberculosis and pre-existing diabetes mellitus (TB-DM) were included as the cases. Each case was matched with a control non-diabetic tuberculosis (TB) patient according to the gender, body weight ( $\pm 5$  kg) and smoking status. Five blood samples were taken at 0.5, 1, 2, 3, and 4 hours after witnessed ingestion of antituberculosis agents. Plasma concentration of rifampicin, isoniazid, and rifampicin was determined by validated high performance liquid chromatographic methods (HPLC).

### Results:

Twenty two diabetic and 22 non-diabetic tuberculosis patients were included in the study. Overall, The median  $C_{max}$  of isoniazid, rifampicin, and pyrazinamide was 5.4, 7.3, and 45.4 mg/L respectively. The median  $AUC_{0-24h}$  of isoniazid and rifampicin was 18.2, and 34.0 mg $\times$  h/L respectively. The median  $T_{max}$  of isoniazid, rifampicin, and pyrazinamide was 1.0, 2.0, and 2.0 hours respectively. Diabetes mellitus did not significantly affect any pharmacokinetic parameters of the three drugs.  $AUC_{0-24h}$  of isoniazid was significantly higher in female patients (30.2 vs.16.1 mg  $\times$  h/L,  $P = 0.049$ ). The  $AUC_{0-24h}$  of rifampicin was significantly correlated with patients' age ( $r = 0.388$ ,  $P = 0.009$ ). Weight-adjusted dose of each drug positively and significantly correlated with the corresponding drug  $C_{max}$ .

### Conclusion:

Diabetes mellitus does not alter the pharmacokinetics of antituberculosis agents.

# ANALYSIS OF MEDIASTINAL MASS BIOPSY IN DEPARTMENT OF CARDIOTHORACIC SURGERY, HOSPITAL PULAU PINANG

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## 1) Introduction:

Mediastinal masses are mostly caused by tumours either benign or malignant. Most patients are asymptomatic while some develop obstructive symptoms. CT scan is the choice of imaging while tissue diagnosis is important in clinching the complete diagnosis for treatment.

## 2) Aims:

The purpose of the study is to obtain our local institution results for mediastinal mass by means of surgical procedure. As well as to emphasize the need for early referral to make a diagnosis.

## 3) Methods:

This is a retrospective study of patients whom had presented to Department of Cardiothoracic Surgery, Hospital Pulau Pinang from Jan 2011 to December 2015 with mediastinal mass. Patients underwent either excision or incisional biopsy via sternotomy/thoracotomy, VATS biopsy or Chamberlaine procedure. All of details of patients were obtained from case records from the department.

## 4) Results:

Out of 88 cases, 57.5% were benign and 42.5% were malignant. Among the malignant lesions, primary tumours constituted 64.7% of cases while metastases were 35.3%. Age range was 9 years to 77 years with a mean age of 41 years. Thymoma was the commonest lesion seen in mediastinum followed by metastatic tumours, neuroendocrine tumours and lymphoma.

## 5) Summary /conclusion

The number for benign mediastinal tumours seen in our centre is more compared to malignant. However malignant mediastinal tumours also account for a large portion with metastasis accounting for a third of malignant tumours. Hence early diagnosis needs to be established in order to start treatment as soon as possible.

## References

- [1] Karki S, Charlise S, 2011, Analysis of mediastinal lesions: A study of 27 cases, Journal of Pathology of Nepal, Vol 1, p114-117
- [2] Larry K, Irving L.K, Thomas L.S. Mastery of Cardiothoracic Surgery 3rd edition. Diagnostic evaluation of anterior mediastinal masses and clinical and surgical approach to thymic tumours via sternotomy, Usman A, Frank C.D, p124-138
- [3] Biswajit D, Sanju C, Sagar G.T, 2009. Clinicopathological analysis and outcome of primary medias tinal malignancies-A report of 91 cases from a single institute, p140-142

## LOWER RESPIRATORY TRACT INFECTIONS IN HOSPITALISED CHILDREN – AN AETIOLOGY AND FOLLOW UP STUDY

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### Introduction:

Lower respiratory tract infection (LRTI) remains a leading cause of hospitalisation as well as morbidity and mortality among children.

### Objectives

To determine the aetiology of LRTIs and the incidence of persistent respiratory problems following a LRTI, in hospitalised children. **Methodology:** This is a single-centre, prospective study which included children presenting with signs and symptoms of LRTI recruited from 31<sup>st</sup> October 2014 till 30<sup>th</sup> April 2015. Children with a history of asthma or other chronic diseases were excluded. Respiratory specimens were tested for viral and bacterial pathogens. Recruited children were then seen at 1 month, 6 months and 1 year post-discharge to monitor for respiratory complications.

### Results

One hundred and twelve children were enrolled. Their median (range) age was 9(1-60) months. Pathogens were detected in 68% of children, of which 42.8% were viruses. Respiratory Syncytial Virus was the commonest virus (64%). The commonest bacteria isolated were Haemophilus influenza (17%), Staphylococcus aureus (14%) and Streptococcus pneumonia (11%). At one month, 37% (n=33/88) of children had either persistent or recurrent respiratory symptoms. Fifty children completed their one year follow-up. Approximately 60% of children were discharged from the clinic while the remaining 40% were followed up for various respiratory problems.

### Conclusion

More than one third of children who were admitted for LRTI had respiratory problems during the 1 year post discharge from hospital. There is significant morbidity in children with previous history of LRTI.

## VALIDATION OF THE MALAY VERSION OF CAMBRIDGE-HOPKINS RESTLESS LEGS SYNDROME SHORT FORM 2 DIAGNOSTIC QUESTIONNAIRE (CH-RLSQ13)

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Restless legs syndrome (RLS) is a sensorimotor disorder characterized by an urge to move the legs at rest. These disturbing sensations are relieved by movement and are worse in the evening. RLS is a clinical based diagnosis. In Malaysia, RLS is not commonly diagnosed and its prevalence in our population is not known. Hence there is a need to have a validated Malay version questionnaire that is able to diagnose RLS among Malaysian population.

Forward and backward translations of the CH-RLSQ13 were performed according to guideline by Beaton et al. The translated Malay questionnaire was assessed for comprehensibility in a group of 6 volunteers. Validation of the questionnaire was carried out in 40 control subjects and 19 RLS subjects who were recruited by a physician based on the clinical definition of the disorder and the exclusion of “mimic” conditions. To test for reliability, all subjects were given the same questionnaire twice within 2 weeks interval.

The CH-RLSQ13 for 40 control subjects who completed the study showed similar result in both sittings. Out of the 19 subjects who were diagnosed RLS by the gold standard questionnaire, 10 subjects were confirmed RLS by CH-RLSQ13. The results demonstrated an acceptable internal consistency reliability (Cronbach's alpha = 0.97) and test-retest reliability (intra-class correlation coefficient = 0.79).

The Malay version of the Cambridge-Hopkins Restless Legs Syndrome Short Form 2 Diagnostic Questionnaire (CH-RLSQ13) seem to be a potential diagnostic tool for Malaysian population. A larger sample size is required to conclude the use of the Malay version of the diagnostic questionnaire in our population.

# A RETROSPECTIVE ANALYSIS OF THE CLINICAL OUTCOME OF MELIOIDOSIS CASES IN PENANG

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## Introduction

Melioidosis, a severe and fatal infectious disease caused by *Burkholderia pseudomallei*, is endemic in South East Asian countries, including Malaysia. However, data on melioidosis in Malaysia is limited.

## Objective(s)

1. To assess demographic profile, clinical presentation and associated comorbidities amongst culture positive Melioidosis cases
2. To evaluate mortality outcome at six months of diagnosis
3. To analyse the choice of antibiotic use and culture sensitivity

## Methodology

We retrospectively analysed our hospital-based Melioidosis Registry and medical records for all culture positive melioidosis cases from January 2014 to December 2015 in Penang General Hospital (PGH) and Seberang Jaya Hospital (SJH). Data was collected with a standard data collection sheet.

## Results

A total of 51 culture positive cases were collected from both hospitals during the stipulated period ( $n = 11$  SJH,  $n = 40$  PGH). The mean age of study population was 52 years ( $SD = 11.1$ ) with male predominance (82.4%). Majority of patients were Malay (45.1%) while 39.2% of patients were involved in service occupations. The overall mortality rate was 41.2%. Pneumonia accounted for the majority of primary diagnoses (74.5%) followed by liver abscess (21.6%). Diabetes mellitus was the main risk factor for developing melioidosis (82.4%). Ceftazidime was the antibiotic of choice started during intensive phase (70.6%) followed by Meropenam (11.8%). 98% of the cultures grew sensitive strain to Ceftazidime.

## Conclusion

Melioidosis causes a significant mortality in our patient population. A high index of clinical suspicion is recommended in patients having severe pneumonia with underlying diabetes mellitus. Ceftazidime remains the treatment of choice during intensive phase with proven sensitivity.



# RADIOLOGICAL AND BIOCHEMICAL CHARACTERISTICS OF BAL SMEAR NEGATIVE CULTURE POSITIVE PULMONARY TUBERCULOSIS IN A TERTIARY CENTER IN MALAYSIA

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## Introduction :

The prevalence of smear negative pulmonary tuberculosis (PTB) is increasing in Malaysia yet its diagnosis often poses a great challenge. We aim to look at the common symptoms, radiological findings and biochemistry data that aid diagnosis of smear negative PTB.

## Methods

This is a cross-sectional study of smear negative culture positive pulmonary tuberculosis patients diagnosed from BAL sample in patients who underwent bronchoscopy from January 2005 to December 2015 in our tertiary center in Malaysia.

## Results

124 patients were included in this study. Mean age was  $47.1 \pm 17.4$  year. Majority were male (62.9%). The mean duration of symptoms onset was  $86.2 \pm 145.5$  days and mean time to treatment was  $56.8 \pm 61.3$  days. Majority of patients presented with chronic cough (80.6%), loss of appetite and loss of weight (66.9%), prolonged fever (56.5%) and haemoptysis (29%). Risk factors include diabetes (26%), chronic kidney disease or end stage renal failure (11.3%), previous pulmonary tuberculosis (9.7%), on immunosuppressive drugs (9.7%), HIV positive (7.3%), chronic lung diseases (5.6%) and COPD (4.8%). Chest x-ray findings were consolidation (79%), pleural effusion (21%), cavitation (14.4%) and miliary TB (6.5%). CT scan findings were consolidation (41.9%), tree in buds (22.6%), cavitations (21.8%) and pulmonary nodule (18.5%). Biochemistry studies showed that raised ESR (27.3%), anaemia (64.5% with 35.5% being hypochromic microcytic anemia), lymphopenia (50%), neutrophilia (34.7%) and hypoalbuminaemia (52.5%).

## Conclusion

Patients with smear negative culture positive pulmonary tuberculosis normally presents with chronic cough, are often diabetic, has CXR and CT scan findings of consolidation with biochemistry data showing anaemia, lymphopenia and hypoalbuminaemia.

# RETROSPECTIVE ANALYSIS ON PATIENTS WITH BRONCHIAL ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) VISITED TERTIARY CARE CENTRE IN 2013: KUALA LUMPUR HOSPITAL EXPERIENCE

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## Introduction

Bronchial asthma and chronic obstructive pulmonary disease (COPD) is a devastating illness that causes great suffering in afflicted individuals and imposes an enormous burden to society. It is difficult to understand why there is such a huge discrepancy between the management of asthma and COPD recommended by evidence – based guidelines and that observed in clinical practice.

## Method

A retrospective analysis on data obtained from record office of Kuala Lumpur Hospital on asthma and COPD adult patients visited Emergency Department (ED), Outpatient Department (OPD), Physician Clinic (PC) and medical ward from January to December 2013.

## Objectives

To analyze the management of patients attended and admitted to Kuala Lumpur Hospital (ED, OPD, PC and medical ward) for symptoms of respiratory disease mainly asthma and COPD.

**Results:** There were 180,788 respiratory related new cases seen in Kuala Lumpur Hospital in 2013 in which 94% were outpatient basis (from ED, OPD and PC) and inpatient accounted for 6%. New cases for asthma were documented 27,871 visits in which 91% (25,360) visits to ED, 7% (2,082) visits to OPD and 2% (429) to PC. 1,852 patients were admitted for asthma exacerbations and in 2013 there were 3 deaths from severe asthma. For COPD, data collected for inpatients were 1,224 and there were 26 deaths in year 2013. Based on these data, the numbers were alarming and prompted us to come out with Asthma COPD Clinical Pathway (ACCP) to assist in management of patients in Kuala Lumpur Hospital collaborated with Institute of Respiratory Medicine.

## Conclusion

We hope with the creation of this clinical pathway will help in the management for betterment of patient outcomes and to plan for further study in outcome of asthma and COPD patients after ACCP implementation.

## CASE REPORTS

<b>CR1</b>	<b>LEFT HEPATIC HYDROTHORAX</b>	<b>97</b>
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## LEFT HEPATIC HYDROTHORAX

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We report a 33-year old Malay man, a known case of cirrhosis secondary to chronic hepatitis B, presented with breathlessness secondary to recurrent left transudative pleural effusion. After normal extensive investigations including contrast-enhanced CT thorax and medical thoracoscopy, he was diagnosed with left hepatic hydrothorax. He was treated with repeated talc pleurodesis due to rapid re-accumulation of the pleural effusion. Left-sided involvement is an uncommon presentation of hepatic hydrothorax. Most common site of hepatic hydrothorax is the right side (73%) in patient with ascites secondary to cirrhosis. Atypical presentation of hepatic hydrothorax is left-sided effusion (17%) and bilateral pleural effusion (7%). Serum protein to pleural fluid albumin (SPAG) can be used to as parameters to diagnosed portal hypertension, a diagnostic criterion for hepatic hydrothorax. Hepatic hydrothorax imposes a great therapeutic challenge and the options include medical and surgical approach. Pleurodesis offers a feasible option but the efficacy is poor. Surgical repair of the diaphragmatic defect is rarely done and technically difficult. The overall outcome for hepatic hydrothorax was extremely poor, except for those who underwent transjugular intrahepatic porto-systemic shunt (TIPS) and liver transplant.

## MULTIPLE CAVITATING PULMONARY NODULES SECONDARY TO HODGKIN'S LYMPHOMA

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We report a 26-year old lady presented with chronic cough and breathlessness associated with subtle B symptoms for 1 year. Her first CT thorax showed multiple cavitating pulmonary nodules with mediastinal and cervical lymphadenopathy. She was initially treated empirically as pulmonary tuberculosis as she refused further invasive investigation when her first cervical lymph node biopsy showed Kikuchi's disease. After a year, her condition deteriorated and she was referred to our centre for second opinion. Cervical lymph node biopsy and CT-guided pulmonary biopsy at our centre confirmed the diagnosis of Hodgkin's lymphoma with pulmonary infiltrations. She was successfully treated with ABVD regime but after a month of good remission, she developed life-threatening bleomycin-induced pulmonary fibrosis. However, she succumbed to respiratory failure after treatment with corticosteroid and therapeutic trial with imatinib mesylate for her bleomycin-induced pulmonary fibrosis was unsuccessful. Multiple cavitating pulmonary nodules secondary to lymphoma is rare and it may result in delayed diagnosis and treatment. Bleomycin-induced lung injury is seen up to 40% of patients receiving bleomycin-containing regime for the treatment of Hodgkin's lymphoma. The mainstay of this drug side effect is corticosteroid and other immunosuppressive drugs. Interestingly, few data have shown beneficial effects of imatinib mesylate in reversing lung fibrosis in this condition. However, data of the effective treatment of this drug adverse effect is still lacking.



## SPONTANEOUS PNEUMOMEDIASTINUM: A DIAGNOSTIC CHALLENGE

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Pneumomediastinum, the presence of air in the mediastinum, can be due to mediastinal organ injury or occur spontaneously, which is usually benign and self-limiting.

We report a 28-year-old gentleman with no medical illness, with a 3-day history of shortness of breath, cough, fever and neck swelling. He had no other symptoms, with no recent trauma or surgery. He was not in respiratory distress, with good oxygen saturation under room air. He had subcutaneous emphysema, from the upper part of his chest, to the angle of his mandible. Auscultation of his lungs show generalized rhonchi, with equal air entry. Hamman's sign was positive on auscultation of the heart. His chest radiograph showed increased lucency surrounding his great vessels and cardiac margin. A High-Resolution-Computer-Tomography of his chest confirmed the presence of pneumomediastinum with subcutaneous emphysema and no demonstrable cause. A diagnosis of spontaneous pneumomediastinum secondary to alveolar rupture due to community acquired pneumonia with bronchospasm was made. He was treated conservatively and discharged well with follow-up.

Spontaneous pneumomediastinum is a rare condition. Common presenting symptoms are non-specific, including chest pain, cough, dyspnea and neck swelling. The most common physical sign is subcutaneous emphysema. It is difficult to make a diagnosis based on the non-specific symptoms, but presence of subcutaneous emphysema should prompt a thorough search for possible pneumomediastinum, by auscultation for Hamman's sign or meticulous review of the chest imaging.

We hope that our case will improve awareness towards this rare condition. An early diagnosis allows earlier appropriate imaging and treatment of secondary causes, while also identifying the benign ones who would benefit from a shorter hospital stay.

## A RARE ASSOCIATION BETWEEN CHYLOTHORAX AND DOWN SYNDROME

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Chylothorax is a rare cause of respiratory distress among infants. If left untreated, it may result in respiratory embarrassment, malnutrition and immunodeficiency. Hence, a swift diagnosis and treatment is needed to avoid these complications. The majority of such babies only require medical treatment, though some may resort to surgical options for un-resolving chylothorax. This paper highlights the rare association of a spontaneous chylothorax in an infant with Down Syndrome and the current treatment modality available in this country. This infant benefited from enteral formula and medium chain triglycerides feeds and had an uneventful recovery.

## FATAL BARIUM PNEUMONITIS

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Barium aspiration is an uncommon yet well-established respiratory complication. We report a case of an elderly gentleman with progressive dysphagia who had undergone a barium swallow, complicated by barium aspiration and acute respiratory distress syndrome. We would like to highlight the fatal complication despite extensive precautions measures.

**Case Report:** A 68 years old man presented with chronic progressive dysphagia and constitutional symptoms for 6 months duration. Barium swallow was arranged. Prior to procedure patient was treated as aspiration pneumonia based on symptoms, raised infective markers and chest x-ray finding. He was given antibiotic and oxygen therapy. The barium swallow was performed and he had aspirated the barium. Suction attempted with urgent flexible nasopharyngolaryngoscope. He was deteriorated with worsening inflammatory markers, respiratory failure and required ventilatory support. He was then succumbed to death.

**Discussion:** Our patient had severe chemical pneumonitis and developed acute respiratory distress syndrome which lead to life-threatening event. The estimated overall mortality rate was 30%, with a worse prognosis amongst patients with underlying respiratory compromise. Despite the attempt for immediate barium suctioning, the residual inhaled contrast agent could have caused obstruction of the small bronchi causing ventilation/perfusion mismatch. Bronchoscopy was not performed as risk of disseminating of the contrast medium. Recent studies suggested the use of retroesophageal suction catheter, however it was not available in our center. The role of steroids in chemical pneumonitis has been controversial.

**Conclusion:** Barium study has a good safety profile, however a safer alternative should be considered in high risk patients. Despite extensive precautions measures taken with immediate treatments and interventions mortality rate is high.

## CENTRAL VEIN THROMBOSIS AND CHYLOTHORAX, AN UNDER RECOGNIZED ASSOCIATION: A CASE SERIES

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Chylothorax is defined as the presence of chyle in the pleural cavity. It is a rare clinical encounter and is most commonly caused by direct injury to thoracic duct post surgery or in malignant diseases. Central vein thrombosis is frequently an under recognized cause of chylothorax. Thrombosis leads to increase backpressure in thoracic duct return and as a result, chyle leaks into pleural cavity. We report three cases of unilateral chylothorax that were associated with central vein thrombosis.

Case 1 illustrates a patient with newly diagnosed Acquired Immunodeficiency Syndrome (AIDS) and disseminated tuberculosis. He presented with a left chylothorax and central vein thrombosis after one month of anti-tuberculosis medication. Chylothorax resolved with effective anticoagulation. Case 2 was a patient with germ cell tumor who presented with a left chylothorax and central vein thrombosis after two cycles of successful chemotherapy. Anticoagulation was started and chylothorax resolved after five days. Case 3 was a young gentleman who presented with a superior vena cava obstruction syndrome due to Peripheral T Cell Lymphoma. Standard chemotherapy and anticoagulation was initiated, however he responded poorly to chemotherapy and presented with a left chylothorax four months later despite on going anticoagulation. Patient failed to respond to escalation of chemotherapy regime and succumbed to underlying disease.

Malignant and inflammatory diseases were pro-thrombotic in nature that can leads to central vein thrombosis. It is a reversible condition with effective anticoagulation. These three cases illustrate the unique association of central vein thrombosis and chylothorax, and the role of anticoagulation in management.

### Reference:

1. Veldhuizen PJ, Taylor S. Chylothorax: a complication of a left subclavian vein thrombosis. Am J Clin Oncol. 1996; 19(2): 99-101.



## DIFFUSE PANBRONCHIOLITIS: FINDINGS OF A REVIEW OF 8 CASES

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Diffuse panbronchiolitis (DPB) has been uncommonly diagnosed in Malaysia, with only 4 cases reported in print thus far. This review reports the findings of 8 cases managed since 2013.

**Methods:** A retrospective review of 8 cases of DPB diagnosed from June 2013 at a hospital-based private practice.

**Results:** No gender preponderance was present (male = 4, female = 4). Ethnic distribution was 2 Chinese, 3 Malay and 3 Indian. Majority of the patients were > 40 years of age (n=6). Co-morbidities present were allergic rhinosinusitis (n=7), asthma (n=6) and bronchiectasis (n=2). All patients had cough and sputum; 3 each had fever and wheezing, and 2 presented with dyspnoea. Common signs were crackles (n=4), wheeze (n=3) and airflow limitation (n=3). The main presenting syndromes were recurrent pneumonia (n=3), new/localized lung findings (clinical & radiological) (n=2) and worsening asthma control (n=3). All patients had CT scans at diagnosis but only 7 had a repeat scan prior to end of treatment. Erythromycin ethinylsuccinate and azithromycin were used in 4 patients each. Duration of treatment was 6 months (n=5) and 9 months (n=2). One patient did not complete treatment & was lost to follow-up. All 7 patients that completed treatment had significant clinical responses (symptom resolution, improved asthma control & improved airflow parameters).

**Conclusion:** DPB may be more common than previously recognized in Malaysia. These findings may help to identify patients groups that should be investigated for DPB and thus benefit from treatment.

**References:** V. Poletti ERJ 2006, BMZ Zainudin MJM 1996, Krishnan P Chest 2002

## BARIATRIC SURGERY AS A TREATMENT FOR OSA AND ITS COMORBIDITIES

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Obstructive Sleep Apnoea (OSA) is linked to hypertension, ischemic heart disease, stroke, diabetes and sudden cardiac death. Its prevalence is reported to be between 2% to 10% worldwide (1), and locally, the prevalence in middle aged men and women are 9% and 4% respectively (2). Gold standard therapy using continuous positive airway pressure (CPAP) device may not be tolerated in many patients with OSA and therefore alternative options should be explored including bariatric surgery. The surgery may have beneficial impacts on other medical co-morbidities as well. OSA is associated with obesity and there is a positive correlation between increasing BMI and sleep apnea severity. Weight loss by any method is a well-documented treatment for OSA.

We report a case of an obese gentleman with poorly controlled asthma and found to have OSA on the background of hypertension and type 2 diabetes. Bariatric surgery cured his OSA and improved the control of his other underlying co morbidities.

### References

1. Jamie C.M. Lam, S.K. Sharma, Bing Lam, **Obstructive sleep apnoea: Definitions, epidemiology & natural history**, Indian J Med Res 131, February 2010, pp 165-170
2. Charuzi I, Lavie P, Peiser J et al. **Bariatric surgery in morbidly obese sleep-apnea patients: Short- and long-term follow-up**. Am J Clin Nutr. 1992;55(2 460 Suppl):594S-

## CYSTIC TERATOMA PRESENTING AS RECURRENT PLEURAL EFFUSION : A DIAGNOSTIC DILEMMA

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Teratomas of the anterior mediastinum are slow growing tumors that are often asymptomatic and often detected incidentally on chest radiographs. *Mycobacterium abscessus* (*M. abscessus*) is one of the rapidly growing mycobacterial species and was first described by Moore and Frerichs in 1953. A 41-year old non-smoker, non-Caucasian man was referred to our Respiratory clinic with 1 year history of cough, significant weight loss, appetite loss, intermittent fever and well controlled hypertension. There was no history of contact with tuberculosis patient. He had seen 3 physicians from as many hospitals and on each occasion following pleural aspiration and chest tube insertion was told to have pleural effusion secondary to non-tuberculous infection. Respiratory examination revealed features suggestive of right sided pleural effusion with reduced chest expansion, reduced vocal resonance, reduced vocal fremitus and stony dullness to percussion over the right mid zone and lower zone. Plain PA Chest radiograph revealed a huge mediastinal mass obscuring the right heart border with pleural effusion. Contrasted enhanced CT Thorax showed a well-defined homogenous anterior right mediastinal mass with adjacent lung collapse as well as pleural effusion and passive lung collapse posteriorly. Postoperative serum alpha-fetoprotein and beta-HCG were normal. Post-op recovery phase was complicated by recurrent post thoracotomy wound infection, which resulted in wound dehiscence. He was initially treated with prolonged intravenous 2nd generation cephalosporin and surgical drainage but the lesion showed no improvement and in fact later had become worse. The infected wound tissue was subsequently sent for direct smear which showed presence of acid fast bacilli, and tissue culture grew *Mycobacterium abscessus*. Although rare, an atypical mycobacterial infection should be considered for the case of recurrent infected post thoracotomy wound. Our patient represents an unusual presentation of this uncommon pathological entity which was subsequently complicated by an unusual infection.

## A RARE CASE OF TUBERCULOUS PROSTATITIS WITH PLEURAL AND CEREBRAL INVOLVEMENT

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Tuberculosis (TB) continues to be an important disease both globally and in Malaysia. About 10% of TB cases diagnosed at tertiary level chest clinic in Malaysia are classified as extra pulmonary TB [1]. The genitourinary system is a very uncommon region to be affected in extra-pulmonary tuberculosis. In this region, the organs involved are usually kidneys, ureters, bladder or genital organs. Tuberculosis of the prostate is very rare and has mainly been described in immunocompromised or elderly patients [2]. We describe a case of a young immunocompetent man who initially presented with respiratory features followed by seizures and testicular swelling, and finally was diagnosed with TB Prostatitis.

Tuberculous prostatitis is a very rare form of tuberculosis infection. It is generally seen in immunocompromised patients and in those of middle or advanced age. The diagnosis is often not straight forward due to the nature of its presentation. We report a case of Tuberculous Prostatitis in a young, healthy and immunocompetent patient, who initially presented with respiratory features, followed by episodes of seizures and testicular swelling. He was finally diagnosed with tuberculous prostatitis after prostatic biopsy. This case illustrates that in a high TB prevalence environment, when symptoms warrant, there should be a high clinical suspicion coupled with a thorough approach in order to arrive at a correct diagnosis of TB prostatitis.

In conclusion, tuberculosis can manifest in many forms, and a thorough history and physical examination is essential. Although prostatic tuberculosis is generally seen in immunocompromised patients and in those of middle or advanced age, but whenever symptoms point to a pathology of the genitourinary system, TB prostatitis should be kept in mind even in immunocompetent young adults. In our case TRUS-guided prostate biopsy is an important tool for the diagnosis of prostatic tuberculosis and to distinguish it from carcinoma.

## COSTLY TREATMENT FOR AN OLD FOE: OMALIZUMAB FOR PATIENTS WITH SEVERE PERSISTENT BRONCHIAL ASTHMA (A UKMMC EXPERIENCE)

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Bronchial asthma, a common heterogenous disorder which affects at least 300 million of the world's population. Control of asthma can be occasionally unpredictable and challenging to clinicians especially involving moderate to severe persistent cases. Frequent exacerbations, debilitating respiratory symptoms and oral corticosteroid dependence not only affect patient's quality of life but has incurred in lost of income and increased in medical expenses.

The introduction of Omalizumab has revolutionize the treatment of allergic asthma. It is a recombinant DNA-derived humanized IgG1k monoclonal antibody that selectively binds to IgE. This inhibits its binding to the high-affinity IgE receptor on the surface of mast cells and basophils thus down regulating a cascade of allergic response.

We present two cases of severe persistent allergic asthma initiated on Omalizumab therapy. Both cases have demonstrated encouraging preliminary results in symptom control and reduction of exacerbation rates.

From our experience, although there were no major concerns with Omalizumab related adverse reaction but the exorbitant cost of Omalizumab therapy remains a major concern among our patients.

Conclusion: Omalizumab renews additional option for the treatment of moderate to severe persistent allergic asthma with the expense of high cost of therapy.

## RESPIRATORY OUTCOME IN CHILDREN WITH ATLANTOAXIAL SUBLUXATION: A CASE SERIES

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Atlantoaxial subluxation (AAI) is a rare condition among children. It is well described in children with Down Syndrome as they have articular laxity with potential instability due to collagen abnormalities. (Ghanem 2008) Noonan Syndrome is not commonly associated with AAI. Miyoshi et al reported a case of Noonan Syndrome with occipito-axial dislocation due to C1 Dysplasia and basilar invagination as an incidental finding on MRI which was done prior to commencement of Growth Hormone. Many published articles mainly described AAI and its underlying pathology and surgical stability procedures but none reported the respiratory assessment and outcome.

We report three children with AAI of which two of them have Down syndrome and one with Noonan syndrome. They were followed up in Hospital Pulau Pinang from 2010 till 2015. Two of these cases (one Down syndrome and one Noonan syndrome) presented with progressive quadriplegia with respiratory distress, while the other case (Down syndrome) presented with unsteady gait associated with neck pain of one year duration. Two cases required prolonged intubation and ventilation while one case was successfully extubated to non-invasive ventilation (NIV) after cervical stability operation. Better neurological and respiratory outcome were found in the patient who underwent timely surgical intervention.

## INCIDENTAL UNILATERAL RIGHT HEMIDIAPHRAGMATIC PARALYSIS IN A FEMALE PATIENT : A CASE RECORD

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### Introduction

Diaphragmatic paralysis entails an acquired inability of this principal inspiratory muscle. Previous experiences have accounted for male and left sided preponderance.<sup>1</sup> However, exact incidence has not yet been reported. Most cases appear to be asymptomatic and managed expectantly. Operative repair is rarely indicated, unless otherwise symptomatic.<sup>3</sup>

### Case narrative

A 71-year-old lady with hypertension (nondiabetic) was admitted to orthopedic ward for management of lumbar epidural abscess. No high epidural block was required during her stay. She was referred to us for orthostatic pneumonia as noted asymptomatic right lung lower zone consolidation during pre-operative chest radiographic assessment. She was also limited in terms of functionality due to back pain from the epidural abscess. Clinically she was not in respiratory failure. Chest ultrasonography confirmed absence of excursion waveform at right hemi-diaphragm. Minimal anterolisthesis of C4 over C5 was found on cervical radiography. No underlying chronic lung disease reported.

### Conclusion

Diaphragmatic paralysis should always be considered as differential diagnosis of asymptomatic lower zone lung consolidation. Chest ultrasonography appears to be reasonable diagnostic modality in identifying such condition. Outlook is generally favorable.<sup>3</sup>

### References

1. Graham DR. (1990)
2. Versteegh MI. (2007)
3. Easton PA. (1983)

## CYSTS ! CYSTS! AND MORE CYSTS ! THE FIRST CASE OF PULMONARY LANGERHANS CELL HISTIOCYTOSIS IN MALAYSIAN ADULT

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### Introduction

Langerhans cell histiocytosis (LCH) is a rare histiocytic disorder characterized by histiocytes infiltration, which may infiltrate nearly every organ, including lungs and lymph nodes. The incidence is one to two cases per million adults. Pulmonary LCH is a rare disorder occurring in adults that is associated with cigarette smoking. The first case of Pulmonary Langerhans in Malaysian children was reported by Dayang et al in 2011.

### Case Report

A 30 year old man, who is also a chronic smoker and underlying poorly controlled Type 2 Diabetes Mellitus presented with right Inguinal swelling for 2 months associated with intermittent fever. He denied any chronic cough, shortness of breath, weight loss or appetite loss. Apart from enlarged and swollen right inguinal lymph nodes, his other physical examinations were unremarkable. The blood parameters were suggestive of acute bacterial infections. He was subsequently subjected for incision and drainage procedure in view of his poorly controlled diabetes and slow respond towards antibiotics. Histopathological examination of the inguinal node biopsy showed eosinophils forming granuloma and histiocytoid cells with enlarged nuclei, bean-shaped appearance with immunohistochemistry of positive CD 1a, supported by positive S100 and CD 68 suggestive of Langerhans cell histiocytosis. Contrast Enhanced Computed Tomography of Thorax, Abdomen and Pelvis revealed multiple air-filled, diffused, small cysts of bilateral lungs, not uniform, rounded and oval in shape with sparing of sub-pleural area and bases of the lungs suggestive of Pulmonary Langerhans. He was subsequently referred to a Hematologist for further management and follow up. This case represent a very rare entity of cystic lung disease, which presented in an unusual presentation. It is the first case to be reported in Malaysian adult population. A multidisciplinary approach involving the radiologists, pathologists, hematologists and surgeons are crucial in managing such complicated, rare and atypical case.

## PULMONARY ACTINOMYCOSIS MASQUERADING AS ASPERGILLOMA

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**Introduction:** Patients with pre-existing lung cavities and scarring are at risk of developing fungal colonization. These intracavitary fungal masses are called aspergilloma since aspergillus species are the most commonly implicated fungi. On imaging, aspergilloma has typical 'ball-in-hole' appearance associated with crescent sign. However, the appearance of 'ball-in-hole' may also be found in other condition including coccidioidomycosis, actinomycosis, nocardiosis, candidiasis, lung adenocarcinoma, and intra-cavitary hematoma. Actinomycosis is referring to infection caused by Actinomycetes. It is rare with incidence of 1 in 300,000 people per year. Thoracic actinomycosis accounts for 15-20% of actinomycosis cases and may occur in the lung, pleura, mediastinum or chest wall. The clinical presentations of actinomycosis are often non-specific and include chronic cough, fever, chest pain and hemoptysis. Some patients are asymptomatic. We present an interesting case of lung actinomycosis mimicking a fungal ball and highlight the importance of being aware of this very rare and unusual manifestation of lung actinomycosis.

**Case Report:** We report a case of a 34-year-old man who was initially treated as community acquired pneumonia following a 3-month-history of productive cough, loss of weight and loss of appetite. However, 3 months after discharged from the hospital, he presented again with worsening respiratory symptoms and radiological evidence of a lung cavitation with intracavitary lesion resembling an aspergilloma associated with surrounding consolidation. Unfortunately he remained symptomatic despite on antifungal therapy. The repeat CT demonstrated persistent cavitating lesion with development of necrotizing pneumonia. He underwent lobectomy and the histopathological analysis of the resected specimen however revealed the diagnosis of actinomycosis

**Conclusion:** This case illustrates the importance of having a list of differential diagnoses, including rare diseases in treating cavitating lung lesion. Cardiothoracic intervention is essential in treating necrotizing pneumonia which has failed medical therapy. Multidisciplinary approach is crucial in deciding the best course for patient's management.

## PULMONARY ACTINOMYCOSIS MASQUERADING AS LUNG CANCER: A CASE REPORT

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*Actinomyces spp.* are higher prokaryotic bacteria belonging to the family Actinomyceataceae. Actinomycosis usually occurs in immunocompromised patients or patients with poor oral hygiene leading to cervicofacial infection. Pulmonary actinomycosis is a rare yet important and challenging diagnosis to make. It is commonly confused with other lung diseases such as tuberculosis or lung malignancy, leading to delay diagnosis or misdiagnosis. Here, we reported a case of pulmonary actinomycosis masquerading as lung cancer.

A 49 year-old man presented with one month history of cough, hemoptysis, and left-sided chest pain. There was no anorexia or weight loss noted. He was a chronic smoker and owned a dairy farm. He suffered from recurrent gingivitis for the past 2 years with no proper dental follow-up. Physical examination showed no cervical lymphadenopathy but reduced breath sound over the left lung field with stony dullness on percussion. There was presence of gingivitis. Chest radiography (CXR) showed left-sided pleural effusion with suspicious mass over the left upper lobe. Computed tomography (CT) showed a mass over the left lower zone with satellite lesion over the left upper zone, and left basal loculated effusion, which were highly suspicious of malignancy. However, cytology of sputum and transbronchial biopsy were negative for malignant cells. Samples were negative for bacterial, tuberculous or fungal infection from the repeated sputum cultural results. CT-guided biopsy was done and pathological examination demonstrated extensive area of necrosis with neutrophilic infiltrations, reactive interstitial fibrosis, and clusters of *Actinomyces* were observed. He was diagnosed with pulmonary actinomycosis and started on intravenous penicillin for 6 weeks duration. His clinical condition and CXR improved significantly with treatment and was discharged with oral penicillin.

Pulmonary actinomycosis is an important differential when investigating patients for persistent pulmonary shadowing. An early, accurate diagnosis will ensure proper treatment, and thus, preventing considerable psychological and physical morbidity.



## SUCCESSFUL INTRAPLEURAL STREPTOKINASE TREATMENT FOR TUBERCULOUS FIBROTHORAX : A UKMMC EXPERIENCE

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Pulmonary tuberculosis has well known to be associated with thin wall cavity and effusion. Tuberculosis presenting as a fibrothorax is a rare occurrence. Intrapleural instillation of fibrinolytic agent has been favourable for pleural infection in a few small studies in 1990s but recent contradicting data were shown among two major trial / analysis (MIST<sup>1</sup> vs Nie W<sup>2</sup>). None was specified on fibrothorax. The following case illustrates impressive medical therapy alone of a complicated tuberculous pleural infection, obviating the need for surgical decortication.

### Case Report

A 37-year-old man came to us with acute breathlessness associated left sided pleuritic chest pain and weight loss. There was intermittent fever of 5-day duration. Clinically noted massive left pleural effusion, requiring venturi-mask oxygen support (not requiring noninvasive ventilation). Urgent pleuroscopy was performed with 500 mls pleural fluid drained. However, noted loculation with thick fibrin walls throughout pleural space. 250,000 IU of streptokinase was administered intrapleurally 12 hourly for 3 days, with concurrent chest tube drainage and provisions of broad-spectrum intravenous antibiotic and anti-tuberculous agents. No adverse reactions observed. A month later, fibrothorax subsided completely during repeated bronchoscopy.

### Discussion

Streptokinase dissolves fibrous network via plasmin activation. Major indications include failed chest tube evacuation and as an adjunctive to evade the risks of invasive modality later. Ease of cost and availability also facilitate the streptokinase as a reasonable option in district's encounter of such complicated pleural infection.

1. MIST. (2005)

Nie W. (meta-analysis, 2013)

## A GIANT SOLITARY FIBROUS TUMOR OF THE PLEURA PRESENTING WITH HYPOGLYCAEMIA

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**Introduction:** Solitary fibrous tumor of the pleura (SFTP) is an uncommon primary pleural neoplasm. These tumors are usually asymptomatic. Majority of these neoplasms are benign and surgical excision provides excellent results.

**Objective:** We report a patient who had a giant solitary fibrous tumor of the pleura which remained silent clinically till it assumed gigantic proportions and presented with paraneoplastic syndrome of hypoglycaemia.

**Results:** A 59 year old gentleman presented with recurrent episodes of hypoglycaemia, breathlessness and reduced effort tolerance. His chest radiograph and contrast enhanced computed tomography of the thorax showed a large lobulated mass occupying the left hemithorax. An ultrasound guided trucut biopsy revealed a cellular but benign spindle cell neoplasm. The patient was subjected for complete resection of the mass. Gross examination revealed an encapsulated solid tumor with nodular surface measuring 22 x 13 x 11cm. Microscopic examination showed proliferation of spindle shaped cells haphazardly arranged in a vascular collagenized background. Occasional foci of mitosis was seen with Ki-67 proliferative index of 2 -3 %. Immunohistochemistry revealed positivity for vimentin, CD 34, CD99 and BcL-2. This confirmed the diagnosis of a benign solitary fibrous tumor of the pleura. Postoperatively, his glycemic profile and thoracic symptoms improved.

**Conclusion:** This case is notable for the purpose of rarity of these neoplasms. Recognition of this rare tumor is imperative given the benefits of removal, especially in those presenting with paraneoplastic symptoms.

## CASE SERIES ON TB MIMICS

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We report 3 cases of tuberculosis (TB) mimics. Patients presented with constitutional symptoms - cough, fever and weight loss. One patient had dysphagia. Our first patient was a 49-year-old male who was treated as smear negative TB, but did not improve. Extensive investigations including a Computed Tomography (CT) scan revealed splenic abscesses and adrenal masses. Adrenal biopsy and marrow aspirate excluded cancer. Serial sputum Acid Fast Bacilli (AFB) and HIV tests were negative. Sputum culture revealed atypical *Mycobacterium*. Laryngoscopy suggested a granulomatous lesion. Repeated biopsies of the vocal cord and upper oesophageal sphincter and plasma antigen tests were positive for histoplasmosis. He received intravenous Amphotericin B for 10 days followed by oral itraconazole for 1 year. Our second case was a 63-year-old male, an ex-smoker with diabetes and normocytic normochromic anaemia. He was empirically treated as smear negative TB due to the presence of a cavity on CXR. The bronchoscopic alveolar lavage was negative for TB. Bone marrow aspirate showed no evidence of malignancy, further immunotyping showed no evidence of lymphomatous infiltration. Antifungals were given empirically until cultures came back negative. Biopsy of the left inguinal lymph node suggested Hodgkin's Lymphoma (immunohistochemistry panel was positive for CD15 and CD30 with Reed-Sternberg variant cells). Our last case involved a 39-year-old male with recurrent empyemas. He was treated as smear positive TB but serial sputum culture was negative for *Mycobacterium Tuberculosis Complex* (MTC). Despite completing 6-months of anti-TB, his symptoms recurred and repeated CT thorax showed a persistent empyema. His blood culture was positive for *Pseudomonas*, which was treated adequately. Pleural fluid culture was negative. He was referred to the cardio-thoracic surgeons for decortication. The tissue culture revealed *Nocardia* species, which was sensitive to Bactrim. His condition improved with Bactrim.

## DISSEMINATED HISTOPLASMOSIS MIMICKING TUBERCULOSIS IN AN IMMUNOCOMPETENT INDIVIDUAL.

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Histoplasmosis is a chronic granulomatous, systemic fungal disease that is endemic in some regions globally. Although it can cause severe infections in the immunocompromised, relatively small cases have been reported in the immunocompetent. We report a previously fit and well, 49-year-old male who presented with symptoms and chest x-ray findings suggesting tuberculosis (TB)- prolonged cough, weight loss, dysphagia and hoarseness of voice, hence commenced on anti-TB. Clinical examination revealed a cachectic individual with otherwise normal systemic examinations. Despite completing the intensive phase, he did not improve. Oesophago-duodenoscopy showed a gastric ulcer (negative for malignancy). Computed Tomography (CT) scan showed an incidental finding of pulmonary embolism (PE), splenomegaly with micro-abscesses and also bilateral adrenal masses. Septic work up, tumour markers, HIV test and serial sputum Acid Fast Bacilli (AFB) were negative. Sputum culture revealed atypical *Mycobacterium*. Bone marrow aspirate was negative for malignancy and adrenal biopsy was inconclusive. Laryngoscopy was suggestive of granulomatous lesion. Anticoagulation for the PE was commenced. In view of persistent symptoms despite treatment and negative microbiology, his anti-TB was withheld. Repeated biopsies of the vocal cord and upper oesophageal sphincter and plasma antigen test were positive for histoplasmosis. Oral itraconazole was started, but changed to intravenous Amphotericin B, as he did not improve. Oral itraconazole was resumed following that for 1 year with good response- weight gain, dysphagia and hoarseness of voice improved. He unfortunately developed hypocortisolism from adrenal involvement requiring long-term oral steroid. We conclude that in patients with poor response to anti-TB medications, thorough investigations should be performed to look for other causes that mimic this appearance. This case particularly reinforces this statement.

## INTRAPLEURAL STREPTOKINASE AS A FIBRINOLYTIC IN PARAPNEUMONIC EFFUSIONS

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Parapneumonic effusions are common, which if not treated properly can lead to serious morbidity and mortality. They can present multi-loculated, making drainage, if indicated, difficult. A Cochrane systematic review in 2008 reported significant benefits of intra-pleural streptokinase as fibrinolytics; compared to normal saline alone. It was however unable to recommend its routine use, as the trial numbers from four RCTs included were too small. We report our experience in using intrapleural streptokinase for complicated parapneumonic effusions. Five patients with multi-loculated pleural effusion were selected. The presence of multi-loculated effusion was initially detected via bedside ultrasound, further confirmed via formal ultrasound, followed by insertion of a pigtail chest tube. Broad-spectrum antibiotics were started. The chest tubes were initially flushed with 20 mls of normal saline regularly (3-4 times/day) for a period of 3-5 days. The amount of pleural fluid drained after normal saline flushes were variable but generally less than 100 ml/day. The CXRs did not show significant improvement. Intra-pleural streptokinase was then instilled at the dosage of either 2.5 or 1.5 megaunits. Chest tubes were then clamped for 3 hours. The amount of pleural fluid drained post streptokinase increased significantly to more than 200 ml/day on average. CXRs showed either minimal or complete resolution of pleural effusion. Inflammatory markers also normalized. One patient grew *Klebsiella pneumonia* from the pleural fluid; the others had negative pleural fluid culture. One patient had positive multi-resistant organism (MRO) *Acinetobacter baumannii* and one *Pseudomonas aeruginosa* from the sputum. One patient was treated as smear-negative TB. Minimal, self-limiting haemoptysis post streptokinase was reported in one patient with no decrease in haemoglobin level. Overall we conclude that in our limited experience of intra-pleural streptokinase use in multi-loculated effusion, we found that it was efficacious and is relatively safe.

## PRIMARY PULMONARY PRIMITIVE NEUROECTODERMAL TUMOUR (PNET) IN A YOUNG ADULT LADY WITH PULMONARY TUBERCULOSIS (PTB)

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Presented here a rare case of highly aggressive thoracic PNET diagnosed in a 22-year-old Malay lady with underlying smear positive PTB. She was an active smoker and methamphetamine user under imprisonment with daily medications supervised. She complained of worsening right-sided chest pain, shortness of breath and haemoptysis during her maintenance phase of anti-tuberculosis. Initial investigations demonstrated sputum conversion for her PTB which initial culture was sensitive to standard anti-tuberculosis. Due to her grossly abnormal chest X-ray, a CT scan was carried out and it revealed a massive right-sided pleural effusion with a huge lobulated heterogeneously enhancing mass at mediastinum invading the right main bronchus causing the right lung to collapse. More than 1700mls of haemorrhagic pleural fluid was drained following an intercostal chest tube insertion. Inpatient flexible bronchoscopy showed an irregular growth from right main bronchus less than 2cm from carina with inconclusive results from endobronchial brushing and washing. A subsequent rigid bronchoscopy was arranged and the biopsy demonstrated characteristic small-blue-round-cell tumour with rosettes formation. On the immunohistochemical study the tumour cells stained strongly for FLI-1 and CD99 with Ki-67 40%, negative for epithelial, lymphoma and melanoma markers. Illustrated here a rare case of pulmonary PNET in a young adult lady with PTB, which is known to be rapidly progressive with poor outcome and a male predominance, often requires multimodality approach in its management (M Gachechiladze 2014). To the best of our knowledge, this is the first case report of thoracic PNET with PTB.



## A RARE RESPIRATORY INFECTION IN PERSISTENT OXYGEN DEPENDENT PRETERM NEWBORN

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### Introduction:

The World Health Organization estimated 15 000 million babies are being born preterm yearly. The incidence of Bronchopulmonary Dysplasia ( BPD ) varies widely among different centers. Many preterm babies ended up diagnosed as BPD due to prolong oxygen dependency. But there are some respiratory tract infections can mimic as BPD.

### Case History:

This is a 2-month-old preterm baby boy born at 33weeks with birth weight of 1.95kg who had mild Respiratory Distress Syndrome at birth and required Positive End Expiratory Pressure ( PEEP ) but does not required surfactant. However, he had nosocomial pneumonia at 1-week-old and required higher PEEP support with oxygen supplementation. Subsequently, he became oxygen dependent and had persistent baseline tachypnea with recessions. Radiologically, showed persistent right upper lobe consolidations. Flexible bronchoscopy was done and revealed normal airway anatomy with evidence of infection over the right side of bronchi. Bronchial Alveolar Lavage (BAL) was positive for Cytomegalovirus (CMV) Polymerase Chain Reaction. Thus, patient was treated as CMV pneumonitis and started on intravenous Ganciclovir. After 2weeks of Ganciclovir, recession and respiratory distress improved and oxygen was able to wean off. The BAL result that repeated at 4<sup>th</sup> week of treatment showed negative finding.

### Conclusion:

The atypical presentation of BPD and the persistent respiratory distress warrants ruling of respiratory infection such as CMV. A definite diagnosis and treatment will significantly alter the morbidity and the cost of therapy.

## LUNG CANCER IN PATIENT WITH CHRONIC MYELOID LEUKAEMIA

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### Introduction:

The association of adenocarcinoma of lung and chronic myeloid leukemia (CML) is very rare. We report a case of adenocarcinoma of lung associated with CML that presented with pericardial effusion.

### Case report:

Ms RA, 48 years old female with underlying CML, diagnosed in 2007 with BCR-ABL positive treated with Imatinib. She initially presented to us with reduced effort tolerance and gradual shortness of breath since July 2015. She had progressively worsening dyspnea and reduced effort tolerance as well as intermittent cough since February 2016. She denied other respiratory symptoms and no failure symptoms. On examination, she is pink, not in respiratory distress. Her vital sign was stable, BP 110/56, PR 101, afebrile. Lungs were clear. Per abdomen was soft, nontender, presence of hepatosplenomegaly. No lymphadenopathy. Cardiovascular system, s1s2, no murmur heard. Noted chest x-ray had cardiomegaly and echocardiography showed massive pericardial effusion which was then proceed with pericardiocentesis that drained out haemorrhagic effusion. CT thorax showed centrally located right middle lobe lung lesion with collapse consolidation, multiple liver lesions and mediastinal nodes. She was then proceed with EBUS and HPE confirm presence of adenocarcinoma of lung with EGFR mutation deletion on exon 19.

## ALVEOLAR SOFT PART SARCOMA OF THE MEDIASTINUM AND ANTERIOR CHEST WALL: A CASE REPORT

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Alveolar soft – part sarcoma (ASPS) is seen typically in young patients. Often it is associated with late metastasis and poor prognosis. This case report is ASPS involving the mediastinum and anterior chest wall. A 14 years old girl presented with a one-month history of a painless, enlarging lump at the right anterior chest wall. Contrast-Enhanced Computer Tomography Thorax showed a right anterior mediastinal lesion with right anterior chest wall invasion, measuring 6.0cm x 5.6cm x 6.8 cm. Histopathological examination (HPE) from trucut biopsy confirmed ASPS. Pre-operative staging included a Positron Emission Tomography scan, which revealed fluorodeoxyglucose hypermetabolism at the anterior mediastinum mass, extending to the right anterior chest wall through the second intercostal space. Magnetic Resonance Imaging (MRI) brain showed no evidence of metastasis, and cardiac MRI showed that the anterior mediastinal mass abutting the superior vena cava and right atrium, with a thin plane of demarcation. Pre-operative lung function test revealed FEV1:1.85L (84% predicted) and FVC: 2.01 (78% predicted). To achieve optimal cosmesis result, the planning of incision placement is important. The approach is via submammary incision with chest wall resection, pericardial resection and phrenic nerve division. Breast tissue spared. Cosmetic reconstruction was carried out using bony cement sandwiched between prolene mesh. Histologically it supports ASPS with clear margin resections. Following surgery the patient underwent adjuvant radiotherapy. 6 months post-operative, she was well with no evidence of tumour recurrence on chest radiograph. Conclusion, we described a case of stage 1 ASPS involving the mediastinum and right anterior chest wall in an adolescent, successfully treated with surgical resection and adjuvant radiotherapy. Reference: Casanova et al. alveolar soft part sarcoma in children and adolescents: A report from the Soft Tissue Sarcoma Italian Cooperative Group. Ann Oncol.2000;11:1445-1449

## PRIMARY LUNG LEIOMYOMA: A CASE REPORT OF RARE TUMOR AND BRONCHOPLASTY RESECTION

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A case of primary lung leiomyoma is presented because of the rarity and difference in radiological investigation and histopathology findings. 21 years old female, previously well, presented with a month long fever and consolidation on chest x-ray with multiple episodes of hemoptysis. Contrasted CT revealed solid right lower lobe lung mass (suspicious of neoplastic process) with extension into right main bronchus measuring 12.4 cm (width) x 6.4 cm (AP) x 5.7 cm (height). Bronchoscopy showed large mass lesion, necrotic looking in right bronchus intermedius, protruding pass right upper lobe. Biopsy result was mainly necrotic tissue, no malignancy seen. PET scan showed hypermetabolic lung mass in right lower lobe extending into right main bronchus with SUVmax 9.0. CT guided biopsy result differential are carcinoid tumor and thymoma. She underwent right VATS, right thoracotomy, lower middle and lower lobectomy and bronchoplastic construction of right upper lobe. Station IV, VII, X, XI lymph nodes histopathology reported as no malignancy. Right lower lobe lung mass HPE reported as benign mesenchymal tumor, histological and immunohistochemical findings are in keeping with leiomyoma with staining diffusely positive for Vimentin and focally positive towards Smooth Muscle Actin and Desmin. Leiomyoma of the respiratory tract is the rarest type of benign pulmonary neoplasm and accounts for less than 2% of benign tumors of the lower respiratory tract. Chest radiography usually shows an ovoid, well defined mass lesion. Immunohistochemical examination for actins for smooth muscle makes it possible to differentiate leiomyoma from other spindle cell tumors. Several factors regulate the high FDG uptake e.g. hormonal dependency, cellularity, vascularity and tumor cell proliferation (Kitajima K 2010). In conclusion, higher uptake on PET scan is most likely due to hormonal regulation and prognosis is favorable if complete resection achieved.

## RASMUSSEN ANEURYSM: A BLOODY SEQUALAE

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Haemoptysis is a common presenting complaint in some respiratory related conditions. A common assumption is to attribute recurrent haemoptysis to reactivation of tuberculosis infection or exacerbation of bronchiectasis post tuberculosis infection.

We present a case of recurrent haemoptysis in a 21-year-old male who has been treated for smear negative pulmonary tuberculosis. Repeated investigations were carried out to exclude reactivation of pulmonary tuberculosis but to no avail. Lo and behold, a computer tomography scan of the thorax confirmed the diagnosis of Rasmussen aneurysm. It is an uncommon condition with a prevalence rate of 5% occurring in patients with cavitary tuberculosis disease. It refers to an aneurysm of the small to medium sized pulmonary artery or the bronchial artery branches that develop within the vicinity of a tuberculous cavity. Bronchial artery embolization is the preferred modality of treatment for recurrent haemoptysis prior to a surgical lobectomy.

**Conclusion:** Recurrent haemoptysis secondary to an underlying Rasmussen aneurysm often becomes a forgotten entity in the investigation and management of haemoptysis patient. It is undoubtedly crucial for clinicians to be aware of this potentially life threatening condition when dealing with patients with recurrent haemoptysis especially in those who have had a past history of tuberculosis.

## LANGERHANS CELL HISTIOCYTOSIS PRESENTING WITH BILATERAL PNEUMOTHORACES

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### Introduction:

Langerhans cell histiocytosis (LCH) is a rare disorder. Of 40 children diagnosed with LCH in Hospital Kuala Lumpur, only 3 patients had lung involvement at diagnosis. This is the only patient who presented with bilateral pneumothoraces.

### Case Report:

A 1 year old boy was admitted due to cough for 3 weeks and shortness of breath for 3 days. Despite two courses of oral antibiotics previously, his cough persisted. He was intubated at presentation due to severe respiratory distress. Chest x-ray showed bilateral tension pneumothoraces with diffuse cystic lung changes. Bilateral chest tubes were inserted soon after admission. Careful clinical examination showed purpuric skin rashes on the face and scalp, which were present since 5 months old, but were not investigated then. The liver and spleen were 4.5cm & 1.5cm palpable. There were no ear discharges. Electrolytes were normal. Skeletal survey was also normal. Bone marrow aspirates showed no marrow infiltration. Skin biopsy and subsequently lung biopsy confirmed the diagnosis of LCH. Induction chemotherapy was started with oral Prednisolone and iv Vinblastine based on the results of the LCH II and LCH III trials. Due to severe bilateral pneumothoraces requiring high ventilator settings, right thoracotomy, debridement and pleurodesis were performed under general anaesthesia, followed by the left. A further three bedside pleurodesis were subsequently performed. He was successfully weaned off ventilator after 71 days and weaned off oxygen after 106 days. Chest tubes were successfully removed after 115 days.

### Conclusion:

LCH should be considered in the differential diagnosis of a child presenting with diffuse cystic lung disease with pneumothorax.

## INTRATHORACIC MALIGNANT MELANOMA

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Malignant melanomas are uncommon and most fatal cutaneous neoplasm. Primary malignant melanoma of the lung is quite rare. Nearly all patients with disseminated melanoma have thoracic involvement and various patterns of metastasis have been identified. We report a case of intrathoracic malignant melanoma who presented with massive right pleural effusion without obvious primary skin melanomas. Diagnostic thoracoscopy revealed scattered black spot on the pleura. HPE findings of the nodule obtained by biopsy showed malignant cells with melanin-filled cytoplasm indicative of malignant melanoma. Computerized tomography of thorax demonstrated a massive right pleural effusion, with multiple large lobulated soft tissue masses at the peripheral part of right hemithorax and concurrent metastatic nodules in the left lung. Full cutaneous examination done as well as skin biopsy failed to find for the primary.

## UNILATERAL LUNG HYPERINFLATION: WHAT COULD IT BE?

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### Introduction:

Unilateral lung hyperinflation is a common paediatric chest radiographic finding. It may result from congenital or acquired conditions involving the pulmonary parenchyma, airway, pulmonary vasculature, pleural space, and chest wall.

### Objective:

We report three cases of unilateral lung hyperinflation with different diagnoses.

### Methodology:

Case series

### Results:

#### Case 1

A 9 month-old girl presented with fever, cough, and tachypnoea for 5 days, with no witnessed choking. Physical examination revealed reduced breath sound over the left lung. Chest x-ray (CXR) showed unilateral left lung hyperinflation. Flexible bronchoscopy revealed a foreign body at the left main bronchus.

#### Case 2

A 1 month-old girl presented with breathlessness and rhinorrhoea for 3 days. She required intubation for severe respiratory distress. CXR showed left lung hyperinflation. Flexible and rigid bronchoscopy revealed distal tracheal narrowing with an obliterated left main bronchus. Computed tomography of the thorax showed left pulmonary artery sling with narrowing of the mid and distal left main bronchus. She was planned for surgical intervention but unfortunately succumbed prior to surgery.

#### Case 3

A 10 month-old girl presented with fever, cough, tachypnoea and wheezing for 1 day, without any witnessed choking episode. Physical examination revealed generalized rhonchi with reduced breath sound over the left lung. CXR showed left lung hyperinflation. Flexible and rigid bronchoscopy revealed an obliterated left main bronchus filled with secretions, which was opened up partially with positive end expiratory pressure. Her bronchoalveolar lavage sample yielded *Pseudomonas Aeruginosa*.

### Conclusion:

Since the aetiology can vary from benign to life threatening disease, an early and accurate diagnosis is needed to prevent any irreversible pulmonary damage.

## DENDRIFORM PULMONARY OSSIFICATION-RADIOLOGICAL APPROACH

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Dendriform pulmonary ossification is a rare form of diffuse pulmonary ossification (DPO). In this article, we present one patient who were incidentally found to have dendriform pulmonary ossification on chest imaging.

**Case report.** Our patient is 74 years old non-smoker, retired clerk. He has underlying Type 2 Diabetes Mellitus, Hypertension, Ischemic heart disease and End stage renal failure on regular haemodialysis. He presented with complaining of nonproductive cough for 1 year. However he denied exertional dyspnoea. He had significant loss of weight and appetite since started on dialysis. A chest radiograph revealed reticulonodular opacities in both lung fields at both lower zones with presence of biapical and bibasal pleural thickening. His pulmonary function tests showed severe restriction (FEV1-35% and FVC-30%). HRCT thorax revealed interstitial and interlobular septal thickenings involving bilateral lung with extensive tiny calcifications of bone density in subpleural parenchyma, along fissures, and along vessels and bronchi in branching pattern. He however decline lung biopsy.

**Discussion.** The dendriform type of ossification usually occurs in the setting of chronic inflammation, however, sometimes it is idiopathic. It most commonly occurs in men in their fifth and sixth decades of life. A restrictive pulmonary pattern is expected and severe in extensive disease. Dendriform pulmonary ossifications are usually invisible on chest radiographs, but HRCT scan performed shows multiple punctuate and branching lesions of bone density in the subpleural parts. Our case report shows that the diagnosis of DPO can be established by HRCT. However, transbronchial lung biopsy might be an aid in distinguishing other form of interstitial pneumonia.

## A CASE STUDY: A LARGE THYMOLIPOMA IN AN ADULT

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**Introduction and Objective:** Thymolipoma is an uncommon benign tumour arising from thymus. It consists of thymus and mature fatty tissues. It is usually asymptomatic and detected incidentally during workups for other medical conditions. We describe a 38 year old gentleman with a giant thymolipoma, who successfully underwent complete excision via median sternotomy.

**Methodology:** A case study of a successful and completely excised giant thymolipoma

**Results of study:** 38 year old gentleman, no known medical illness, initially admitted to hospital for diagnosis of dengue fever, was noted to have left lung mass. He proceeded for CT thorax with contrast. CT thorax reported as large hemithorax mass (20.5x14.3x8cm) with fat attenuation, occupying and depressing left lower lobe, causing minimal mediastinal shift without compromising airway. After recovery from dengue fever, patient is completely asymptomatic and still able to carry on his daily living and work as a farmer. He was offered surgical resection due to potential malignant transformation and its huge size. Intra-operative found large lipoma (22x18x6 cm) weight 2KG occupying 80% of left hemithorax with multiple feeding vessels from thymic fat and pericardium. There was concomitant presence of left apical bullae and bullectomy was carried out. Histopathology examination has confirmed the diagnosis of thymolipoma. Post operatively, patient recovered well and was discharged home uneventfully. Thymolipoma may present with symptoms from compressing on adjacent structure: nonproductive cough, back pain, exertional dyspnea, and a sensation of heaviness in the chest. This patient is asymptomatic and is diagnosed coincidentally via workups for Dengue's complications.

**Conclusion:** Thymolipoma is a rare benign tumor which usually asymptomatic, frequently detected incidentally via radiological scans. Surgical excision of lesion provides curative treatment and confirmation of diagnosis via histopathology examination of specimen excised.

## CONGENITAL CENTRAL HYPOVENTILATION SYNDROME (CCHS) WITH HYPERINSULINISM

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**Introduction:** CCHS is an uncommon genetic disorders. It is associated with other disorders including broad spectrum of autonomic nervous system dysfunction, seizure, ocular problem, neural crest tumours and Hirschsprung disease. Rare association includes hypoglycaemia and hyperinsulinism.

**Case:** We report a 5 month old girl who presented to us with ventilator dependent. Multiple extubation attempts were failed due to hypoxaemia and respiratory acidosis. Hypoglycaemia was first described at 6 months old. Critical sampling analysis confirmed hyperinsulinism. Carbohydrate enriched diet, oral diazoxide and hydrochlorothiazide was started after persistence of hypoglycaemia episodes.

**Conclusion:** Hypoglycaemia and hyperinsulinism are associated with CCHS although the mechanism is unclear. High index of suspicion needed to exclude the association.

## A SLEEPY CLERGYMAN

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### Introduction:

Narcolepsy is characterized by a tetrad of excessive daytime sleepiness, cataplexy, hypnagogic hallucinations and sleep paralysis. There are similarities in symptomatology of narcolepsy across different ethno-cultural backgrounds (1). However meaning given to narcolepsy and its aetiological interpretation is ethno-culturally determined (2). These factors also influence patients' reaction to the symptoms and willingness to seek medical attention. **Case presentation:** Here we present a case of narcolepsy with cataplexy experienced by a clergyman in Malaysia. He presented with debilitating sleep attack episodes while giving sermons and religious lectures. He also had few episodes of continuous uninterrupted sleep up to 3 days. He attributed these episodes as supernatural events. **Discussion:** In this case we describe a difficult-to-treat patient who doubts the diagnosis and treatment of narcolepsy despite diagnosis by multiple sleep latency test and polysomnography study. This highlights the vital role of understanding local ethno-cultural backgrounds in the process of narcolepsy management in Malaysia.

### References

1. Clinical aspects of narcolepsy-cataplexy across ethnic groups. Okun, M L, et al. 1, 2002, Sleep, Vol. 25, pp. 27-35.
2. Cultural Variation in the Clinical Presentation of Sleep Paralysis. De Jong, Joop T. V. M. 1, 2005, Transcultural Psychiatry, Vol. 42, pp. 78-92.



## VIDEO-ASSISTED THORACOSCOPIC SURGERY (VATS) IN HIV

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### INTRODUCTION:

Interventional pulmonary procedures and minimally invasive surgeries are widely used to diagnose pulmonary pathology as these methods significantly reduce cost, length of hospitalisation and risks of complication compared to surgical diagnostic procedures. We demonstrate a case of VATS lung wedge biopsy in a HIV patient.

### CASE REPORT:

A 43 year old gentleman with HIV, presented to Chest Team with complaints of prolonged cough for a year. CT thorax showed a lung lesion at the right lower lobe. He underwent a CT guided lung biopsy which was complicated with fractured needle. He was counselled for retrieval of the fractured needle and open lung biopsy. Two weeks later he was scheduled for minimal invasive thoracic surgery via VATS.

### DISCUSSION:

VATS surgery was preferred in this case compared to conventional surgery. Risk of surgeon's exposure to HIV transmission through percutaneous injury is 0.3-0.4%. Major complications of CT guided lung biopsy such as pneumothorax and pulmonary haemorrhage which reported as high as 26.6%. Minor complications including agitation, cough, bleeding at puncture site and needle breakage are reported during the procedures.

### CONCLUSION:

Needle fracture during CT guided is rare but we should always extra caution during the procedure. VATS method is another option for open lung biopsy in HIV patients.

## THE "HEMI-CLAMSHELL" APPROACH FOR TUMOURS OF THE RIGHT HEMITHORAX

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### Introduction:

Reporting an anterior mediastinal mass in a 29-year-old man who presented with shortness of breath and right sided chest pain. CT thorax confirmed a lobulated anterior mediastinal mass with right pulmonary extension, measuring 8.9X5.6X6.2cm. The anterior approach proposed for treatment of the apical chest tumors has precise advantages. Because of the size and location of the mass, a hemi-clamshell incision was chosen, which allowed excellent visualization and complete dissection of the tumor. This allows an opening of the sternocostal flap, with safe control of the entire subclavian vessels as well as easier access to the upper and middle lobe of right lung.

### Surgical Approach:

A median sternotomy is combined with an incision extended in Kocher's fashion to the right subcostal region. This type of incision has been designed on the right side to perform right lobectomy and mediastinal mass excision.

### Result:

Right hemi-clamshell incision provides the optimal exposure of hilar and mediastinal vascular structures. Besides, it allows good access to the right lung and gives a free resection margin of tumour.

### Conclusion:

The Hemi-Clamshell approach is fast and convenient, and allows good visualization to mediastinal organs without compromising surgical outcome.

## CASE REPORT: PULMONARY KAPOSI'S SARCOMA IN A PATIENT WITH HIV AND PULMONARY TUBERCULOSIS

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We report a patient who has HIV and pulmonary Tuberculosis, and deteriorated while on HAART and anti-TB medications. Bronchoscopy revealed violaceous patches in the bronchus, suggesting a diagnosis of pulmonary Kaposi's Sarcoma (KS). He was then found to have several small violaceous patches over in anterior chest, and skin biopsy confirmed KS. In this case report, the patient's case records, radiographic and bronchoscopy findings were collected, analyzed and presented. Events of the case is compared with current understanding in pulmonary KS and discussed.

This case highlights the importance of considering pulmonary KS as part of the differential in a HIV patient with pulmonary disease, even when its incidence have fallen dramatically with the introduction of HAART in the late 1990s. It shows that it may still occur in a HIV patients treated with HAART and has a fair CD4 count of 408 cells/ $\mu$ L. It also reminds us that it may occur in patients without readily apparent mucocutaneous manifestation of the disease.

Other learning points include the important role of bronchoscopy in the diagnosis of pulmonary KS. Bronchoscopy should also be considered in the workup of a patient deteriorating on anti-TB to look for alternative diagnoses. In addition, it is important to remember that the administration of steroids has been known to worsen pulmonary KS. Steroids is often used in the treatment of pneumocystis jiroveci pneumonia, which is a common consideration in a HIV patient with pulmonary disease.

In summary, we present a case of pulmonary KS, a once common but now rare disease. We also present the diagnostic challenges when it occurs in association with pulmonary tuberculosis. A high index of suspicion cannot be over-emphasized

## ESOPHAGEAL LUNG-A RARE DISEASE

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### Introduction:

Esophageal lung is a rare bronchopulmonary foregut malformation which usually present in early neonatal age. It is characterized by a fistula between an isolated portion of respiratory tissue and esophagus.

### Case Report:

We report a case of a 5 month old, term baby who presented with persistent tachypnea since birth. She has baseline tachypnea with reduced breath sound on the right lung. A barium study confirms the diagnosis of right esophageal lung. She underwent right thoracotomy and right lower lobe lobectomy with ping pong ball plombage.

### Conclusion:

Albeit rare, esophageal lung needs to be considered as one of the causes of persistent tachypnea in infancy.



## RECURRENT GIANT PNEUMATOCELE IN A PATIENT WITH JOB'S SYNDROME

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### Introduction

The Job's Syndrome (Hyper-IgE Syndrome) is clinically characterized with recurrent staphylococcal infections of the skin, subcutaneous tissue, upper respiratory tract, lung and bone in early childhood. Characterized by highly elevated serum IgE levels. Hereby we are reporting a patient whom had multiple thoracotomy and decortication for infected pneumatocele and excision of infected bullae since the age of 1 year old.

The purpose of this case study is to discuss regarding decision for surgery and medical treatment as this child has already underwent multiple surgeries as well as their pro and cons in giving this child the best possible management.

### Methods

Data and history were obtained from patient's files and history from parents. Previous CT scans and CXR were obtained from record office and Paediatric respiratory clinic.

### Summary of new and unpublished data

Recurrent pneumatocele is current being managed either by surgical method that is by excision of the pneumatocele or thoracostomy to drain the cavity. While medical management will be by chest tube insertion with or without irrigation with antibiotic solution. Latest advances are using fibrin sealant injected into cavity using pigtail

### Conclusion

As for this child, he still has a giant left pneumatocele with mediastinal shift. However he is active and well. Discussion between surgeon and physician are divided in terms of the child going for another surgery in order to avoid tension or infected pneumatocele.

### Reference

Seval Eren; Hyperimmunoglobulin E (Job's) Syndrome: A Rare Cause of Recurrent Pneumatocele, Lung Abscess and Empyema in Childhood  
Batuhan Sacılanates; Giant bullae of the lung treated successfully by surgery in a patient with Hyper-IgE Syndrome (Job's)

## MEDIASTINAL TUBERCULOSIS LYMPHADENITIS PRESENTING WITH DYSPHAGIA

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**Introduction:** Tuberculosis remains a high burden disease in Malaysia, and is associated with significant morbidity and mortality. It has been called the great mimicker due to the diverse presentation of symptoms. Tuberculous lymphadenitis is a common form of extrapulmonary tuberculosis which commonly affects the cervical lymph nodes. We report two cases of mediastinal tuberculous lymphadenitis presenting with dysphagia.

**Case 1:** A 37-year-old lady, with background history of thyrotoxicosis on treatment presented with dysphagia associated with intermittent nocturnal fever for 2 weeks. Physical examination revealed cervical lymph nodes with Mantoux reading of 15 mm. The histopathology revealed chronic granulomatous changes. We proceeded with computerised tomography (CT) thorax which showed matted enlarged mediastinal lymph nodes with necrotic centre. We did not proceed to biopsy the mediastinal lymph nodes. She was commenced on anti-tuberculosis treatment and the dysphagia resolved after 2 weeks of treatment, and the treatment was continued for a total of 6 months.

**Case 2:** A 38-year-old lady with underlying thalassemia trait presented to the gastroenterologist with dysphagia for 2 weeks, associated with retrosternal chest pain. Physical examination was unremarkable. An oesophagogastroduodenoscopy (OGDS) was performed and revealed an extrinsic compression at the mid-esophagus 25 cm from the incisor. Computer tomography of the thorax showed a hypodense lesion with rim-enhancing wall located in the subcarinal measuring 1.7 x 2.3 x 2.7 cm. She went on to have a bronchoscopy with a FNAC of the subcarina lymph node. The yield was negative for tuberculosis. The mantoux test was 20mm. The patient was then commenced on empirical treatment of anti-tuberculosis drugs. Her symptoms of dysphagia resolved after 2 weeks of treatment. A follow-up CT scan thorax showed decrease in the size of the lesion. (1.0 x 0.7 x 1.3 cm.)

**Conclusion:** Extrapulmonary tuberculosis while commonly affecting cervical lymph nodes can also affect mediastinal lymph nodes. Patients who have these may present either with a combination of dysphagia and constitutional symptoms or dysphagia alone as the main symptom.

## AN INCIDENTAL FINDING OF ENDOTRACHEAL SYNOVIAL SARCOMA IN A PATIENT PRESENTING WITH ASTHMA-LIKE SYMPTOMS

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**Introduction:** Synovial sarcoma (SS) is a destructive, atypical tumour originating from mesenchymal tissue. It accounts for approximately 5-10% of all soft tissue sarcomas, and is more infrequent as a lung primary as well as younger patients. We report a rare case of primary endotracheal synovial sarcoma in a 53-year-old man presenting with asthma-like symptoms who responded well to radiotherapy.

**Case Report:** A 53-year-old man presented with an 8-month history of intermittent shortness of breath. There was no significant family history of asthma or atopy. Physical examination was normal. There was evidence of airway obstruction from the spirometry of FEV<sub>1</sub> 0.66L FVC 1.73L FEV<sub>1</sub>/FVC 38% with reversibility of 23%. He was treated symptomatically with ICS/LABA and showed some improvement in symptoms. We proceeded with a high-resolution computed tomography (HRCT) of the thorax which revealed a pedunculated endotracheal mass. This was confirmed by the bronchoscopy examination and a tissue biopsy was performed. The histopathology examination showed epithelioid morphology and the immunohistochemical studies showed tumour cells diffusely positive to CD99 and focally positive to Cytokeratin and S100 which is consistent with the diagnosis of synovial sarcoma. The patient underwent radiotherapy treatment for a total of 8 weeks. Repeated bronchoscopy and CT thorax showed reduction of the tumour size of 85%. A repeated spirometry also showed improvement in the level of airway obstruction with FEV<sub>1</sub> 2.31L FVC 2.88L FEV<sub>1</sub>/FVC 80% post treatment. He is currently well and under our clinic follow-up for 6 months.

**Conclusion:** To our knowledge this is the 4th reported case of synovial sarcoma of the endobronchial tree. The mainstay of treatment for soft tissue sarcoma is surgical removal of the tumour. Our patient showed a marked improvement in both symptoms and size of the lesion with radiotherapy treatment.

## CHORIOCARCINOMA WITH LUNG METASTASIS

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Choriocarcinoma is a rare malignancy of the trophoblastic cells which can metastasize to the lungs. This is a case of a 37 year old Malay lady, who was diagnosed with choriocarcinoma with lung metastasis.

Patient was initially diagnosed as molar pregnancy in 2002 and has completed 3 cycles of Methotrexate and 7 cycles of EMACO. Her obstetric history revealed a miscarriage (2003) and 2 children delivered via C-section (2005 and 2009). In 2011, she presented with dysfunctional uterine bleeding of which she was diagnosed as uterine fibroid and was treated with oral contraceptive pills. In March 2012, she then had amenorrhea and was suggested for myomectomy. However, she opted for conservative management and was started on dydrogesterone.

In April 2012, she had a raised b-hCG (19,002 IU) and subsequently did a total abdominal hysterectomy in May 2012 which confirms trophoblastic tumour. Subsequent follow up by transabdominal ultrasound noted no recurrence of disease with serial b-hCG persistently <2 IU. 2 years later, her b-hCG had increased to 12.1 IU and repeated transabdominal ultrasound showed a cystic lesion measuring 3x3 cm. However, she remains asymptomatic with static b-hCG levels and static size of the cystic lesion on serial ultrasound. Unfortunately, from August 2015 her b-hCG levels started to increase in trend. A Contrasted CT TAP done showed a large left lung lesion at left lower lobe (7.7x9.7x8.3cm) and histopathology from the CT guided lung biopsy confirmed it as metastatic trophoblastic choriocarcinoma. She was then subsequently referred to oncology for further management.

This case highlight that lung metastasis can occur without local recurrences in choriocarcinoma and should be suspected early if the b-hCG is increasing in trend.

## HODGKIN'S LYMPHOMA DIAGNOSED VIA TRACHEAL BIOPSY VIA BRONCHOSCOPY PERFORMED UNDER CONSCIOUS-SEDATION

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**Introduction:** Hodgkin's lymphoma commonly presents as a mediastinal mass but it rarely invades or compresses the mediastinal structures. We report a case of Hodgkin's lymphoma presenting with cervical as well as mediastinal lymphadenopathy whose diagnosis was delayed as the fine needle aspiration cytology (FNAC) from the cervical lymph node was inconclusive.

**Case report.**

A 33-year old woman presented with mild cough, loss of weight and loss of appetite and fever. On examination there was cervical lymph node enlargement. Chest radiograph revealed an enlarged right hilar with clear lung fields. Mantoux test was negative. She was treated empirically as tuberculous lymphadenitis and simultaneously a FNAC was arranged. Reviewed at one month showed significant enlargement of the lymph nodes and continued loss of weight and loss of appetite. An appointed computer tomography of the thorax revealed extensive lymphadenopathy involving neck, supraclavicular, mediastinum and abdominal region with evidence of right lung consolidation and multiple lung nodules in both lungs. Her FNAC only revealed large atypical lymphoid cells. Hence, a repeat biopsy of the left posterior cervical lymph node was done.

She subsequently presented with right-sided exudative pleural effusion. We proceeded with a bronchoscopy which revealed nodular lesions at the lower tracheal region with stenotic right bronchus intermedius. Left main bronchus showed nodular surface with minimal vessels observed under narrow-band imaging (NBI) examination. The lower tracheal biopsies were performed and this revealed malignant lymphoid cells positive to PAX-5, CD 30, and CD 15 and negative for CD 3 and CD 20. This was consistent with classical Hodgkin's lymphoma. Similar results were obtained for her earlier left posterior cervical lymph node excision biopsy. We repeated a bronchoscopy after steroid induction by haematology team to ensure infection clearance and this revealed similar nodular lesion at the trachea but right airways had opened up, showing nodular lesions all over proximal large airways (BMB, proximal RUL, proximal right bronchus intermedius). The bronchoalveolar lavage was negative for tuberculosis or other superimposed opportunistic infection.

Cervical lymphadenopathy is a common manifestation of extrapulmonary tuberculosis. However our case highlights the importance of tissue diagnosis in empirical treatment of tuberculosis as well as airway inspection in a patient with a large mediastinal mass. Despite minimal symptoms of cough, the inspection revealed tracheal infiltration and biopsy revealed a diagnosis of Hodgkin's Lymphoma leading to the correct treatment path for the patient.