LUNG
FOUNDATION
OF MALAYSIA

25th anniversary
MALAYSIAN THORACIC SOCIETY
Advancing Thoracic Medicine in Malaysia for 25 years

ANNUAL CONGRESS OF

PERTUBUHAN TORASIK MALAYSIA

MALAYSIAN THORACIC SOCIETY

22nd – 24th JULY 2011

SHANGRI-LA HOTEL
Kuala Lumpur
Malaysia

Souvenir Programme & Abstract Book

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MALAYSIAN THORACIC SOCIETY
OFFICE BEARERS 2009 – 2011

President	Assoc Prof Dr Roslina Abdul Manap
Vice-President	Assoc Prof Dr Pang Yong Kek
Hon Secretary	Assoc Prof Dr Fauzi M Anshar
Hon Assistant Secretary	Assoc Prof Dr How Soon Hin
Hon Treasurer	Assoc Prof Dr Jessie de Bruyne
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	Dr Hooi Lai Ngoh
	Prof Dr Liam Chong Kin
	Dr Norhaya Mohd Razali
	Assoc Prof Dr Tengku Saifudin Tengku Ismail

MTS ANNUAL CONGRESS
ORGANISING COMMITTEE 2011

Advisors	Assoc Prof Dr Roslina Abdul Manap
	Prof Dr Liam Chong Kin
Organising Chairperson	Assoc Prof Dr Fauzi Md Anshar
Scientific Committee	Assoc Prof Dr Pang Yong Kek *(Chairperson – Adult programme)*
	Dr Patrick Chan Wai Kiong *(Co-Chairperson – Paediatric programme)*
	Dr Hooi Lai Ngoh
	Assoc Prof Dr How Soon Hin
Secretary	Assoc Prof Dr Fauzi Md Anshar
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	Dr Norhaya Mohd Razali
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MESSAGE FROM THE PRESIDENT OF THE MALAYSIAN THORACIC SOCIETY

Dear colleagues and friends,

On behalf of the Organizing Committee, a warm welcome to the Annual Scientific Congress of the Malaysian Thoracic Society and The Lung Foundation Malaysia, 22nd – 24th July 2011 in Kuala Lumpur.

An excellent collection of scientific sessions has been prepared by the organizers with the needs of practicing clinicians in mind. Interactive seminars, expert plenary lectures and hot topic symposia will address practice points and common clinical dilemmas and update you on the latest scientific developments in the field. In keeping with its objectives of promoting research in the field of respiratory medicine, a highlight of the programme is the oral and poster presentation sessions which have been increased this year. In addition to annual awards for the best scientific presentations, the Society is proud to announce the inaugural MTS Travel Awards, Continuous Medical Education grants and the launching of the MTS Research Grants this year. The Society will also confer its inaugural Honorary Membership on Tan Sri Arshad Ayub of the Lung Foundation of Malaysia, at the Congress Gala Dinner.

This year also is a special occasion as it marks the 25th Anniversary of the Society. The Society was formed in late 1986; the official inauguration was graced by His Royal Highness DYMM Seri Paduka Sultan Azlan Shah of Perak Darul Ridzwan, who was also the patron of the society at the first MTS scientific meeting in June 1987. The Society has since played an important role in the field of respiratory medicine in Malaysia. Apart from organizing annual scientific congresses and regular continuing medical education (CME) activities as well as seminars and workshops in respiratory medicine, the MTS has organised two major international conferences. The Society first developed and published a set of clinical practice guidelines (CPG) on the management of adult asthma in 1996, followed by guidelines on tuberculosis, and COPD, and has organised many CME activities in almost all the states of Malaysia to disseminate the use of these management guidelines. The Society also supports and co-organizes CME meetings with industry for the benefit of its members and holds activities to raise public awareness. The MTS played a pivotal role in the formation of The Lung Foundation of Malaysia, its philanthropic arm, which was formed and registered in 2006. Over the years, the Society's membership has grown from a few doctors to nearly 200 members today, with the inclusion of allied health professionals as associate members. The MTS is also now the proud owner of the MTS office in the new Medical Academies building. Apart from these developments, respiratory medicine is indeed an exciting field to be in 2011 as the availability of new technologies has revitalized the field with exciting areas such as interventional pulmonology and sleep medicine.

Kuala Lumpur is also an extremely vibrant and culturally diverse city that promises to provide you a memorable stay. We also hope that you will initiate collaborations and network with fellow delegates. I would like to take this opportunity to thank the Organizing Committee, under the stewardship of the Organizing Chairperson, Associate Professor Dr Fauzi Anshar and Scientific Chairpersons, Associate Professor Dr Pang Yong Kek and Dr Patrick Chan. Last but not least, we extend our thanks to The Lung Foundation of Malaysia and our industry partners for their support in making this meeting possible.

Wishing you a fruitful and productive meeting.

With best wishes,

Associate Professor Dr Roslina A Manap
President
Malaysian Thoracic Society 2009-2011

MESSAGE FROM THE CHAIRMAN OF THE LUNG FOUNDATION OF MALAYSIA

On behalf of the Lung Foundation of Malaysia (LFM), I am pleased to extend a warm welcome to all delegates of the 2011 Annual Congress of the Malaysian Thoracic Society. It is indeed an honour for LFM to be once again a co-organiser of this important and prestigious event.

This year's Congress is very significant, as it coincides with the 25th Anniversary of the Malaysian Thoracic Society. The MTS has now grown into a mature professional body and regarded as the sole representative of the thoracic medicine fraternity in the country. Its role in promoting the advancement of knowledge and care in respiratory diseases in the country is well recognised. As a philanthropic arm of the MTS, the LFM is very proud of the MTS's achievements and believe that it will continue to play its role in promoting high standard and practice of respiratory medicine in Malaysia. To commemorate the occasion, a Gala Dinner will be jointly hosted by the LFM and the MTS on the 23rd July. I wish to invite all of you to join this celebration.

I would like to take this opportunity to congratulate the Organizing Committee for putting together an excellent scientific programme. The scientific programme covers a wide range of common respiratory diseases and some less common but important conditions, both in paediatric and adult. The Clinical Grand Rounds will be featured again, and would provide opportunity for the presenters to share interesting cases with the delegates in a more interactive manner. The oral and poster sessions will provide opportunity for young researchers to show-case their research work and for others to share their findings. The meeting will therefore cater for everyone's interests. Equally important, the Congress will also be the occasion for meeting old friends and making new ones.

In line with our objective of promoting research in lung diseases, the LFM will again provide awards for winners of oral and poster presentations, presented at the Congress. The awards will be presented at the Gala Dinner. Over the years, we have seen more and more quality research being presented, and I trust the quality of research will be better this year.

I hope you will have a fruitful meeting and an enjoyable stay in Kuala Lumpur.

Dato' Dr Zainudin bin Md Zin

MESSAGE FROM THE ORGANISING CHAIRMAN OF THE MTS ANNUAL CONGRESS 2011

Welcome to the MTS Annual Congress 2011. You may have noticed a slight change in the way we are naming our scientific meeting. We have dropped the numerical order of the Congress and simply put in the year. We hope the Congress will leave a lasting impression and you will remember the year you attended this meeting.

We have arranged the topics and talks that we hope will both educating and enlightening. We are trying to cater to all healthcare professionals from doctors to nurses, physiotherapists and technicians and from generalists to specialists. We have various channels for delegates to gain knowledge and insights; plenary lectures, symposia, clinical grand rounds, a debate and oral and poster free paper presentations.

I sincerely hope the meeting will provide a good platform for local talents and expertise to showcase their good work. The Congress will also provide an avenue for experts to form networks and for old friends to meet. I would like to take the opportunity to invite doctors and other healthcare professional to join our Society as ordinary and affiliate members.

I would like to thank our Congress co-organiser, the Lung Foundation of Malaysia. Together we are hosting our Congress gala dinner, which is going to be graced by His Royal Highness, the Sultan of Selangor. I would also like to thank our Platinum, Gold and Silver Congress Partners for making this meeting a success. My appreciation extends to the other many pharmaceutical and equipment companies that had lend their support.

Please enjoy the Congress in the luxurious ambiance of Shangri-La Hotel, Kuala Lumpur. I hope this year will be an especially rewarding to all delegates, both professionally and socially.

Associate Professor Dr Fauzi M Anshar

HONORARY MEMBER OF MTS
TAN SRI DATO' SERI ARSHAD AYUB

CITATION BY DATO' DR ZAINUDIN MD ZIN

Arshad Ayub was born on 15th November 1928. The eldest of five siblings, he was raised in an environment of hardship and poverty, constantly exposed to infectious diseases, not by choice but by circumstances beyond his control. Being the eldest, he had to look after his siblings, especially when his parents died one after another due to illness caused by abject poverty.

Poverty was not a barrier for Arshad to color his life and the future. Poverty had made Arshad resolved to change his fate and that of his family, especially to help and give back to his mom and dad. Arshad had never been ashamed of his background. Neither did he regard it as a setback. He accepted his roots and the modest way in which he and his family lived helped him cultivate an intrinsic sense of humility, a personal quality he carried into his adult working and family life.

Arshad had to go through a lot of hardship in his younger days. His education was interrupted by the outbreak of the Second World War and he almost dropped out of school due to an infectious disease. The Japanese occupation added more pain to Arshad's life. His beloved father died of dysentery and that forced him to drop studying to seek ways of helping his family survive. Having no professional training or education, Arshad was only able to get odd jobs. These included peddling a three wheeled trishaw, selling coconuts, carrying and selling firewood and, later, working as a laborer with the Forestry Department.

Arshad always believe that education is the main tool for the poor to advance themselves. He made use of every educational opportunity that came his way to advance and improve his position in life. 1951 was a historic year for Arshad. He began his career as an Assistant Rural Development Officer in RIDA. Later, he was sent to further his education in College of Agriculture in Serdang. In September 1954 with a scholarship in hand, he left the country by boat to pursue a Degree in Economic and Statistics at the University College of Wales, Aberystwyth. Arshad felt that this was the most important milestone in his life, to have been given a second chance to make something of himself, which he did. In 1963, Arshad was sent by the government to do a management programme in business administration at IMEDE (Management Development Institute) in Lausanne, Switzerland. Later, he also attended management courses in Harvard Institute of Educational Management Programme, and INSEAD, Fontainebleau, France.

After two years of being Principal of Maktab MARA College, Arshad was appointed as the First Director of Institute Technology MARA (ITM) now known as UiTM in 1967, and was ripe and ready to make good of his destiny. ITM was Arshad's gauntlet. He put his heart and soul into its beginnings, nurturing it with concepts and programmes then unknown and unexplored in the higher education sector. Arshad ruled with visions and made long lasting decisions that affected the lives of thousands of Bumiputras and inspired the staff regardless of ethnic background, gender, race or religion with high teaching morale, commitment and work ethics. Arshad has deservedly been given the place of honour as the 'father of development' of ITM. He not only laid the academic groundwork for several new courses and related programmes to suit a growing student population but also ensured that ITM delivered its objectives, namely, to provide professional education to as many Bumiputras as possible.

HONORARY MEMBER OF MTS
TAN SRI DATO' SERI ARSHAD AYUB

In March 1975, Arshad received a letter from the Public Services Department (PSD) stating his transfer out of ITM. His immediate appointment was as Deputy Governor of the Central Bank of Malaysia. In 1978, Arshad was promoted to the post of Secretary-General in the Ministry of Primary Industries. Subsequently, he went to the Ministry of Agriculture and in 1981, he was transferred to the Ministry of Land and Regional Development. This was the last leg of his civil service appointment.

Retirement never really set in for Arshad. Instead of fading into the sunset, he rose up again like the proverbial phoenix. Arshad sits on the Board of Directors of several public listed companies. He is currently a Chairman of Malayan Flour Mills Bhd, LBI Capital Berhad and Tomypak Holdings Berhad. He is a Director of Kulim (M) Berhad, KPJ Healthcare Bhd, Sindora Berhad and Top Glove Corporation Berhad. Arshad also sits on the Board of Directors of several private companies including PFM Capital Holdings Sdn Bhd, Ladang Moccis Sdn Bhd, Amanah Raya Investment Bank Ltd, Zalaras Sdn Bhd and many others.

Arshad currently serves as President of the Malaysian Rubber Products Manufacturers Association (MRPMA). He is Pro Chancellor of UiTM, Chairman of University Malaya Board, Governor of Kolej Tuanku Jaafar, a former member of the Council of Cooperative College Malaysia, Malaysian Malay Businessman And Industrialists Association, a Board member of Yayasan Pak Rashid, Yayasan Tun Razak, and Yayasan Budiman.

Arshad has been appointed as a member of the Board of Trustees Lung Foundation of Malaysia (LFM) in November 2005. His commitment, dedication and passion towards the LFM's ideals and in promoting respiratory medicine and respiratory care are highly commendable. For his contribution and efforts, the Malaysian Thoracic Society confers on him its honorary membership.

PROGRAMME SUMMARY

DATE / TIME	22ND JULY 2011 (FRIDAY)	23RD JULY 2011 (SATURDAY)	24TH JULY 2011 (SUNDAY)
0800 – 0830		SABAH ROOM **PLENARY LECTURE 3**	
0830 – 0900	SABAH ROOM OPENING REMARKS		SABAH ROOM **PLENARY LECTURE 5**
0900 – 0930	SABAH ROOM **PLENARY LECTURE 1**	SABAH ROOM **S 3A** COPD KEDAH ROOM **S 3B** Interventional Pulmonology PERAK ROOM **S 3C** Pneumonia	SABAH ROOM **S 5A** Tuberculosis PERAK ROOM **S 5B** Orphan Lung Diseases
0930 – 1000	SABAH ROOM **S 1A** Asthma KEDAH ROOM **S 1B** Lung Function Test PERAK ROOM **S 1C** Paediatric Asthma		
1000 – 1030			
1030 – 1100		COFFEE	
1100 – 1130	COFFEE / Poster Viewing	SABAH ROOM **CLINICAL GRAND ROUND (ADULT)** KEDAH ROOM **CLINICAL GRAND ROUND (PAEDIATRICS)**	SABAH ROOM **LUNCH SATELLITE LECTURE** *(Bayer Healthcare)*
1130 – 1200			
1200 – 1230	SABAH ROOM **LUNCH SATELLITE SYMPOSIUM** *(Novartis)*	KEDAH ROOM **ORAL SCIENTIFIC PRESENTATION 2** Poster Viewing	SABAH ROOM **Debate Session**
1230 – 1300	SARAWAK ROOM LUNCH Friday Prayers	SABAH ROOM **LUNCH SATELLITE SYMPOSIUM** *(GlaxoSmithKline)*	CLOSING
1300 – 1330			SARAWAK ROOM LUNCH
1330 – 1400		SARAWAK ROOM LUNCH	
1400 – 1430			
1430 – 1500	SABAH ROOM **PLENARY LECTURE 2**	SABAH ROOM **S 4A** Sleep Disorders KEDAH ROOM **S 4B** Air-Travel Related Disorders	
1500 – 1530	SABAH ROOM **ORAL SCIENTIFIC PRESENTATION 1**		
1530 – 1600			
1600 – 1630	COFFEE	COFFEE	
1630 – 1700	SABAH ROOM **S 2A** Lung Cancer KEDAH ROOM **S 2B** Interstitial Lung Diseases PERAK ROOM **S 2C** Gastro-Oesophageal Reflux (GERD) And The Lung Revisited	SABAH ROOM **PLENARY LECTURE 4**	
1700 – 1730		SARAWAK ROOM **EVENING SATELLITE SYMPOSIUM** *(Merck Sharp & Dohme)*	
1730 – 1800		KEDAH ROOM **ANNUAL GENERAL MEETING**	
1800 – 1830	Refreshments for Evening Symposium		
1830 – 1900	JOHORE ROOM **CONCURRENT EVENING SATELLITE SYMPOSIUM & DINNER** *Roche (Malaysia) Sdn Bhd* SARAWAK ROOM **CONCURRENT EVENING SATELLITE SYMPOSIIM & DINNER** *AstraZeneca Sdn Bhd*		
1900 – 1930			
1930 – 2000			
2000 – 2200		SABAH ROOM **MTS-LFM GALA DINNER**	

DAILY PROGRAMME – 22ND JULY 2011 (FRIDAY)

0830 – 0840 OPENING REMARKS — SABAH ROOM

0840 – 0920 **PLENARY LECTURE 1** — SABAH ROOM

Chairperson: DATO' DR ZAINUDIN MD ZIN

Current understanding of asthma phenotypes *[page 16]*
Prof Dr Philip Thompson

0920 – 1050

SABAH ROOM	KEDAH ROOM	PERAK ROOM
SYMPOSIUM 1A	**SYMPOSIUM 1B**	**SYMPOSIUM 1C**
ASTHMA	**LUNG FUNCTION TESTS**	**PAEDIATRIC ASTHMA**
Chairpersons: DATUK DR AZIAH AHMAD MAHAYIDDIN, DR TERMIZY HASSAN MASHAT	*Chairpersons:* DR ANDREA BAN, DR LEOW CHAI HOOI	*Chairpersons:* ASSOC PROF DR JESSIE DE BRUYNE, DR RUS ANIDA AWANG
0920 – 0950 New therapeutic modalities for severe asthma ***Prof Dr Neil Barnes***	Simple interpretations of ABG *[page 18]* ***Dr Wan Haniza Wan Mohamad***	Is there a role for intermittent treatment in mild persistent asthma? *[page 20]* ***Prof Dr Theresa Guilbert***
0950 – 1020 Therapeutic options for various asthma phenotypes *[page 17]* ***Prof Dr Philip Thompson***	Spirometry – interpretation and pitfalls *[page 18]* ***Assoc Prof Dr Nor Adina Tajudin***	Monitoring airway inflammation in clinical practice: A local perspective ***Dr Asiah Kasim***
1020 – 1050 Asthma action plan : A consideration for Malaysian patients *[page 17]* ***Prof Dr Richard Loh Li Cher***	6-minute walk test – A simple but very useful test *[page 19]* ***Dr Chua Keong Tiong***	Doctor, doctor, what will happen to my child's asthma? *[page 21]* ***Prof Dr Theresa Guilbert***

1050 – 1150 COFFEE

POSTER VIEWING

1150 – 1230 **LUNCH SATELLITE SYMPOSIUM** *(Novartis)* — SABAH ROOM

Chairperson: DATO' DR ABDUL RAZAK MUTTALIF

Current treatment of COPD *[page 21]*
Prof Dr Philip Eng

1230 – 1420 Lunch — SARAWAK ROOM

Friday Prayers

1420 – 1500 **PLENARY LECTURE 2** — SABAH ROOM

LUNG CANCER

Chairperson: PROF DR LIAM CHONG KIN

Personalised therapy for advanced non-small cell lung cancer
Prof Dr Narin Voravud

1500 – 1600 **ORAL SCIENTIFIC PRESENTATION 1** — SABAH ROOM

1600 – 1620 COFFEE

DAILY PROGRAMME – 22ND JULY 2011 (FRIDAY) CONT'D

	SABAH ROOM	KEDAH ROOM	PERAK ROOM
1620 – 1750	**SYMPOSIUM 2A LUNG CANCER** *Chairpersons:* DR SHYAMALA POOSPARAJAH DR IRFHAN ALI	**SYMPOSIUM 2B INTERSTITIAL LUNG DISEASES** *Chairpersons:* DR AHMAD IZUANUDDIN ISMAIL DR RAZUL KASSIM	**SYMPOSIUM 2C GASTRO-OESOPHAGEAL REFLUX (GERD) AND THE LUNG REVISITED** *Chairpersons:* DR ANNA NATHAN DR AHMAD FADHIL
1620 – 1650	Screening for lung cancer – Where are we now? *[page 22]* ***Assoc Prof Dr Roslina Abdul Manap***	Rational and systematic evaluation of patients suspected of DPLD *[page 24]* ***Assoc Prof Dr Tengku Saifudin Ismail***	Diagnostic tools for GERD in infants and children and what they all mean? ***Dr Rus Anida Awang***
1650 – 1720	The impact of new imaging and endoscopic techniques in lung cancer staging *[page 23]* ***Prof Dr Liam Chong Kin***	Critical analysis of the therapeutic options for idiopathic pulmonary fibrosis *[page 25]* ***Dr Low Su Ying***	The clinical risk spectrum of GERD ***Dr Nurrashidah Wahab***
1720 – 1750	Roles of thoracic surgeons in the management of lung cancer ***Mr Balaji Badmanaban***	Interpreting histopathologic examination (HPE) findings of diffuse parenchymal lung disease: A note of caution! *[page 25]* ***Dr Nor Salmah Bakar***	Managing the respiratory symptoms in GERD ***Dr Mariana Daud***
1750 – 1820	REFRESHMENTS FOR EVENING SYMPOSIUM		

	JOHORE ROOM	SARAWAK ROOM
1820 – 2130	CONCURRENT EVENING SATELLITE SYMPOSIUM & DINNER *Roche (Malaysia) Sdn Bhd* *Chairperson*: PROF DR LIAM CHONG KIN Erlotinib in EGFR mutation positive NSCLC : The OPTIMAL and EURTAC studies ***Prof Dr Narin Voravud***	CONCURRENT EVENING SATELLITE SYMPOSIUM & DINNER *AstraZeneca Sdn Bhd* *Chairperson*: DATO' DR ABDUL RAZAK MUTTALIF Understanding COPD better – Implication of morning symptoms & can we do better? ***Prof Dr Martyn R Partridge***

DAILY PROGRAMME – 23RD JULY 2011 (SATURDAY)

0810 – 0850 — SABAH ROOM

PLENARY LECTURE 3
COPD

Chairperson : ASSOC PROF DR ROSLAN HARUN

COPD exacerbations: New insights and novel mechanisms *[page 26]*
Prof Dr Lim Tow Keang

0850 – 1020

SYMPOSIUM 3A
COPD

SABAH ROOM

Chairpersons:
DR LIZA BINTI AHMAD FIZAL
DR LEE CHEE HONG

0850 – 0920 Non-invasive ventilation in acute exacerbations of COPD *[page 26]*
Dr Amanda Piper

0920 – 0950 Roles of unconventional therapy in stable COPD *[page 27]*
Dr Michael Joseph

0950 – 1020 Treatment beyond inhalers: Lung volume reduction surgery *[page 27]*
Mr Anand Sachithanandan

SYMPOSIUM 3B
INTERVENTIONAL PULMONOLOGY

KEDAH ROOM

Chairpersons:
DR KUNJI KANNAN A/L SIVARAMAN KANNAN
DR NG TECK HAN

0850 – 0920 Interventional pulmonology in Malaysia – A respiratory physician's perspective *[page 28]*
Dr Jamalul Azizi Abdul Rahaman

0920 – 0950 "Blind" versus EBUS-guided TBNA *[page 29]*
Assoc Prof Dr How Soon Hin

0950 – 1020 Pleuroscopy: Revolutionising management of pleural diseases *[page 29]*
Assoc Prof Dr Fauzi Anshar

SYMPOSIUM 3C
PNEUMONIA

PERAK ROOM

Chairpersons:
DR ASIAH KASSIM
DR NURRASHIDAH WAHAB

0850 – 0920 How to manage the uncomplicated pneumonia?
Dr Ahmad Fadhil

0920 – 0950 Management of complicated pneumonias *[page 30]*
Dr Anna Nathan

0950 – 1020 Prevention strategies for community acquired pneumonia *[page 31]*
Dr Patrick Chan

1020 – 1040 COFFEE

1040 – 1140

CLINICAL GRAND ROUND (ADULT)

SABAH ROOM

CLINICAL GRAND ROUND (PAEDIATRICS)

KEDAH ROOM

Facilitator: NORZILA ZAINUDIN

1140 – 1240

ORAL SCIENTIFIC PRESENTATION 2

KEDAH ROOM

POSTER VIEWING

1240 – 1320 — SABAH ROOM

LUNCH SATELLITE SYMPOSIUM *(GlaxoSmithKline)*

Chairperson: ASSOC PROF DR ROSLINA A MANAP

COPD management – Clinical considerations based on evidence
Prof Dr Neil Barnes

1320 – 1420 LUNCH — SARAWAK ROOM

DAILY PROGRAMME – 23RD JULY 2011 (SATURDAY) CONT'D

	SABAH ROOM	KEDAH ROOM
1420 – 1550	**SYMPOSIUM 4A** **SLEEP DISORDERS** *Chairpersons*: DR KUAN YEH CHUNN DR AZZA OMAR	**SYMPOSIUM 4B** **AIR-TRAVEL RELATED DISORDERS** *Chairpersons*: DR MAHENDRAN KAUTHAMAN DR ROSALIND TOH BENG HONG
1420 – 1450	Obesity hypoventilation syndrome – Managing this elusive condition? *[page 32]* ***Dr Amanda Piper***	Physiological changes with altitude – Who are the high risk passengers? *[page 35]* ***Dr Lim Boon Khaw***
1450 – 1520	Obstructive sleep apnoea – How do we tackle this new pandemic disease? *[page 33]* ***Dato' Dr Zainudin Md Zin***	Evaluation of "fitness" of patients with respiratory diseases planning air travel *[page 36]* ***Dr Hooi Lai Ngoh***
1520 – 1550	Initiating continuous positive airway pressure (CPAP) in obstructive sleep apnea *[page 34]* ***Dr Amanda Piper***	Managing patients who require oxygen during air travel *[page 37]* ***Dr Norhaya Mohd Razali***
1550 – 1620	COFFEE	
1620 – 1700	**PLENARY LECTURE 4** — SABAH ROOM *Chairperson*: DR UMADEVI A MUTHUKUMARU Opportunistic lung infection in HIV ***Dr Suresh Kumar***	
1700 – 1740	EVENING SATELLITE SYMPOSIUM *(Merck Sharp & Dohme)* — SARAWAK ROOM	
1740 – 1840	**ANNUAL GENERAL MEETING** — KEDAH ROOM	
1930 – 2200	**MTS-LFM GALA DINNER** — SABAH ROOM	

1830	*Pameran Seni di ruang legar* *Makanan ringan dihidangkan di ruang legar*
2000	*Ketibaan para jemputan*
2015	*Ketibaan D.Y.M.M. Sultan Sharafuddin Idris Shah Alhaj Ibni Almarhum Sultan Salahuddin Abdul Aziz Shah Alhaj, Sultan Selangor Darul Ehsan*
2020	*Ucapan oleh Pengerusi Yayasan Paru-paru Malaysia (LFM), Y. Bhg. Dato' Dr Zainudin bin Md. Zin*
2025	*Ucapan oleh Presiden, Pertubuhan Torasik Malaysia (MTS), Profesor Madya Dr Roslina Abd Manap*
2030	*Petikan untuk penerima Keahlian Kehormat MTS oleh Pengerusi LFM*
2035	*Penganugerahan Keahlian Kehormat MTS kepada Y. Bhg. Tan Sri Dato' Seri Arshad Ayub oleh Presiden MTS*
2040	*Persembahan Video LFM*
2045	*Jamuan Makan Malam* *Persembahan Muzik*
2100	*Pengumuman untuk Geran Perjalanan MTS*
2105	*Penyampaian Anugerah untuk Kertas Saintifik Terbaik*
2110	*Pelancaran Rasmi Tabung Pendidikan Pesakit LFM oleh D.Y.M.M. Sultan Sharafuddin Idris Shah Alhaj Ibni Almarhum Sultan Salahuddin Abdul Aziz Shah Alhaj, Sultan Selangor Darul Ehsan*
2115	*Penyerahan 'Mock Cheque' untuk Tabung Pendidikan Pesakit LFM* *Diterima oleh D.Y.M.M. Sultan Sharafuddin Idris Shah Alhaj Ibni Almarhum Sultan Salahuddin Abdul Aziz Shah Alhaj, Sultan Selangor Darul Ehsan*
2120	*Pemberian Memento Kepada D.Y.M.M. Sultan Sharafuddin Idris Shah Alhaj Ibni Almarhum Sultan Salahuddin Abdul Aziz Shah Alhaj, Sultan Selangor Darul Ehsan oleh Pengerusi Yayasan Paru-paru Malaysia*
2125	*Persembahan oleh Persatuan Keluarga Anak-anak Penyakit Paru-paru*
2135	*Persembahan oleh Kelab Asma Kanak-kanak*
2145	*Persembahan muzik*
2230	*Majlis Bersurai*

DAILY PROGRAMME – 24TH JULY 2011 (SUNDAY)

0810 – 0850 — **PLENARY LECTURE 5** — SABAH ROOM

TUBERCULOSIS

Chairperson: DR HAMIDAH SHABAN

Updates on TB laboratory diagnostic tools *[page 38]*

Prof Dr Ng Kee Peng

0850 – 1020

	SABAH ROOM	PERAK ROOM
	SYMPOSIUM 5A **MYCOBACTERIUM**	**SYMPOSIUM 5B** **ORPHAN LUNG DISEASES**
	Chairpersons: DR KUPPUSAMY IYAWOO, DR JURINA MOHD HASSAN	*Chairpersons*: DR YAP BOON HANG, DR MUSTAFA KAMAL BIN RAZAK
0850 – 0920	Mantoux test and IGRA – The myths and the facts *[page 39]* ***Assoc Prof Dr Pang Yong Kek***	Approach to managing bronchiectasis ***Prof Dr Philip Thompson***
0920 – 0950	Non-tuberculous mycobacterial infection: When to treat? *[page 40]* ***Datuk Dr Aziah Ahmad Mahayiddin***	Pulmonary arterial hypertension – Early diagnosis and treatment *[page 42]* ***Dr Ashari Yunus***
0950 – 1020	Endobronchial TB – The hidden entity *[page 41]* ***Dato' Dr Abdul Razak Muttalif***	Allergic bronchopulmonary aspergillosis (ABPA) – What's new? *[page 43-44]* ***Dr Mat Zuki bin Mat Jaeb***

1020 – 1040 — COFFEE

1040 – 1120 — LUNCH SATELLITE LECTURE *(Bayer Healthcare)* — SABAH ROOM

Chairperson: ASSOC PROF DR ROSLINA A MANAP

Key clinical milestones of Moxifloxacin in treating respiratory tract infections *[page 44]*

Prof Dr Richard Loh Li Cher

1120 – 1220 — **DEBATE SESSION** — SABAH ROOM

Chairpersons: PROF DR RICHARD LOH LI CHER, PROF DR MOHD FAUZI ABDUL RANI

The Dutch versus the British hypothesis revisited

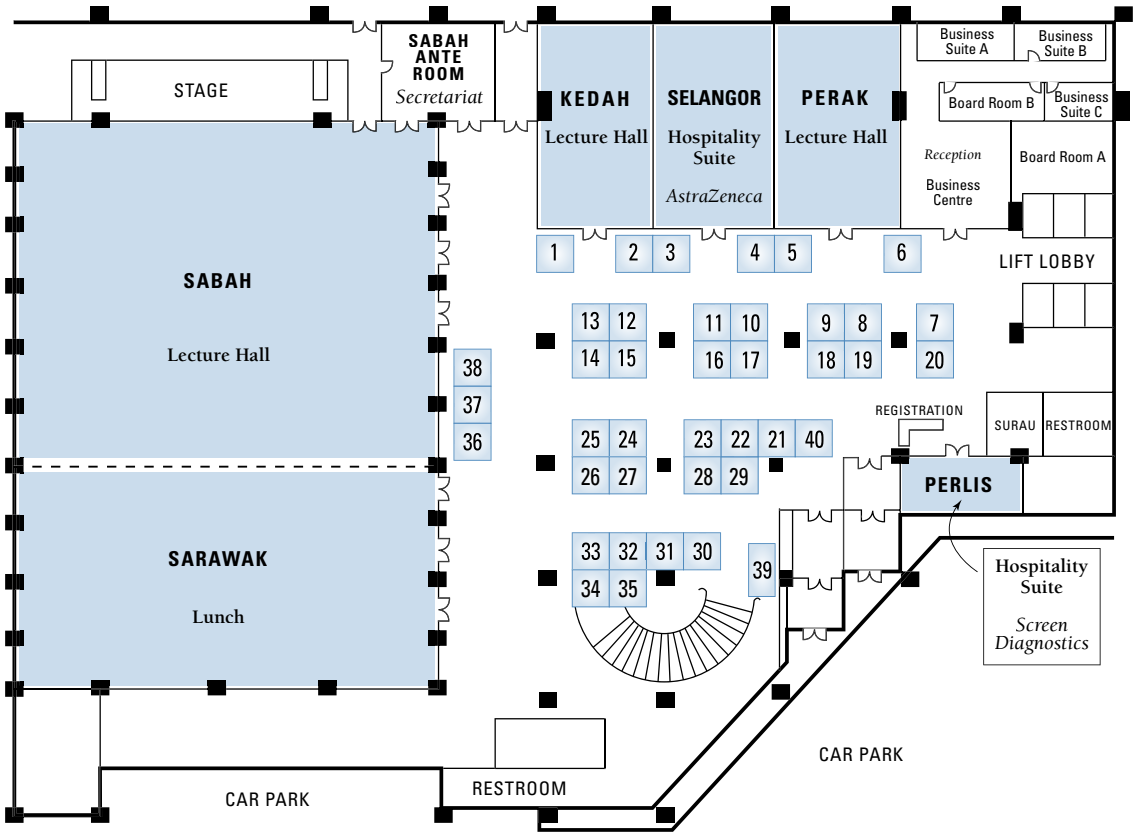
Debaters: PROF DR LIM TOW KEANG *[page 45]*
Proponent of the Dutch hypothesis

PROF DR NEIL BARNES
Proponent of the British hypothesis

1220 – 1230 — CLOSING

1230 – 1330 — LUNCH — SARAWAK ROOM

TRADE EXHIBITION



BOOTH STAND	COMPANY
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CURRENT UNDERSTANDING OF ASTHMA PHENOTYPES

Philip Thompson
Australia

Asthma is a common condition worldwide. Allergic asthma and other allergic diseases are increasing in the Western World for reasons that are not entirely clear. Definitions of asthma are not robust and this remains a challenge. The prevailing paradigm has been that asthma is one disease entity but has often subdivided into atopic and non atopic. Symptomatic improvement is provided by Beta 2 adrenergic receptor antagonists, while inhaled corticosteroids are assumed to be the mainstay of preventing asthma.

Severe asthma affects at least 10% of the asthma population but accounts for up to 60% of asthma care health costs. Clinical trials in which inhaled corticosteroids are used frequently show 30% or more get worse while on inhaled steroid. Patient's symptom complex can vary from one patient to another and drug responsiveness also varies. Many patients have both atopic and non atopic triggers. Large scale attempts to find genes relevant to asthma have on the whole been disappointing. Despite protracted stability patients can deteriorate quickly with infection. As such it is more likely that there are multiple forms of asthma, with differing mechanisms and that they can coexist in the one patient.

Phenotypic descriptions are only as good as the variables chosen and then how they are applied. Cluster analysis is potentially useful but the same caveats apply. The variables that can be applied to derive phenotypic descriptions may include the following variables: epidemiology data, triggers, clinical features, physiology, induced sputum/exhaled mediators, genetic criteria and treatment responsiveness.

Some suggested phenotypes include: allergic; aspirin/NSAID; alcohol; food additives; cold air/exercise/acute stress; reflux; small airways asthma; fixed airway obstruction; inhaled chemicals; post viral syndromes; sputum producing, hyper-eosinophilic; steroid resistant; and obesity syndromes. It is likely that interaction occurs between these phenotypes. It is likely that as one phenotype improves a beneficial bystander effect will occur for other phenotypes. Secondary disease states such as ABPA and Churg Strauss serve only to complicate matters for physicians.

Ultimately it is only by linking mechanistic pathways to phenotypic descriptions that we will develop appropriate treatment strategies for the difficult asthma patient.

SYMPOSIUM 1A
ASTHMA

THERAPEUTIC OPTIONS FOR VARIOUS ASTHMA PHENOTYPES

Philip Thompson
Australia

The mainstay of asthma therapy consists of a combination of short and long acting beta agonists and inhaled corticosteroids and this will effectively treat the majority of patients with asthma but particularly those with allergic or eosinophilic asthma. However not all forms of asthma are respond well to these therapies.

The specific settings in which Cromoglycate, Tiotropium, Ciclesonide, Salmeterol, Omazilumab,and oral agents such as theophylline, oral steroids and Montelukast have a role will be discussed.

New therapeutic agents will provide the potential to address some of these phenotypes including the anti-IL5 therapies. Non pharmacological approaches including patient education, pulmonary rehabilitation, allergen avoidance and direct treatment of the cause will also be addressed.

Phenotypes to be covered include exercise, cold air, acute stress, reflux, small airways asthma, fixed obstruction asthma, early morning dipping asthma and steroid resistant asthma.

SYMPOSIUM 1A
ASTHMA

ASTHMA ACTION PLAN: A CONSIDERATION FOR MALAYSIAN PATIENTS

Richard Loh Li-Cher
Malaysia

Asthma action plan is not a new idea. It plays an integral part in the management of asthma, primarily because of the variable nature of the asthma disease that allows patient to intervene in the form of self-medication through rightful recognition of severity. However, the nature and uptake of this practice can be variable depending on the patient type and doctor's preferences. This lecture discusses the philosophy and perceptions behind an asthma action plan and describes its applications in the context of Malaysian patients based on findings of some recently completed studies.

SYMPOSIUM 1B
LUNG FUNCTION TESTS

SIMPLE INTERPRETATIONS OF ABG

Wan Haniza Wan Mohamad
Malaysia

Providing a simple explanation on the procedures and indications, outline of interpretation and common pitfalls in interpretation. Lecture directed to medical officers, specialists and paramedical staff.

SYMPOSIUM 1B
LUNG FUNCTION TESTS

SPIROMETRY – INTERPRETATION AND PITFALLS

Nor Adina A Tajudin
Malaysia

Lung function tests (LFT) form an integral part of assessing, diagnosing and managing patients with respiratory diseases. They represent an important adjunct to the patient history, physical examination, imaging studies, bronchoscopy and lung biopsy and laboratory data.

The most useful and readily available LFT is spirometry. The others include diffusing capacity for carbon monoxide, lung volume measurements, respiratory muscle strength and bronchial reversibility tests. With the advances in computer technology and microprocessors, spirometry has become more standardized, automated and much easier to operate and interpret. The interpretative strategy involves establishing a pattern of abnormality, grading the severity and assessing trends over time against a well-defined acceptability and reproducibility standards.

Sadly, it is a modality that is under-utilized. Many of our trainees shy away from it. This presentation will cover a practical overview of spirometry, looking at indications, preparations and interpretation of spirometry. I will also illustrate a few interesting examples.

6-MINUTE WALK TEST – A SIMPLE BUT VERY USEFUL TEST

Chua Keong Tiong
Malaysia

There are various methods to assess the physiological impact of cardiopulmonary disorders. Detailed history taking is fundamental but at the same time very subjective and variable depending on patients' perception and recollection of their symptoms. Therefore the objective physiological assessments are usually required in order to complete the assessment of individual patients before initiating the definite treatment. Among the clinical exercise tests, 6-minute walk test (6MWT) is easy to administer, better tolerated, and more reflective of activities of daily living than other walk tests.

In this short presentation, I would like to share with you the indications, contraindication and the limitation of 6MWT. Addressing the important safety issues is essential to ensure no harm was made when performing the test. The technical aspect of 6MWT will be covered, focusing on the standardised method regarding location, required equipment, patient preparation and measurement as recommended by American Thoracic Society statement in 2002. Finally the variability and reproducibility of 6MWT are discussed together with interpretation of the result.

IS THERE A RULE FOR INTERMITTENT TREATMENT IN MILD PERSISTENT ASTHMA?

Theresa Guilbert
USA

In children with mild persistent asthma, both American and International guidelines recommend the daily use of inhaled corticosteroids in low doses as the preferred treatment for the control of

symptoms and asthma exacerbations. Often, parents or children have great difficulty adhering to daily treatment during long asymptomatic periods, and either use inhaled corticosteroids less frequently or discontinue treatment altogether. Guidelines also suggest weaning or withdrawal (step-down) of treatment after asthma control is achieved and maintained. Thus, challenges exist in the treatment of childhood mild asthma: when step-down asthma therapy and what treatment regimen will decrease the risk of asthma exacerbations. Emerging evidence suggest that the use of inhaled corticosteroids as rescue medication in combination with a bronchodilator can substantially decrease the frequency of asthma exacerbations that require prednisone. Moreover, in adults with mild asthma who took placebo twice daily, the use of beclomethasone plus albuterol as rescue was associated with substantially fewer exacerbations than was treatment with rescue albuterol alone, and with a similar frequency of exacerbations as with beclomethasone twice daily. Another recent study has shown that discontinuation of daily inhaled corticosteroids in children with well controlled, mild persistent asthma is associated with an increased risk of exacerbations. Furthermore, rescue beclomethasone lowered the risk of exacerbations and treatment failures, but to a lesser degree than does daily beclomethasone. Thus, in children with mild persistent asthma, use of rescue inhaled corticosteroid could be an effective step-down alternative to discontinuation of such treatment after asthma control is achieved. This rescue therapy may avoid the growth effects associated with use of daily inhaled corticosteroids.

SYMPOSIUM 1C
PAEDIATRIC ASTHMA

DOCTOR, DOCTOR, WHAT WILL HAPPEN TO MY CHILD'S ASTHMA?

Theresa Guilbert
USA

Parents of infants and young children with recurrent wheezing often ask "Does my child have asthma?" This is a question that clinicians involved in patient care, and also those researching asthma, would like to be able to answer. Preschool wheezing, a symptom that can herald the subsequent development of childhood asthma, is a common problem worldwide. However, the condition improves and ultimately disappears by school years in many children. Proper identification of infants and young children at increased risk to develop persistent asthma may help predict long-term outcomes and improve prevention and treatment, but the ability to identify these children remains limited.

Several classifications of wheezing phenotypes and other tools have been developed in an effort to categorize children with recurrent wheezing and determine which will ultimately develop asthma. These wheezing phenotypes and predictive tools are reviewed in this lecture. Almost 50 percent of children are reported to have wheezing in the first year of life, although only 20 percent will experience continued wheezing symptoms in later childhood. Wheezing phenotypes have been defined to identify the characteristics and risk factors associated with children that experience wheezing. Some of these phenotypes describe children who continue to wheeze until later childhood, while others identify those who continue to wheeze through adolescence and adulthood. However, the relationship between risk factors and the subsequent development of asthma in later childhood and adult life is not clear.

Identifying phenotypes of pediatric asthma may help predict long-term outcomes and identify high-risk children who might benefit from secondary prevention interventions. Although conventional diagnostic evaluation and clinical indices (e.g., Asthma Predictive Index) can be useful, future tests (e.g., genetic evaluations, exhaled nitric oxide,, interferon g) may further assist practitioners in discriminating between various phenotypes of wheezing.

LUNCH SATELLITE SYMPOSIUM
(NOVARTIS)

CURRENT TREATMENT OF COPD

Philip Eng
Singapore

The burden of COPD continues to increase all over the world. Fortunately, this has been accompanied by a slew of new drugs for the treatment of COPD. All of these drugs have been backed by mega trials which have better clarified their efficacy and adverse effects. In this presentation, I will attempt to give an overview of the current treatment of COPD.

SCREENING FOR LUNG CANCER – WHERE ARE WE NOW?

Roslina A Manap

Department of Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Lung cancer is the leading cause of cancer-related death among men and increasingly among women. Worldwide, lung cancer and lung cancer-related deaths have been increasing reflecting increased smoking rates.

The concept of cancer screening is based on the assumption that identifying and treating pre-cancer or cancer in asymptomatic individuals will prevent cancer or improve survival. The goal of screening is to identify patients with unrecognized disease (pulmonary nodule) and to identify patients at increased risk (smoking, family, and occupational history).

Many characteristics of lung cancer suggest that screening would be effective: high morbidity and mortality; significant prevalence, identified risk factors allowing targeted screening for high risk, a lengthy preclinical phase, and evidence that therapy is more effective in early stage disease.

Clinical outcome for lung cancer is directly related to stage at the time of diagnosis, ranging from over 60 percent five year survival for stage I disease, to less than 5 percent for stage IV disease. In addition, within early lung cancers (stage I) there is a relationship between tumor size and survival.Unfortunately, 75 percent of patients with lung cancer present with symptoms due to advanced local or metastatic disease that is not amenable to cure. Despite advances in therapy, five-year survival rates average approximately 15 percent for all individuals with lung cancer.

Chest radiography and CT screening frequently detect early stage asymptomatic lung cancers in screened individuals. However, chest radiographs and CT screening have high rates of false positive findings. This may lead to additional testing which may include invasive procedures.

Long-term follow up of randomized trials of chest radiograph- based screening previously did not demonstrate reductions in either lung cancer-specific or all-cause mortality whilst data from case control studies suggest possible benefit from chest x-ray screening. Several biases may impact screening studies: lead-time bias, length bias, and overdiagnosis

The National Lung Screening Trial (NLST), the first large-scale randomized lung cancer screening trial recently reported it's eagerly-anticpated results. It was stopped after 8-year results showed that screening heavy smokers with low-dose helical computed tomography (CT) significantly reduced deaths from lung cancer, compared with screening with chest x-rays.

THE IMPACT OF NEW IMAGING AND ENDOSCOPIC TECHNIQUES IN LUNG CANCER STAGING

Liam Chong Kin
Malaysia

The stage of lung cancer is determined by the size and local invasion of the primary tumour (T1-4); whether the ipsilateral hilar (N1) and mediastinal lymph nodes (N2), contralateral hilar or mediastinal nodes (N3), or supraclavicular nodes (N3) are involved; and whether intrathoracic (M1a) or distant metastases (M1b) are present. For staging, all patients should undergo computed tomography (CT) of the thorax and upper abdomen to include the liver and adrenals. Patients with signs and symptoms of systemic metastases (eg, fatigue, weight loss, poor appetite, neurological signs and symptoms, bone pain) must be verified by imaging tests such as a brain CT or MRI and a bone scan. An exception to this approach is patients with fairly obvious metastases in whom this can be confirmed by a biopsy of a metastatic site or by a skeletal plain radiograph alone.

FDG-PET is more accurate than CT for the evaluation of mediastinal involvement, offering a high negative predictive value. It can detect occult metastases in 11% of patients, although the aetiology of the extrathoracic isolated uptakes needs confirmation. The role of PET imaging is limited in patients with strong clinical signs of metastatic disease. A positive PET result in the mediastinum should be confirmed by biopsy because the false positive rate is 15 to 20%. It is unclear and controversial whether a mediastinal biopsy is needed in patients with clinical stage II lung cancer who have no PET uptake in the mediastinum. In patients with a peripheral clinical stage I lung cancer, it is reasonable not to order a PET scan for staging because the chances of finding either distant metastases or mediastinal involvement on PET imaging are quite low.

Endoscopic techniques are accurate minimally invasive techniques mostly used to confirm a PET-positive finding but not for complete mediastinal staging. Endobronchial ultrasound-guided transbronchial/transtracheal needle aspiration (TBNA) (EBUS-TBNA) allows real-time controlled tissue sampling of paratracheal, subcarinal, and hilar lymph nodes. Mediastinal lymph nodes located adjacent to the esophagus can be assessed by esophageal ultrasound-guided fine needle aspiration (EUS-FNA). Owing to the complementary reach of EBUS-TBNA and EUS-FNA in assessing different regions of the mediastinum, complete and accurate mediastinal staging can be achieved by the combination of both procedures. Mediastinoscopy is an invasive technique which provides a complete staging of the upper mediastinum. Implementation of minimally invasive endoscopic methods of EBUS-TBNA and EUS-FNA reduces the need for surgical staging of lung cancer.

RATIONAL AND SYSTEMATIC EVALUATION OF PATIENTS SUSPECTED OF DPLD

Tengku Saifudin Tengku Ismail
Malaysia

The diagnosis of DPLD requires a multidisciplinary approach between clinicians, radiologists and pathologists. A meticulous history including occupational and environmental exposures, documenting drug exposures, eliciting signs and symptoms of collagen vascular disease or other primary diseases may provide a clue towards the diagnosis. 40% of patients presenting with DPLD will have no identifiable cause of DPLD after careful clinical evaluation. These patients are considered to have idiopathic DPLD, or termed idiopathic interstitial pneumonias.

Abnormalities on the chest radiographs are usually the first clue to the presence of DPLD. Parenchymal infiltrates or nodules are typical finding on chest radiographs. HRCT are superior to chest radiographs and the pattern on HRCT can narrow the differential diagnosis and in some cases the HRCT is pathognomonic, obviating the need for lung biopsy.

Pulmonary function test should be performed routinely in suspected DPLD to assess the extent of lung impairment. The pulmonary function test will show a restrictive pattern but will not establish a specific etiological diagnosis. Serological studies are rarely diagnostic but are indicated if connective tissue disease or hypersensitivity pneumonitis is suspected. Bronchoalveolar lavage (BAL) or transbronchial lung biopsy (TBLB) may be helpful to diagnose specific infections and may narrow the differential diagnosis.

Surgical lung biopsy using the video assisted thoracoscopic surgical (VATS) technique should be performed in patients with DPLD when BAL or TBLB are not definitive. This will establish a definite diagnosis to guide the clinician to treat and manage the patient with DPLD.

SYMPOSIUM 2B
INTERSTITIAL LUNG DISEASES

CRITICAL ANALYSIS OF THE THERAPEUTIC OPTIONS OF IDIOPATHIC PULMONARY FIBROSIS

Low Su Ying
Singapore

A diagnosis of idiopathic pulmonary fibrosis (IPF) portends the worst prognosis of all diffuse parenchymal lung diseases and has had dismal response to any medical intervention thus far. The last decade has seen a flurry of publications analyzing the usefulness of different novel therapeutic agents in the hope of finding the holy grail for the treatment of IPF. In the midst of this exciting time, I have been tasked to give a critical review of the current evidence-based management of IPF.

Whilst we appear to have made small steps in the right direction, many more additional clinical trials of new therapeutic modalities for IPF are desperately needed which must be done via multicentre collaborations. The treatment of IPF may eventually require combination therapies targeting different pathways involved in fibroproliferation. Finally, whilst improved survival is an important endpoint, there is a need to consider other clinically significant and meaningful endpoints as we embark on future therapeutic trials.

SYMPOSIUM 2B
INTERSTITIAL LUNG DISEASES

INTERPRETING HISTOPATHOLOGIC EXAMINATION (HPE) FINDINGS OF DIFFUSE PARENCHYMAL LUNG DISEASE: A NOTE OF CAUTION!

Nor Salmah Bakar
Malaysia

Diffuse parenchymal lung disease (DPLD) which is also known as interstitial lung disease (ILD), comprises of various clinicopathologic entities. This includes ILD with no known etiology and ILD with known associated clinical conditions or specific etiologic agent/s. Example of ILD with no known etiology is idiopathic pulmonary fibrosis (IPF) while connective tissue diseases are among known clinical conditions that associate with ILD. Inconsistencies in the classification of ILD could cause misunderstanding to both clinicians and pathologists. Adding to this confusion, there are varieties in terminology used in ILD. In the past decade, there have been major changes with regards to the ILD, particularly in disease classification and diagnostic processes. There are also evolving concept of pathogenesis and management of certain entities in ILD. Understanding the concept evolution of ILD, along with keeping up to date with the improved classification and diagnostic processes in ILD are important for accurate interpretation of HPE report. Examples of ILD cases will be discussed to illustrate important areas when interpreting HPE findings of ILD.

PLENARY LECTURE 3
COPD

COPD EXACERBATIONS: NEW INSIGHTS AND NOVEL MECHANISMS

Lim Tow Keang
Singapore

Some patients with COPD have a distinct phenotype characterized by recurrent exacerbations. This is associated with poorer clinical outcomes. Recurrent exacerbations are only partly linked to cigarette smoking and persists in many ex-smokers. The underlying mechanisms for such exacerbations have been elucidated in recent pivotal studies on airway pathology, the immune response to lower respiratory tract pathogens and clinical treatment trials. This new knowledge may be summarized and integrated into a unifying hypothesis which accounts for the wide spectrum of disease severity and clinical outcomes.

SYMPOSIUM 3A
COPD

NON-INVASIVE VENTILATION IN ACUTE EXACERBATIONS OF COPD

Amanda Piper
Australia

There is now a substantial body of evidence demonstrating the clinical value of noninvasive ventilation (NIV) in the management of patients with chronic obstructive pulmonary disease (COPD) presenting with acute hypercapnic respiratory failure (1). In appropriately selected patients, significant reductions in the need for intubation and reduction in mortality rates can be achieved with the use of NIV compared to usual care. Used outside the intensive care setting, the technique can significantly reduce the costs of care and free up limited ICU resources. However, the degree of respiratory acidosis as measured by pH is an important factor in modifying the response to therapy, and in determining the most appropriate location of care in which the patient should be managed (2,3). Even in carefully selected patients, failure rates as high as 50% have been reported (4,5). Therefore, early identification of patients failing to respond to therapy is important to minimize the delay in instituting more definitive intervention where this is indicated. Despite strong evidence from randomized controlled trials for the use of NIV as first line management in patients with COPD and respiratory acidosis, audits of real world use suggest significant variations in clinical practice from evidence based guidelines (6). Importantly, patients managed with NIV in usual practice are more likely to have severe acidosis, with NIV being used as the ceiling of care. Knowledge and experience of staff assessing and implementing NIV have a significant impact on whether therapy is considered, the location of care and clinical outcomes (7). Data regarding outcomes of COPD patients managed acutely with NIV once discharged from hospital are more limited, but suggest a high risk of readmission and life threatening events (8). Whether the use of home NIV in this population improves outcomes requires further investigation (9).

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SYMPOSIUM 3A
COPD

ROLES OF UNCONVENTIONAL THERAPY IN STABLE COPD

Michael Joseph
Malaysia

COPD is a disease caused by inflammation triggered by noxious stimuli, primarily cigarette smoke in most cases. The inflammation is both local (pulmonary) & systemic, accounting for most of COPD's manifestations.

Therapies for COPD thus far (conventional or guideline-defined) have been proven in numerous large randomised trials to have benefits in improving symptoms & quality of life, preventing exacerbations & reducing mortality. However, despite these benefits, they still fall short in their ability to prevent progression of the disease. This is presumably due to incomplete resolution of the underlying inflammatory process.

Thus, the search continues for the ultimate COPD therapy. In the process, several drugs have been found to have potential beneficial effects in COPD & may play a role in the future management of the disease. Robust evidence for these (unconventional) therapies is lacking though. The lecture will look at several of these therapies – statins, beta blockers, macrolide antibiotics & mucolytics- & discuss their potential roles in COPD management.

SYMPOSIUM 3A
COPD

TREATMENT BEYOND INHALERS: LUNG VOLUME REDUCTION SURGERY

Anand Sachithanandan
Malaysia

Patients with end stage advanced emphysema have a poor quality of life and reduced survival. Historically, the only treatment has been pulmonary rehabilitation with medical therapy. Lung volume reduction surgery (LVRS) and lung transplantation are the two main surgical options potentially available to such patients.

This lecture is a comprehensive overview of LVRS. The historical origin and evolution of the procedure, the rationale and principle of LVRS, indications for surgery, patient selection criteria, the evidence for LVRS, technical surgical considerations and early/midterm surgical outcomes including results from the seminal North American NETT trial will be discussed.

SYMPOSIUM 3B
INTERVENTIONAL PULMONOLOGY

INTERVENTIONAL PULMONOLOGY IN MALAYSIA – A RESPIRATORY PHYSICIAN'S PERSPECTIVE

Jamalul Azizi
Malaysia

Interventional pulmonology (IP) is an emerging field within pulmonary medicine with focus on minimally invasive techniques for the diagnosis and management of lung cancer, central airway obstruction and pleural disease.

The first National IP course in 2007, at Kota Kinabalu, Sabah had ushered in a new era in Malaysia. In the past, the role of respiratory physicians in Malaysia was confined to managing tuberculosis, asthma, COAD and diagnosing lung cancer. Procedures were limited to flexible bronchoscopy and closed blind pleural biopsy.

Determined to change the landscape of respiratory medicine in Malaysia, a group of brave respiratory physicians and a cardio-thoracic surgeon pioneered a National IP course 4 years ago in Sabah. This course consisted of didactic lectures, live cases and hands-on workshop.

Encouraged by the positive response, the second course was held in Kuantan, Pahang in 2008. The third course returned to Kota Kinabalu, Sabah in 2009 which was also attended by international participants. This year, the course will be held at Kota Kinabalu again 5-7 October.

Currently, there are three IP centres in Malaysia namely Queen Elizabeth Hospital, Kota Kinabalu, Sabah, International Islamic University, Kuantan, Pahang and Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur.

IP encompasses interventional bronchoscopy and pleuroscopy. These can be either for diagnostic or therapeutic purposes. Certain bronchoscopic procedures need to be performed via rigid bronchoscopy especially when bleeding is a potential threat. As more respiratory physicians take up pleuroscopy, closed blind pleural biopsy may eventually become obsolete.

In the near future, it is hoped that there will be local and international collaborations in this fast growing field. The centre in Sabah has already received an invitation from an American centre to collaborate in this field. A Special Interest Group (SIG) on IP has been formed in Malaysia.

The most important relationship for IP is that with thoracic surgery. These two specialties commonly share patients with clinical quandary. Interventional pulmonologists need the surgical back-up of the thoracic surgeon and the access to advanced surgical interventions for their patients. Similarly, the thoracic surgeons benefit from the availability of an advanced bronchoscopist and dedicated clinician with appropriate referrals for surgical resection.

We hope to leave behind a legacy for the next generation to take over and bring Malaysian IP to greater heights.

SYMPOSIUM 3B
INTERVENTIONAL PULMONOLOGY

"BLIND" VERSUS EBUS-GUIDED TBNA

How Soon Hin
Malaysia

Transbronchial needle aspiration (TBNA) of mediastinal lymph node using flexible bronchoscope was first described in 1983. It is particularly useful to establish histological diagnosis in patients with peripheral lung lesion associated with mediastinal lymphadenopathy and staging of lung cancer. Apart from sampling of mediastinal lymph node, TBNA is also useful in the diagnosis and/or drainage of mediastinal cyst or mediastinal abscesses. The yield of TBNA in diagnosing medistinal lymph node in malignant disease ranged from 45% to 96%. Factors affecting yields are governed by operator experience, type of needle, technique, tomographic evaluation, tissue preparation, tissue interpretation, nodal site and size, and more importantly, the use of ultrasound guided TBNA. In general, it is a safe procedure – though bleeding, bacteraemia, pneumothorax and pneumomediastinum may occasionally complicate the procedure.

SYMPOSIUM 3B
INTERVENTIONAL PULMONOLOGY

PLEUROSCOPY: REVOLUTIONISING MANAGEMENT OF PLEURAL DISEASES

Fauzi M Anshar
Malaysia

Pleuroscopy or medical thoracoscopy using purposely designed semi-rigid pleuroscope started in Malaysia in 2004 in UKM Medical Centre. Prior to that, experienced physicians used to insert a bronchoscope into pleural cavity via a chest tube. Since 2004, the practice had become more widespread as more centres acquire the scope and more chest physicians become trained in its use. The main indications for pleuroscopy in Malaysia are diagnosing unexplained exudative pleural effusion and therapeutic manoeuvres such as talc pleurosdesis using talc poudrage which has a better success rate than using bedside talc slurry.

Pleuroscopy requires relatively simple equipments and staffing level compared to that which are required for VATS. It can be done in an endoscopy suite with the patient under conscious sedation and has a high degree of patient safety and tolerability. The procedure is not difficult to master. In cases of undiagnosed pleural effusion, pleuroscopy allows complete drainage of pleural fluid, examination of pleura to allow a quick visual diagnosis and good sampling of pleural lesions under direct vision. Physicians can have a higher degree of certainty in calling the diagnosis and starting treatment especially in cases of TB pleuritis. Complete evacuation of infected pleural fluid allows the lung to expand and reduces risk of trapped lung. Thoracoscopy allows non-surgeon to intervene therapeutically by breaking down loculations and evacuating the fluid in early empyema and complicated parapneumonic effusion.

In the future, pleuroscopy may replace the initial thoracocentesis and closed needle biopsy in cases of undiagnosed pleural effusion.

MANAGEMENT OF COMPLICATED PNEUMONIAS

Anna Nathan

University Malaya Medical Centre, Kuala Lumpur, Malaysia

Complication with paediatric pneumonia can be due to problems with a) Air b) Fluid c) Lung Parenchyma d) Blood

Problems with abnormal air collections e.g. pneumatocoele and bronchopleural fistula (BPF) are seen with Staph *aureus*, *especially Panton –Valentine leukocidin or PVL producing strains*, Stretococcus *pneumoniae* and *Klebsiella species* that can cause a necrotizing pneumonia. A recent review has noted that there has been an increased incidence of BPF and this is probably related to an increase in S.*pneumoniae* serotype 3 (not covered by PCV 7 but covered by PCV 13).

Management of this problem is usually to "sit and wait, however, some may require surgical intervention especially if BPF is present longer than 14 days. Children with necrotizing pneumonias usually require prolonged hospitalization. Fortunately, most recover completely.

Problems with abnormal fluid collection e.g. lung abcess or complicated empyema.

Lung abcesses are usually seen in the scenario of a child with recurrent aspiration e.g. cerebral palsy. As such the organism implicated is usually anaerobic organisms e.g. S. *viridians*. It may present as single or multiple abcesses..

Management of lung abcesses is also not to intervene e.g. chest tube insertion, unless there is mediastinal shift whereby needle aspiration can be done. Chest radiograph changes take time to resolve, usually months rather than weeks. It is important in a case of persistent CXR findings to think of a possibility of a congenital malformation of the lung e.g. congenital cystic adenomatoid malformation of the lung, which will then require surgical resection to reduce risk of recurrent lung infections and the small possibility of malignant transformation.

Complicated empyema is defined as para- pneumonic effusion associated with persistent fever and loculated effusion despite chest tube insertion and drainage. Biochemical indicators of a complicated empyemas are pH < 7.2 , Low glucose < 40mg/dl and a high pleural/serum LDH > 0.6.

Ultrasound of the chest which may demonstrate loculations in pleural fluid are also indicators of a complicated empyema.

Management of complicated empyema, besides use of appropriate antibiotics is either a) Use of fibrinolytics e.g. urokinase b) Video-assisted thoroscopic decortications or open surgical decortication. Urokinase is contraindicated in the presence of a necrotizing pneumonia.

Problems with persistent atelactasis may be due to mucus plugs, foreign body or airway compression e.g. lymph nodes in TB or malignant disease

Management of persistent CXR's changes, with no improvement, for longer than 4-6 weeks will require further investigations e.g. CT thorax and bronchoscopy to look for airway problems and help with removal of mucus plugs.

Problem with haemolytic uremic syndrome (HUS) is also seen in severe Strep.pneumoniae infections that produce neuraminidase that cause microangiopathic haemolysis, thrombocytopenia and acute renal failure.

PREVENTION STRATEGIES FOR COMMUNITY ACQUIRED PNEUMONIA

Patrick Chan
Malaysia

Pneumonia is the leading cause of death in children below 5 years worldwide and remains a significant burden predominantly in low and middle income countries. Despite advances in management and standardised treatment programmes, high treatment failure and case fatality continue to occur in these countries.

All children should be protected against pneumonia and through promoting a healthy environment and access to effective preventive and treatment measures. General strategies in preventing childhood pneumonia include improving nutritional status with supplementation, exclusive breastfeeding and adherence to personal and environmental hygiene. Specific strategies adopted in preventing childhood pneumonia are immunization and antibiotics prophylaxis. Standard immunizations against pertussis, Hib type B and measles have been shown to be effective in reducing both the burden of childhood pneumonia and its associated mortality. More recently, the introduction of a multivalent pneumococcal vaccine has been a remarkable addition to the prevention of childhood pneumonia. Antibiotic prophylaxis with isoniazid is recommended in the prevention of mycobacterial disease in both healthy and HIV afflicted contacts.

Recognition of preventive strategies for childhood pneumonia is not adequate without a proper implementation programme. Improved access to these proven preventive strategies remains crucial in reducing the disease burden and mortality associated with childhood pneumonia.

OBESITY HYPOVENTILATION SYNDROME – MANAGING THIS ELUSIVE CONDITION

Amanda Piper
Australia

Obesity hypoventilation syndrome (OHS) is a disorder characterized by awake hypercapnia (PaCO2>45mmHg), obesity (BMI>30kg/m2) and sleep disordered breathing in the absence of other disorders that could explain hypoventilation. While many will present with symptoms indistinguishable from eucapnic obstructive sleep apnea, individuals with OHS are more likely to be dyspneic, hypoxemic, and have lower limb oedema and cor pulmonale than similarly obese individuals without awake hypercapnia (1). Despite the significant clinical consequences of untreated OHS, a diagnosis is often overlooked resulting in a delay in commencing appropriate therapy (1,2). Oxygen therapy is frequently prescribed for those with awake hypoxia, especially during acute hospital presentations, but has the potential to hasten the development of severe hypercapnia and acidosis if used as sole therapy (3). Positive airway pressure therapy (CPAP or bilevel support) is considered first line treatment, but the actual mode used needs to be tailored to reverse the individual's sleep disordered breathing. Upper airway obstruction is present in the majority of patients with OHS, with around 50-80% of individuals responding to CPAP therapy alone as initial therapy (4-6). In many countries, OHS is now the primary indication for home bilevel therapy, being used for those individuals who fail CPAP therapy because of persisting hypoventilation or in whom sleep hypoventilation in the absence of upper airway obstruction occurs (7). Adherence to PAP therapy is critical in improving awake gas exchange (6), with poor survival rates in non-compliant patients compared to those continuing therapy long term (8,9). However, awake hypercapnia may persist even in patients compliant with therapy (6). Longer term outcomes for these individuals compared to those fully responding to therapy in terms of quality of life, health resource use and survival have not been studied. Significant weight loss is an important long term goal to improve breathing and comorbidities related to obesity, and is associated with improved lung function, gas exchange and quality of life. Clinicians need to maintain a high level of suspicion regarding the possibility of hypoventilation in the morbidly obese patient, particularly in the presence of severely restricted spirometry, serum bicarbonate >27mEq/L or concurrent severe OSA (10).

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OBSTRUCTIVE SLEEP APNOEA – HOW DO WE TACKLE THIS NEW PANDEMIC DISEASE?

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Obstructive sleep apnoea is a common disorder characterized by repetitive collapse of the pharyngeal airway during sleep. It affects at least 4% of adult men and 2% of adult women. Thus, it is a big problem affecting a large number of people with enormous medical, social and economic consequences. The medical consequences of obstructive sleep apnoea may be categorised into **neurocognitive dysfunction** which is a result of sleep fragmentation, and **cardiovascular complications** (hypertension, myaocardial infarction, stroke and congestive heart failure) possibly due to intermittent hypoxia. The condition is generally diagnosed in sleep laboratory through an overnight polysomnography, which is both labour-intensive and expensive. Alternative approaches to confirm the diagnosis are available and may be appropriate in many cases. A number of treatment options are also available. Continuous positive airway pressure remains the most effective treatment for most cases but dental/oral appliances and surgeries may also work for selected cases. Approach to the diagnosis of this condition and options of treatment will be discussed.

INITIATING CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) IN OBSTRUCTIVE SLEEP APNEA

Amanda Piper
Australia

Continuous positive airway pressure is well established therapy for the management of obstructive sleep apnea (OSA), and is associated with substantial improvement in daytime functioning and quality of life. However, the effectiveness of CPAP is frequently hindered by poor or nonadherence to therapy. A multitude of factors can influence whether an individual accepts and then uses CPAP consistently. While previous studies have evaluated physiological and patient characteristics as predictors of adherence (1), more recent studies have focused on the role of psychological factors and cognitive perceptions in influencing the decision about CPAP use (2). Several studies have found early experiences with CPAP impact on the individual's decision to use CPAP (2,3), and this early pattern of use predicts long term adherence (4). Consequently, promoting a positive initial experience with CPAP is seen as crucial in encouraging patients to continue therapy long term. Three key aspects of initiating CPAP therapy will be discussed: a) the impact on adherence of how an effective pressure level is titrated, b) improvements in device technology to lessen side-effects commonly associated with CPAP use and c) education and support of the individual commencing CPAP. Evidence to date suggests that simplified approaches to the determination of effective pressures have not impacted negatively on CPAP adherence, at least in appropriately selected individuals (5). Considerable effort has been put into modification of CPAP devices to lessen side effects, and while these have been effective in reducing symptoms associated with therapy use, there is currently little evidence that these have had a clinically significant impact on adherence, at least in CPAP naïve individuals (6). More recent work has shown that educational support combined with behavioural strategies employed early in the CPAP experience is most likely to influence CPAP use (7). In general, studies evaluating device modifications and educational strategies on CPAP adherence have assessed CPAP naïve patients with moderate to severe apnea. More work is needed to determine the impact of these interventions in subjects with much milder disease, and those who are likely to be, or are already established, as poorly adherent to therapy.

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SYMPOSIUM 4B
AIR-TRAVEL RELATED DISORDERS

PHYSIOLOGICAL CHANGES WITH ALTITUDE – WHO ARE THE HIGH RISK PASSENGERS?

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Malaysia

We are living in a jet age. Commercial airliners are getting increasingly sophisticated, efficient and safe. If sea-level cabin pressure could be maintained continuously in all aircrafts, the role of the physician would be simplified greatly. Regardless of aircraft, exposing patients to changing ambient pressures is therefore unavoidable. Atmospheric physics potentially affect all air travellers, some more than others. Hence, it is important to understand the physical changes at high altitude. Here, we review the human responses to pressure changes and discuss who are at risk.

EVALUATION OF "FITNESS" FOR PATIENTS WITH RESPIRATORY DISEASES PLANNING AIR TRAVEL

Hooi Lai Ngoh
Malaysia

Every year nearly 2 billion passengers travel by air. Air travel is potentially hazardous for patients with lung diseases (from hypobaric hypoxia) and physicians need to be able to offer practical advice. The advent of larger aircraft that can undertake longer flights and the increasing proportion of elderly in the population will result in increasing numbers of passengers with medical ailments.

Modern aircraft are pressurised to cabin altitudes of 1,524 - 2,438 m (5,000 - 8,000 ft). At 8,000 ft, the partial pressure of oxygen would be equivalent to breathing 15.1% oxygen at sea level and in healthy persons, PaO2 will fall to 7.0 – 8.5 kPa / 53 – 64 mm Hg (SpO2 85 – 91%). The British Thoracic Society (BTS) and Aerospace Medical Association (AsMA) have published guidelines for respiratory patients planning air travel. Pre-flight assessment for adults should include history and physical examination focussing on cardiopulmonary disease, dyspnoea and previous flying experience. Other useful tests include spirometry, SpO2 by pulse oximetry and measurement of blood gas tensions. It has been recommended that those with sea level SpO2 of < 92% (BTS) or PaO2 < 70 mm Hg (AsMA) require in-flight oxygen and those already on supplemental oxygen at sea level will need increased flow at cruising altitude. Hypoxic challenge test or hypoxic altitude simulation test which is done with the subject breathing a hypoxic mixture of 15% oxygen in nitrogen, is the gold standard to estimate the expected in-flight PaO2. Those with low expected in-flight will require oxygen supplementation ie., PaO2 < 50 mm Hg according to BTS (SpO2 < 85%) and < 55 mm Hg according to AsMA guidelines. The AsMA advocates a 50-metre walk test as a simple and practical test of cardio-respiratory reserve to exercise but there is little evidence to validate this approach. Other walk tests have been used and of these, the 6-minute test has been standardised and validated. BTS guidelines mention the use of hypoxaemia-predicted equations if the hypoxic challenge test is not available. Simulation of cabin conditions in a hypobaric chamber, the ideal test, is not generally available and is mainly used for research and training purposes.

Those with infectious tuberculosis should not fly until rendered non-infectious by effective treatment. Patients with current closed pneumothorax should not fly until 1 week after radiological resolution and the time lapse should be 2 weeks for those with traumatic pneumothorax. Patients should not fly until 2 weeks after major thoracic surgery, for an uncomplicated procedure. Those with chronic respiratory illness who have unstable disease should be dissuaded from flying. Advice for patients with various specific respiratory diseases will be touched upon.

For normal term infants, it is best to avoid flying until 1 week after birth. Infants born preterm and those who had neonatal lung disease are more susceptible to developing hypoxaemia during air travel. Hypoxic challenge test may be needed for children at risk of hypoxaemia, with titration of oxygen requirement if SaO2 falls below 90%.

MANAGING PATIENTS WHO REQUIRE OXYGEN DURING AIR TRAVEL

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Travelling by air whether for going on a holiday or for some other purposes, precautions should be taken while flying. Air travel has no wrong or significant effect on health. However, it is a well known fact that travelling long distances in a pressurized cabin altitude does have some effects on the human body.

Air travel may pose a special form of altitude problem since almost all commercial aircraft fly above 21,000 feet. Aircraft cabins are normally pressurized at a maximum of 8,000 feet (2438m). The falling barometric pressure with increasing altitude results in a drop in arterial oxygen tensions (PaO2). However, air travel offers many advantages for heart and lung patients since it is quick and involves little activity.

In general, airlines do allow oxygen to be used but require considerable forethought and planning. Arrangements must be made in advance and most airlines require a doctor's letter. A physician's statement of oxygen needs in order to fly in a commercial flights must be made available. Patients/passengers cannot bring their own oxygen on board, oxygen supplied by the airline must be used. Requirements vary from carrier to carrier but, they all require arrangements be made in advance and they all charge for in flight oxygen.

The airlines' position on routine use of their oxygen in the transport of patients is that they are not in the business of transporting sick people. There are unique liability problems in so doing and regulations which must be followed when they act in the position of an air ambulance.

Patients with respiratory disorders such chronic obstructive pulmonary disease (COPD), cystic fibrosis, asthma, or heart disease and need oxygen supply, they should be able to travel via air so long as they consult closely with their physician and then follow the advice received.

For COPD patients, whose main problem is moving air in and out of their lungs, getting sufficient oxygen is vital. Therefore, it is important that nothing be undertaken which inhibits its function. When travelling by car, train, or bus, COPD patients and others needing supplementary oxygen should have a supply available in case they pass through areas of excess air pollution. They should also avoid travel in a confined area, such a bus where smoking in permitted, and ensure that they keep out of extreme temperatures, both hot and cold.

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PLENARY LECTURE 5
TUBERCULOSIS

UPDATES ON TB LABORATORY DIAGNOSTIC TOOLS

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The care of patients with tuberculosis requires reliable and timely laboratory confirmation of infection. Although the landscape of new TB diagnostics is changing rapidly, the TB diagnostic algorithm remains basically the same, comprising a medical evaluation, chest radiograph, Mantoux tuberculin skin test, and appropriate laboratory tests including direct smear microscopy, culture, speciation and drug susceptibility testing.

The TB diagnostic algorithm starts with the screening of specimens by direct microscopy. The current WHO policy on case finding by microscopy recommends that two sputum specimens be examined. The Ziehl-Neelsen (ZN) light microscopy is simple and inexpensive. It can be performed directly on sputum specimens and detects infectious cases of pulmonary TB. Conventional fluorescence microscopy is on average 10% more sensitive than ZN microscopy, but running cost is high and considerable technical expertise is required. Light-emitting diode (LED) fluorescent microscopy is cheaper and more efficient than conventional ZN microscopy. WHO has recommended conventional fluorescence microscopy to be replaced by LED microscopy and that LED microscopy is to be phased in as an alternative for conventional ZN light microscopy in both high- and low-volume laboratories.

Mycobacterial culture using solid and liquid culture methods remain the gold standard of TB diagnostics. The BACTEC MGIT 960 automatic liquid culture system is used in most TB laboratories. It increases the case yield by 10% over solid media, and reduces the incubation time to 10 days to 2 weeks for a positive detection. LJ (Lowenstein-Jensen) solid culture is relatively cheap, it can be used for all types of clinical samples but the incubation time is 8 weeks.

Positive cultures can be identified by Amplification Test (MTD), conventional biochemical tests, GenProbe Technology (AccuProbe), BD ProbeTec ET system, High Performance Liquid Chromatography (HPLC) and GenoType test systems from Hain Lifescience. As non-tuberculous mycobacteria (NTM) are more common in HIV-infected patients and the treatment of NTM infections is entirely different from the treatment of TB, it is important to implement a rapid method to identify and differentiate M. tuberculosis from other mycobacterial species. DST is essential for identifying patients at risk of MDR-TB, the automated liquid systems and molecular line probe assays are the current gold standard for first-line DST. Second-line DST is complex and expensive, requires laboratory infrastructure with rigorous quality assurance and sustainable proficiency plus high sample loads from high-risk patients per year.

Fast track TB diagnosis offers rapid detection of TB in clinical specimens. GenoType MTBDR plus and Xpert MTB/RIF allow simultaneous identification of M. tuberculosis and resistance to rifampicin. GenoType Mycobacteria Direct allows the simultaneous detection of M. tuberculosis and NTM directly from decontaminated pulmonary and extrapulmonary clinical specimens except for blood..

The Mantoux Tuberculin Skin Test detects a cell-mediated immune reaction to TB infection; the test may be negative in TB patients with an aberrant immune system. Interferon–Gamma Release Assays (IGRAs) are used to determine if a person has been infected with M. tuberculosis. The T-SPOT-TB and Quantiferon-TB Gold test are two blood tests available for the diagnosis of latent TB Infection.

The scope of TB laboratory services depends on the infrastructure, facilities and workload of the laboratory. M. tuberculosis is classified as a Risk Group 3 pathogen, laboratory biosafety is important to prevent infection among laboratory personnel.

MANTOUX TEST AND IGRA – THE MYTHS AND THE FACTS

Pang Yong Kek
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Tuberculin skin test (Mantoux test) is performed by measuring the size of skin induration after 48 - 72 hours of intradermal injection of tuberculin (previously known as purified protein derivative, PPD). It is based on the fact that TB infection induces a strong cell-mediated delayed-type hypersensitivity response to tuberculin at the injection site.

Mantoux test, despite being in existence for more than 100 years, remains one of the commonest tests employed in TB diagnosis.

In recent years, the newer test - the IGRA (Interferon Gamma Release Assay) stands to take over this position. There are 2 representatives in the market for this assay – the Quantiferon – Gold Test and the T-SPOT test.

But, there are still misconceptions surrounding these tests. In this lecture, we will examine if some of the conceptions/beliefs are just myths - or they are supported by facts:

- Mantoux test is being designed to test the presence of active TB?
- The bigger the size of skin induration (Mantoux test), the likelihood of an individual developing active TB is higher?
- Interpretation of Mantoux test should be the same for all individuals irrespective of their BCG vaccination status?
- IGRA is more sensitive than Mantoux test in diagnosing active/latent TB?
- IGRA is much helpful to differentiate active TB from latent TB, compares to Mantoux test?
- When IGRA is negative, active TB can be safely excluded?
- Positive IGRA is more predictive of TB reactivation than positive Mantoux test?
- IGRA is useful to exclude TB in immune compromised patients or infants?
- Between the 2 IGRA representatives, QuantiFERON is a better test than the T-SPOT?

NON-TUBERCULOSIS MYCOBACTERIAL INFECTION : WHEN TO TREAT?

Aziah Ahmad Mahayiddin
Malaysia

There are many different species of mycobacterium other than MTB. The commonest that may cause disease in man are M. avium complex (MAC), M. fortuitum complex and M. kansasii. AIDS epidemic brought forth drastic increase of these infections. Mycobacterium infections presents with variety of clinical presentation, in the forms of pneumonia, lung disease, pleural space infections, lymphadenitis, soft tissues and skin infections, GIT infections, osteomyelitis, meningitis, disseminated and sometime IV catheter related infection. Host immunity seems to play a major role. Pulmonary disease in adults without AIDS may occur. Other populations at risk include individuals with pre-existing lung disease and other immuno-compromised conditions. The manner in which these bacteria are transmitted is not completely understood. NTM infections can occur without causing any symptoms but tuberculin skin test may be positive. The diagnosis is made from the patient's symptoms and organisms grown in culture from the site of infection. In cases of lung infection, a diagnostic workup will include a chest x ray and tests on discharges from the respiratory passages.

Diagnostic criteria of NTM Lung Disease in HIV-Seropositive and Seronegative Hosts are the presence of three positive cultures with negative AFB smear results or two positive cultures and one positive AFB smear in patients with symptoms. At least three respiratory samples should be evaluated from each patient. Other reasonable causes for the disease should be excluded. Expert consultation should be sought when diagnostic difficulties are encountered. Treatment is only initiated when diagnostic criteria are fulfilled. There have been no randomized comparative trials of treatment for disease caused by NTM , comparing one drug regimen with another or with no drug treatment at all. There have been, however, several retrospective and prospective studies of various treatment regimens on different organism. This non-typical mycobacterium are not easy to treat in any patient and the problem is complicated when the person has AIDS. Antibiotics are not particularly effective, but it is possible to contain the infection to some degree by combining different drugs e.g. For *M. kansasii*, a regimen of RHE for 18 mos with a minimum of 12 mo culture negativity is used. Clarithromycin will need to be substituted for rifampin in HIV-positive patients who take protease inhibitors. For treatment of *M. avium* pulmonary disease, a regimen of daily clarithromycin or azithromycin , rifampin, and ethambutol is recommended. Streptomycin 2-3 times per week should be considered for the first 8 wk as tolerated. Patients should be treated until culture-negative on therapy for 1 year. For *M. avium* disseminated disease, therapy in adults should include daily clarithromycin or azithromycin , plus ethambutol and consideration should be given to the addition of a third drug preferably rifabutin. Therapy should be continued for life until more data becomes available. Therapy of non-pulmonary disease caused by *M. fortuitum*, *M. abscessus* , and *M. chelonae* should include drugs such as amikacin and clarithromycin, based on *in vitro* susceptibility tests. Because drug therapy is not easily effective, the overwhelming infections caused by these mycobacteria in AIDS patients can be fatal.

ENDOBRONCHIAL TUBERCULOSIS – THE HIDDEN ENTITY

Abdul Razak Muttalif
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Endobronchial tuberculosis (EBTB) is defined as tuberculous infection of the tracheobronchial tree. The reported incidence of EBTB has been as high as 10% to 20% in patients with the active parenchymal disease. More than 90% of patients with EBTB have some degree of bronchial stenosis resulting from cicatricial healing of mucosal ulceration or necrosis. The peak incidence occurred in the second decades, with 3.8 times higher incidence noted in female than in male subjects.

Common symptoms are cough, haemoptysis, sputum production, wheezing, chest pain and fever in active disease and dyspnoea and wheezing in the fibrous stage. This form of tuberculosis is difficult to diagnose because the lesion is not evident in the chest radiograph, frequently delaying treatment. Computerized tomography is very useful in evaluating bronchial lesions such as stenosis or obstruction.

The most important goal of treatment in active EBTB, is the eradication of tubercle bacilli. The second most important goal is prevention of bronchial stenosis. In inactive disease, treatment to restore full patency is appropriate. Corticosteroid therapy for prevention of bronchial stenosis remains controversial, but the best results are associated with minimal delay in the initiation of steroid treatment. Aerosol therapy with streptomycin and corticosteroids is useful in treatment against active EBTB. Time to healing of ulcerous lesions is shorter, and bronchial stenosis is less severe in patients on aerosol therapy. Progression to bronchial stenosis may be prevented if the therapy is initiated as soon as possible.

As steroids or other medication are unable to reverse stenosis from fibrous disease, airway patency must be restored mechanically by surgery or endobronchial intervention. Tracheobronchial stenting produces symptomatic improvement but multiple revisions is expected, at times up to 10 times. Tracheobronchial tear poses daunting clinical challenges. Surgical treatment may offer better outcome in some cases. The modes of surgical treatment in EBTB includes: sleeve resection, lobectomy, pneumonectomy and bronchial reconstruction.

PULMONARY ARTERIAL HYPERTENSION – EARLY DIAGNOSIS AND TREATMENT

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Pulmonary Arterial Hypertension (PAH) is defined as a group of diseases characterised by a progressive increase of pulmonary vascular resistance (PVR) leading to right ventricular failure and premature death. PAH can be idiopathic, heritable, or associated with connective tissue disease (CTD), Congenital Heart Disease (CHD) , HIV infection, and exposure to toxins and drugs. Mortality rates in patients with PAH are high, historically the median life expectancy of idiopathic PAH (iPAH) without specific therapy is 2.8 years from diagnosis, with 1-year, 3-year, and 5-year survival rates of 68%, 48% and 34% respectively.[1]

The diagnosis of PAH is in part through the exclusion of other diseases. It requires a series of investigations that are intended to make the diagnosis, clarify the clinical class of PAH, the type of PAH and to evaluate the degree of functional and haemodynamic impairment. Formal guidelines and consensus documents have been published by the European Society of Cardiology (ESC)[2], the National Pulmonary Hypertension Centres of the UK and Ireland[3], the ACCP, and the American College of Cardiology Foundation Task Force (ACCF)/American Heart Association. For the practical purposes the approach should includes four stages : 1. Clinical suspicion of PAH 2. Detection of PAH 3. PAH clinical class identification 4. PAH evaluation.

The aims of treatment in patients with PAH are to improve survival, disease-related symptoms and Quality of Life. The treatments can be classified as conventional therapy and targeted PAH-specific therapy. In conventional therapy, the options include oxygen supply in cases of hypoxemia, anticoagulants such as warfarin, and digoxin with diuretics in cases of right-sided heart failure. For targeted PAH-specific therapy, few drugs are available in Malaysia and these include bosentan, ambrisentan, iloprost and sildenafil. Generally, we initiated targeted PAH-specific drug with monotheraphy and consider sequential combination therapy if patients have shown inadequate response to monotherapy. Atrial septostomy and lung transplantation are reserved for selected patients who have refractory symptoms.

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ALLERGIC BRONCHOPULMONARY ASPERGILLOSIS (ABPA) – WHAT'S NEW?

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Allergic Bronchopulmonary Aspergillosis (ABPA) is a hypersensitivity reaction to Aspergillus antigens that is associated with inflammatory destruction of airways, occurs almost exclusively in patients with asthma or cystic fibrosis (CF) who have concomitant atopy. The incidence of ABPA in patients with asthma and CF is approximately 2% and 1 to 15% respectively. Aspergillus specific, IgE-mediated type I hypersensitivity reactions and specific IgG-mediated type III hypersensitivity reactions are believed to play a central role in the pathogenesis of ABPA. The persistence of A. fumigatus in the lung leads to T lymphocyte activation, cytokine, and immunoglobulin (Ig) release and inflammatory cell recruitment. Local inflammation results in mucus production, airway hyperreactivity, and ultimately bronchiectasis.

The most significant pathological findings in ABPA include bronchocentric granulomas and mucoid impaction involving the bronchi and bronchioles. Granulomatous inflammation with histiocytes and lymphocytes, increased numbers of eosinophils, and exudative bronchiolitis may be seen. Fungal hyphae were also commonly seen without evidence of tissue invasion.

There is no single test or universally recognized set of criteria to diagnose ABPA. Integration of clinical, radiographic, and serologic features and clinical judgment is used to make the diagnosis of ABPA. The diagnostic criteria articulated by Rosenberg, and later revised by Greenberger, are widely accepted which include presence of asthma, immediate skin reactivity to Aspergillus, serum precipitins to A fumigatus, increased serum IgE and IgG level to A fumigatus, elevated total serum IgE more than 1,000 ng/mL, current or previous pulmonary infiltrates, central bronchiectasis and peripheral eosinophilia (1,000 cells/μL). The patient usually presents with wheezing, expectoration of brown mucus plugs, pleuritic chest pain, and fever. The chest radiograph findings may be normal in the early stages of the disease. Fleeting pulmonary infiltrates that tend to be in the upper lobe and central in location are typical findings during acute exacerbation. There may be loss of lung volume due to mucoid impaction of the airways which manifest as "gloved finger appearance". Central bronchiectasis and pulmonary fibrosis may develop later in advance stage. A positive sputum culture for A fumigatus is not essential for the diagnosis of ABPA. Immediate skin reactivity to A fumigatus antigens and elevated levels of serum IgG antibodies to Aspergillus are usually present.

There are five recognized stages of ABPA. Stage I defines new, active ABPA. Stage II is marked by clinical and serological remission. Stage III is recurrent active ABPA. Patients with chronic, steroid-dependent asthma secondary to ABPA are classified as stage IV and fibro-cavitary disease due to progressive inflammation and airway dilation defines Stage V, which may lead to progressive respiratory failure and death. Early diagnosis and treatment is thought to be associated with a lower risk of advanced disease in the future. Changes in serum total IgE level or pulmonary function tests are useful for assessing remission or recurrence of ABPA.

The goal of therapy is to induce remission which is defined by improvement in clinical symptoms, decrease in total serum IgE level, resolution of radiographic opacities, and improvement in lung function. by suppressing the inflammation. Systemic and inhaled corticosteroids, antifungal agents, and omalizumab, a monoclonal

antibody directed against IgE have been tried in treating ABPA .However, none of these medications have been shown to be of benefit in large, randomized, double-blind, placebo-controlled trials. Systemic corticosteroid is the mainstay of treatment for ABPA, based on case series and expert opinion for its benefit to induce remission, reduced frequency of acute exacerbations, preservation of pulmonary function, improved quality of life and prevent progression of disease .However, the long-term adverse effects of corticosteroid therapy may result in profound immunosuppression and debilitating metabolic abnormalities. Eradicating Aspergillus species using itraconazole to diminish the antigenic stimulus of bronchial inflammation has been shown to be beneficial in ABPA as steroid sparing agent. Voriconazole, a newer antifungal azole with greater bioavailability, has the potential to be more effective. Omalizumab, monoclonal anti IgE antibody, may be of benefit in certain patients.

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LUNCH SATELLITE LECTURE (BAYER HEALTHCARE)

KEY CLINICAL MILESTONES OF MOXIFLOXACIN IN TREATING RESPIRATORY TRACT INFECTIONS

Richard Loh Li-Cher

Malaysia

Respiratory quinolone represents an exciting class of new antibiotic available to us for use in the treatment of respiratory tract infections (RTI). This applies to bacterial sinusitis, acute exacerbation of chronic bronchitis/ COPD and community-acquired pneumonias. Moxifloxacin, discovered in 1994, extended the spectrum and potency of earlier fluoroquinolones, such as ciprofloxacin and levofloxacin and has been licensed for use for RTI in Europe and the USA since 1999. To date, its efficacy and safety has been tested in over 17,900 patients in clinical trials setting, and in over 134,000 patients in non-interventional post-marketing surveillance studies. The data supports its efficacy or non-inferiority over other comparators while retaining benefits of being a shorter course, a faster resolution of symptoms, ease or early IV/oral switching, prolonging the time to next exacerbation of bronchitis, and possibly lower rates of developing resistance. The over 10 years of robust experience of moxifloxacin has testified to its safety, in contrast to other new quinolones like gatifloxacin, gemifloxacin, sparfloxacin, that had fallen by the wayside because of unacceptable toxicities. Moxifloxacin, however, has reduced anti-microbial activity against pseudomonas compared to older quinolones like ciprofloxacin, and has anti-tuberculosis property with implication of its use in our local setting where pulmonary tuberculosis remain somewhat endemic. This lecture describes the key clinical trials of the various RTI with moxifloxacin and discusses its obvious influence in our clinical practice and treatment guidelines today.

THE "DUTCH HYPOTHESIS" IN AIRWAYS OBSTRUCTION

Lim Tow Keang
Singapore

The "Dutch hypothesis" proposes that host factors are responsible for the development of airways obstructive diseases. This presentation will summarize the latest evidence in support of this hypothesis based on historical records, molecular genetics, epidemiological data, physiological studies and clinical practice.

ORAL SCIENTIFIC PRESENTATIONS

OP 1

THE EFFECTS OF HONEY ON THE INFLAMMATORY PROCESS OF THE RESPIRATORY TRACT OF CIGARETTE SMOKE-EXPOSED MALE RATS

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The most common risk factor for Chronic Obstructive Pulmonary Disease (COPD) is cigarette smoking. Inflammatory changes signify a clear indication in the early pathological changes of the airway in this disease. Recently, honey has been shown to have significant therapeutic properties. Its beneficial effect has been widely studied, but the study on the use of honey in COPD is limited.

The main objective of this study was to evaluate the effect of honey on the inflammatory process in the small airways of rats exposed concurrently to cigarette smoke. This was determined by a quantitative study of the neutrophils, macrophages and CD8+ T lymphocytes in the interalveolar septum and a semiquantitative study of the morphological changes of the airway.

Twenty-three male Sprague Dawley rats were divided into the control, smoking+honey and smoking only groups. The dose of honey given to the rats in the smoking+honey group was 1.2gm/kg body weight daily. The rats were sacrificed after four weeks of exposure. Immunohistochemical staining was performed using anti-CD68 and anti-CD8 to quantify the alveolar macrophages and the CD8+ T lymphocytes in the interalveolar septum respectively. Masson Trichrome staining was carried out for pathological scoring examination of the small airways.

There was a significant reduction in the number of macrophage in the smoking+ honey group compared to smoking only group ($z=-2.52$, $p= 0.036$). However there was no significant reduction in the number of neutrophils ($z=-0.54$, $p>1.00$) and CD8+ T lymphocytes counts ($z=-0.40$, $p>1.00$) between these two groups. The pathological scores between the two groups were also not statistically different ($z=-0.14$, $p=0.892$).

In conclusion, honey has a significant effect in reducing the macrophage recruitment in the respiratory tract following inflammatory response due to cigarette smoke inhalations in rats. Honey also shows a reducing trend in the recruitment of neutrophils and CD8+ T lymphocytes although it is not statistically significant.

OP 2

ASSESSING IMPACT ON TUBERCULOSIS INTERVENTIONS IN MALAYSIA: A MATHEMATICAL MODELLING APPLICATION FOR OUTBREAK AND CONTROL

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Tuberculosis remains as one of the highest unresolved disease burden among re-emerging diseases in Malaysia for the last twenty years. With current treatment protocol emphasising treatment of infectives, we seek to find if combination treatment of these active cases with Isoniazid Preventive Therapy for high risk latent tuberculosis infection groups among non-HIV population would give greater impact on reducing incidence. We present a deterministic compartmental age-structured tuberculosis model that assumes latently infected individuals develop active disease as a result of primary infection, endogenous reactivation and exogenous reinfection. We start by formulating and analysing the model without any intervention strategy, and extend to incorporate preventive therapy and treatment of infectives. Epidemic thresholds, model equilibria and stabilities are determined and analyzed. Reproduction numbers are compared to assess possible community benefits achieved by treatment of infectives, preventive therapy and a holistic approach of combination of both intervention strategies. The model further quantifies the effectiveness of preventive therapy for early latent tuberculosis infection and demonstrates how effective it has to be to eliminate tuberculosis, when use in conjunction with treatment for active tuberculosis. Analyses show treatment of infectives more effective in the first years of implementation of preventive therapy as treatment results in clearing active tuberculosis immediately, there after preventive therapy will do better in controlling the number of infectives due to reduced progression to infectious state. Our model suggests Isoniazid Preventive Therapy which identify and treat persons recently infected may have substantial effect on controlling tuberculosis epidemics in Malaysia.

OP 3

SURVIVAL OF LUNG CANCER IN ALOR SETAR KEDAH: A RETROSPECTIVE COHORT STUDY 2004-2010

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Objective

The aim of the study was to evaluate the survival of lung cancer patients in Alor Setar, Kedah from year 2004 to 2010.

Materials & Methods

A retrospective cohort study was conducted involving 103 lung cancer patients treated in Hospital Sultanah Bahiyah, Alor Setar, Kedah from January 2004 until December 2010. Patients' information was obtained from their medical records and telephone calls. Kaplan Meier product-limit (PL) estimates was applied and expressed as percentages with 95% confidence intervals. The comparison of survival distributions in variable groups were evaluated using the Log-rank test.

Results

The overall cumulative survival for lung cancer in Kedah was 83.5 (95% confidence interval (CI): 81.5, 85.5), 73.8 (95% CI: 65.4, 82.2), 62.1 (95% CI: 52.6, 71.5) and 33.0 (95% CI: 32.9, 51.2) percent for 1 month, 3 months, 6 months and 1 year respectively. There were significant higher one year survival probabilities of those receiving first line (Yes, 38% vs No, 15%), receiving second line (Yes, 65% vs No, 28%), greater frequency of chemotherapy cycle (6 cycle, 48 % vs stop chemotherapy, 10%), better score before chemotherapy (1, 45% vs 3, 8%), lower than stage 4 (non stage 4, 56 % vs Stage 4, 20%), complete 3 months remission (complete remission, 35% vs stop chemotherapy, 18%) and complete 6 months remission (complete remission, 58% vs no chemotherapy, 15 %).

Conclusion

The survival of lung cancer patients treated in Alor Setar was comparable with other developed countries.

Keyword

Survival, cumulative survival, lung cancer

OP 4

PREVALENCE AND RISK FACTORS OF SLEEP DISORDERED BREATHING SYMPTOMS IN PRIMARY SCHOOL CHILDREN IN MALAYSIA

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Introduction

Sleep-disordered breathing (SDB) is a spectrum of sleep problems in childhood ranging from primary snoring to obstructive sleep apnoea syndrome. Recognised predisposing factors were adeno-tonsillar size, ethnic differences, gender, craniofacial abnormalities and obesity

Objectives

Our study aimed to determine the prevalence of SDB symptoms amongst primary school-children in Malaysia, and to identify the associated risk factors.

Methods

The study population was 4,434 children aged between 6 to 10 years old attending primary school in Selangor from seven schools. Both the English and translated Malay version of the Paediatric Sleep Questionnaire from University of Michigan were used. The optimal SDB-scale cut-off point was 0.33. Duplicate measurements of children's weight and height, skin- fold thickness, neck and abdominal circumference were performed.

Results

A total of 7581 questionnaires were distributed and 4434 parents /guardians (58.5%) consented and completed the questionnaires. All children with the completed questionnaire attended physical examination session. The prevalence of children with SDB symptoms was 12.4% (550/4434) with 26.7 % (147/550) snored. SDB symptom was predominantly in males (62.7%) amongst Malays (43.2%) and from rural schools (14.8%). Risk factors identified were male gender (OR 1.70, 1.41- 2.04), rural background (OR 1.37, 1.14- 1.65), history of allergic rhinitis, (OR 3.06, 2.24-4.18), asthma (OR 2.61, 2.04-3.35) and recurrent tonsillitis (OR 3.35, 2.40- 3.69), thin children (OR 1.57, 1.15, 2.14), overweight children (OR 1.72, 1.41, 2.10), and enlarged tonsils (size 3+, {OR 1.37. 1.04-1.81} and size 4+ {OR 1.95, 1.26- 3.03}).

Conclusion

The prevalence of reported SDB symptoms is high. Risk factors identified are similar in other studies.

OP 5

DREV1 SILENCING PROMOTES CELL PROLIFERATION AND INVASION IN LUNG ADENOCARCINOMA

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Introduction

We have previously identified that decreased expression of DREV1 was associated with shorter survival in patients with advanced non-small cell lung cancers (NSCLCs). The exact mechanism how reduction of DREV1 leads to shorter survival is still not known.

Objective

To determine the roles of DREV1 in cancer progression Methods: Quantitative Real Time PCR (qPCR) and Tissue Microarray Immuno-histochemistry (TMA-IHC) were performed to validate the expression of DREV1. Silencing of DREV1 was done using DHARMACON™ SmartPooled Small Interfering RNA (Thermo Scientific) on the A549 lung adenocarcinoma cell line. Cell viability and apoptosis were measured using CellTiter-Glo® Luminescent Cell Viability Assay (PROMEGA) and Caspase-Glo® 3/7 Assay (PROMEGA) respectively. The effect of DREV1 inhibition on cell invasion was studied using QCMTM 24-well Collagen-Based Cell Invasion Assay–Colorimetric (CHEMICON). The downstream genes and signal cascades were interrogated using Illumina HumanRef-8 v3.0 Expression BeadChips.

Results

qRT-PCR confirmed that the expression of DREV1 was significantly higher in the long survival group (n=8) compared to the short survival group (n=8). TMA-IHC showed the DREV1 expression was reduced in advanced stages of NSCLC (Stage III and IV) compared to the early stages (Stage I and II). Silencing of DREV1 increased cell proliferation, reduced apoptosis through reduction in Caspase 3 and 7 activities and increased cell invasion. Microarray gene expression analysis revealed that silencing of DREV1 activated SRC, GNAQ and PIK3R, mediators of PAR1 and PKY2/ERK/MAPK pathway that promotes proliferation, migration and cell invasion.

Conclusions

Reduced expression of DREV1 may contribute to poor survival in NSCLCs through increased cancer cell proliferation and cell invasion, and reduced apoptosis.

OP 6

MMP-9, UPA AND SP-A AS SPUTUM BIOMARKERS FOR COPD SEVERITY (SAFE INDEX) AND EXACERBATION

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Introduction

The SAFE index has recently been proposed to evaluate the severity of COPD. However, the correlation between sputum biomarkers and SAFE index in COPD exacerbation frequency and hospital admission has not been studied.

Objectives

To evaluate sputum MMP-9, uPA and SP-A as biomarkers for COPD exacerbation and severity as determined by SAFE index.

Methodology

A prospective observational study was conducted on 72 COPD patients over a period of one year and the exacerbation rate and severity were recorded. The sputum biomarkers which include matrix metalloproteinase-9 (MMP-9), urokinase plasminogen activator (uPA) and surfactant protein A (SP-A) were measured using ELISA method at the baseline. The COPD severity was classified according to the SAFE index which comprised of SGRQ, FEV1%predicted and 6-min walking test.

Results

COPD patients with higher SAFE index score had more frequent and severe exacerbation compared to patient with lower SAFE index score (p=0.04 and p=0.02 respectively). The sputum SP-A was significantly lower, 0.79 (0.59, 0.99) in COPD patients with severe exacerbation (p= 0.03) while there was no significant difference in the frequency of exacerbation. However, there were no significant difference in the levels of sputum MMP-9 and sputum uPA in both the frequency and severity of COPD exacerbation. Sputum MMP-9 had a weak but significant correlation with 6-minute walking test (p=0.04, r= 0.240) and moderate correlation with SQRG total score (p=0.01, r= -0.305). There were no significant difference between all the biomarkers and SAFE stages.

Conclusion

In conclusion, a higher SAFE index score is associated with frequency and severity of COPD exacerbation. Sputum SP-A is a useful biomarker to predict the severity of COPD exacerbation.

OP 7

PROCALCITONIN-AIDED ANTIBIOTIC THERAPY MANAGEMENT IN HOSPITAL – ACQUIRED PNEUMONIA AND HEALTHCARE-ASSOCIATED PNEUMONIA: A RANDOMISED CONTROLLED TRIAL

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Introduction

Hospital-acquired pneumonia (HAP) and healthcare-associated pneumonia (HCAP) are the most important nosocomial infections leading to high mortality. Antibiotic duration of seven days is usually recommended but it is not uncommon for antibiotics to be continued further. Procalcitonin (PCT) has been shown to be safe and effective in guiding antibiotic de-escalation in community acquired pneumonia (CAP). Its usefulness HAP and HCAP is unknown.

Objectives

To determine the duration of antibiotics, length of hospital stay and 30-day mortality in PCT-aided and non PCT-aided groups in non-ICU patients treated for HAP and HCAP.

Methodology

A prospective, open intervention randomised controlled trial involving patients diagnosed with and treated for HAP and HCAP in medical wards. Patients were randomised into an active group where PCT levels were made known to the treating physicians and a control group where physicians were blinded to the PCT levels. Physicians were advised on the PCT-aided treatment algorithm and the standard HAP treatment protocol. Serial PCT levels were drawn at Day 1, Day 3 and Day 5. Outcome measures are duration of antibiotics, length of hospital stay and 30-day mortality.

Results

A total of 109 patients were randomised from 129 screened. The active and control groups had 51 and 52 patients respectively. Three patients were excluded from each group. The median duration of antibiotics in the active and control groups was 8.0 and 7.0 days respectively, both IQR: 6.0- 9.0; p = 0.65. Patients assigned to the PCT-aided group had a comparable hospital stay compared to control (7.0 days [IQR: 5.0 – 9.0] vs. 6.5 days [IQR: 5.0 – 9.8]; p = 0.93). The overall mortality was 9.7%.

Conclusion

We were not able to show that PCT-aided antibiotic therapy shortens the antibiotic duration and length of hospital stay.

OP 8

CORRELATION BETWEEN GINA-DEFINED ASTHMA CONTROL, ASTHMA CONTROL TEST AND LUNG FUNCTION TESTS

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Introduction

Assessment of asthma control remains contentious. Various assessment methods have been used. These include symptom assessment, lung function tests, questionnaires and laboratory investigations, e.g. exhaled nitric oxide. Global Initiative for Asthma (GINA) has recommended assessment based on symptoms and lung function tests. However, this strategy has not been validated in clinical trial.

Objectives

To assess the correlation between GINA-defined asthma control (G-AC) and the

- Asthma Control Test (ACT) questionnaire
- lung function tests (peak expiratory flow rate and spirometry)

Methodology

This is a prospective cross-sectional study conducted from 22 October 2010 till 10 June 2011 at the asthma clinic of University Malaya Medical Centre. Only patients seen by the specialists were recruited.

A total of 70 asthmatics were recruited. Patients' ages ranged from 13 to 82 years old (mean [SD], 58.24, [15.9]). Of these, 78.6% (55) were females and 21.4% (15) were males.

Patients were categorised into well controlled, partially controlled and poorly controlled based on GINA-defined asthma control.

One way-ANOVA test was used to examine the relationship G-AC and ACT, and between G-AC and lung function tests.

Results

1. There was statistically significant difference between well-controlled asthma or partially controlled asthma and poorly controlled asthma in term of their ACT scores.
2. However, there was no statistical difference between well-controlled and partially controlled asthma.
3. PEFR and Spirometry tests did not show statistical difference between the 3 asthma control groups.

Conclusions

1. If ACT is to be used in conjunction with other clinical assessment, it may suffice to distinguish between controlled and uncontrolled asthma status (without the category of partially controlled asthma).
2. While PEFR and spirometry may be useful to assess asthma control over a course of time, one-off point assessment may not be useful in assessing asthma control.

OP 9

THE CORRELATION BETWEEN COPD ASSESSMENT TEST, FEV1, MMRC SCORES AND 6MWT

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Objectives

To investigate the consistency between the COPD Assessment Test (CAT) score and the six-minute-walk test, the correlation between the CAT score and the percentage of FEV1 predicted, the correlation between the CAT score and the Modified Medical Research Council (MMRC) score for dyspnoea. Furthermore, we need to ascertain if the CAT questionnaire can be used as a quick, easy and reliable clinical tool in assessing the severity of COPD in Malaysia.

Methodology

This is a cross-sectional study involving consecutive patients with an established diagnosis of COPD followed up in the respiratory clinic in University Malaya Medical Centre (UMMC), conducted from March to August 2010. A total of 60 patients were recruited. The patients were assessed on the symptoms of COPD and their performance status. Simple tests such as spirometry and the six-minute-walk test were carried out on every patient. Each patient was then asked to fill up the CAT questionnaire consisting of 8 questions pertaining to their COPD symptoms. The physician was blinded to the findings of the patients' CAT scores. These were later compared to the CAT scores, after completion of the study.

Results

There was good correlation between the CAT scores and the six-minute-walk test and the MMRC dyspnoea scale. However, there was hardly any association between Percentage of FEV1 predicted and the CAT score.

Conclusion

This study shows that the CAT is a short and simple patient-completed questionnaire for COPD with excellent measurement properties. The CAT will provide clinicians and patients with a simple, quick and reliable measure of overall COPD-related health status for the assessment and long-term follow up of patients. The content and layout of the CAT allows identification of important areas of health impairment so that the clinician can focus on them and explore further in the consultation. Thus, the CAT should improve communication between clinician and patient, giving a common understanding of the severity and impact of the patient's disease. This enables COPD treatment to be better targeted and optimised.

OP 10

HEALTH-RELATED QUALITY OF LIFE AMONG COPD PATIENTS IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTER (UKMMC) USING NEW ASSESSMENT TOOL – COPD ASSESSMENT TEST (CAT™)

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Introduction

The COPD Assessment Test is a new patient- completed instrument that has been designed to provide a simple and reliable measure of health status in COPD patients. The questionnaire consists of eight questions which enquire about symptoms and their impact on COPD patients.

Objective

The aim of this cross-sectional study was to assess health-related quality of life amongst COPD patients in UKMMC using the CAT.

Methodology

Consecutive stable COPD outpatients aged 18 years old and above, diagnosed for at least 6 months were assessed during clinic visits. Validated English, Bahasa Malaysia and Mandarin versions of CAT. were used.

Results

Fifty patients (39 male, 11 female) were recruited. Forty-eight percent were Malay, 40% Chinese, and 12% Indian. Mean patient age was 69 (48 – 87) years. A majority of patients were less educated (less educated vs educated, 58% vs 42%), had low monthly income (low vs high, 88% vs 12%) and most (64%) had a long duration of illness (> 3 years). Seventy-six percent of the subjects were ex-smokers, 14% never smoked and 10% were current smokers. Mean FEV1 was 1.22L (0.4 to 2.4L), (n=18). There were 19 patients enrolled in pulmonary rehabilitation.

Most (52%) patients had low scores (<10) reflecting a low COPD impact level whilst 36% had medium score (10-20), 10% high (21-30), and 2% very high (>30) disease impact. The most common symptom was cough (92%) followed by dyspnoea (84%), phlegm (80%), low energy (74%), limited home activities (56%), chest tightness (54%) and sleep disturbance (54%). Nonetheless, the majority (64%) of them had confidence in leaving home despite their lung disease. There was no significant association between age, duration of illness or smoking status and the CAT score. Our study revealed that patients who underwent pulmonary rehabilitation had a better quality of life than patients who were not in the programme (p=0.04, *ANOVA*).

Conclusion

The CAT is a patient-friendly and easy-to-use assessment tool that can be practically utilized in clinic and research. Nonetheless, patients need encouragement and reassurance that the answers are entirely dependent on them. Generally, the health status of UKMMC COPD patients was acceptably good. Patients who involved in pulmonary rehabilitation reported a significantly better quality of life.

POSTER SCIENTIFIC PRESENTATIONS

PP 14 **Underuse Of Inhaled Corticosteroids In Adults With Asthma In Hospital Sultanah Nur Zahirah, Kuala Terengganu** 76

Nurul Hayati[1], Termizy[2], C C Toh[3], S L Tan[4], Fatina[5], C Y Yeo[6], Norhaya[7]

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Arfian Ibrahim[1], Razul Kassim[1], Jafaar Sadeq[2], Kunji Kannan[1], Jamalul Azizi[1]

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C A Tim, Irfhan Ali

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M Ruthranesan, L Ahmad Fisal, N Marzuki, D A Amran, L Chandra Kumar, J K Nasib Singh, A Yunus, A Ahmad Mahayiddin, A R Mutaliff

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PP 20 **Epidermal Growth Factor Receptor Mutations In Malaysian Patients With Non-Small Cell Lung Cancer** 82

H R Leow[1], C K Liam[1], Y K Pang[1], K T Chua[1], B K Lim[1], C H Lee[1], N L Lai[1], P Jayalakshimi[2], Pathmanathan R[3]

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PP 1

TUBERCULOSIS IN TEN PICTURES

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Approximately one-third of the world's population is infected with tuberculosis, out of which one in ten will go on to develop active disease. Tuberculosis commonly affects the lungs but virtually any organ could be involved and extra-pulmonary tuberculosis accounts for a quarter of reported cases[1]. This report covers ten interesting cases of pulmonary and extra-pulmonary tuberculosis managed at our centre. Each case comprises of a summary of the clinical history and management accompanied by a picture. Cases include pulmonary tuberculosis, endobronchial tuberculosis, pleural tuberculosis, tuberculosis of the larynx, musculoskeletal tuberculosis (soft tissue, arthropathy, osteomyelitis), tuberculosis of the gut and tuberculous lymphadenopathy.

1. Treatment of Tuberculosis Guidelines (4th edition). WHO 2010.

PP 2

TUBERCULOSIS: THREE YEARS (2007 – 2009) EXPERIENCE IN KAJANG HOSPITAL

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This was a three-year (2007 – 2009) retrospective and descriptive study of subjects who were newly diagnosed with tuberculosis infection in Kajang Hospital, a district hospital in Hulu Langat, Selangor with 539 561 population. A total of 774 new cases have been reported in the 3-year period with 283, 227 and 264 cases in 2007, 2008 and 2009 respectively. This corresponded with incidence rates of 52.4, 42.0 and 48.9 per 100 000 population. Males were more commonly affected (76%) than the females. Their ages ranged from 5 to 85 years old, with the commonest affected age group at 31 - 40 years old. Thirty three percent of the subjects were prison inmates. Meanwhile, 53% of cases were sputum smear negative for acid fast bacilli (AFB) and only 13% of cases were extrapulmonary tuberculosis. Twenty eight percent of them had concomitant HIV infection while 24% of cases, the HIV status were not known. Death rates was 10.9% (n=31) in 2007, 14% (n=32) in 2008 and 10.2% (n=27) in 2009.

In conclusion, the incidence was compatible with national report and total cases of smear negative AFB were higher compared to other centres. This could be due to the fact that many patients were referred from the nearby government clinics, where expectorated sputum may not have been collected and majority of prison inmates had been started on treatment with anti tuberculosis medication without obtaining sputum.

PP 3

CONCOMITANT PULMONARY TUBERCULOSIS AND LEPROSY

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Introduction

Leprosy is a chronic granulomatous disease principally affecting the skin and peripheral nervous system, caused by Mycobacterium Leprae. The infrequent occurrence of both tuberculosis and leprosy is based on the transmission dynamics of both infections. The higher reproductive rate of Tubercle Bacilli compared to Lepra Bacilli and degree of cross immunity within an individual do not allow both infections to occur simultaneously, but there have been sporadic reports of co-existence of tuberculosis and leprosy in the same patient. We report a case of pulmonary tuberculosis and multibacillary Hansen's disease in a single individual.

Case presentation

A case of leprosy diagnosed in a patient being treated for Pulmonary Tuberculosis is reported.

Conclusion

Concomitant infection with tuberculosis and leprosy can occur, despite the postulated antigenic mimicry between these two mycobacteria. Physicians have to treat both infections simultaneously, and cautiously avoid any complications that may arise.

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PP 4

CASE REPORT: TUBERCULOSIS OF CERVIX: A SEXUALLY TRANSMITTED DISEASE?

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Introduction

Tuberculosis of cervix is a rare condition in Malaysia. The statistics for this condition is virtually non-existent in this country. We describe the clinicopathological findings of a patient with tuberculosis of cervix.

Case report

A 42 years old lady presented to a local hospital for history of persistent inter-menstrual bleeding since 2006. Her last Pap smear which was performed in the year 2006 was reported to have been normal. Recently she became more lethargic and tired and decided to present to the local health clinic where she was investigated for anaemia. She had no history of fever, chronic cough or loss of weight and appetite. Vaginal examination revealed per vaginal bleeding and colposcopy showed a 4 cm long of polypoid endocervical tissue growth with contact bleeding. Punch biopsy was performed and histopathological examination revealed foci of epithelioid cell aggregations with Langhan's cells and caseous necrosis. The patient was later referred to Chest Clinic for further management of tuberculosis of cervix. From further history taking, the patient had contact with her husband who had been diagnosed with renal tuberculosis. He had subsequently defaulted follow-up and passed away from disseminated tuberculosis. She recalled a few occasions of sexual intercourse with her husband some months before he passed away. A few months later she started to have inter-menstrual bleeding up until April 2011 when she was investigated for cervical cancer.

Currently she is on treatment with a combination of anti-tuberculosis drugs consisting of ethambuthol, pyrazinamide, isoniazid and rifampicin. She has tolerated the treatment well and the inter-menstrual bleeding resolved within 3 weeks of treatment. Currently she is well. Other investigations failed to suggest any other exposure to tuberculosis.

PP 5

AN AGE-STRUCTURED MATHEMATICAL TUBERCULOSIS TRANSMISSION MODEL AS TOOL FOR OUTBREAK MODELLING AND CONTROL IN MALAYSIA

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Infectious diseases such as HIV/AIDS, tuberculosis and dengue continue to be public health threats in Malaysia. The burden on infectious diseases is increasing with new emerging diseases such as SARS and H1N1. With current lack of response, human capacity and resources, as well as serious adverse effects on probable promising interventions, we seek to find if applications of mathematical modelling in infectious disease outbreak modelling and control would complement the current conventional epidemiological and interventional studies resulting in greater impact on reducing incidence. Our study aims to develop an age-structured tuberculosis model and subsequently apply the use of infectious disease modelling to study the progression of latent tuberculosis infection, and to assess the impact of current and possible interventions on reducing incidence. We review tuberculosis pathophysiology and its transmission dynamic that best reflects reality at present which includes primary infection, endogenous reactivation and exogenous reinfection using deterministic compartmental models with SEIR structure and the ordinary differential equation system. We take into account its unique characteristics on heterogeneity, age and gender. A deterministic compartmental age-structured tuberculosis model is developed. Model equilibria and stabilities are reached and analyzed. Model fitting, probabilistic sensitivity testing and uncertainty analysis are performed. Epidemic thresholds known as reproduction numbers for the model are determined. This tuberculosis model best fits the Malaysian environment and characteristics may be used further for outbreak modelling and control simulations, as well as for disease and economic burden estimates and prediction. Its comparability and reliability is further discussed.

PP 6

ARE TUBERCULOSIS TREATMENT OUTCOME CATEGORIES MISSING SOMETHING? A CASE REPORT FROM MALAYSIA

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Objective

This case report necessitates elaboration of World Health Organisation (WHO) recommended tuberculosis (TB) treatment outcome categories and points out rational use of antihistamines.

Case description

A 24 year university student with history of productive cough was registered as sputum smear positive case of pulmonary tuberculosis. During treatment, patient suffered from itchiness associated with anti-tuberculosis drugs, which was treated with chlorpheniramine (4mg) tablet. Patient missed 28 doses of anti-tuberculosis drugs in the continuation phase claiming that he was very busy in his studies and assignments. Upon questioning, he further explained that he was quite healthy after five months and unable to concentrate on his studies after taking he prescribed medicines. His treatment was stopped after six months, based on clinical improvement.

Discussion

Two major reasons, false perception of being completely cured and side effects associated with anti-TB drugs, might be responsible for non-adherence. Non-sedative antihistamines like fexofenadine, cetirizine or loratadine should be preferred over first generation antihistamines (chlorpheniramine) in patients with a lifestyle that requires concentration during the day. This patient had not completed the full course of chemotherapy, which is preliminary requirement for a case to be classified as "cured" or "treatment completed". However, this patient had not defaulted for two consecutive months. Therefore, according to WHO outcome classification, this patient can neither be classified as "cured", "treatment completed" nor as "defaulter".

Conclusion

By applying WHO recommended "Patient Centered Approach", we can reduce the risk of of non-adherence. A close friend, classmate or family member may be selected as a treatment supporter to ensure adherence to treatment. Antihistamines must be used rationally according to patient's lifestyle. Further elaboration of WHO treatment outcome categories is required for appropriate classification of patients with similar characteristics.

PP 7

DRUG INDUCED VOMITING AND DIABETES MELLITUS COMPLICATING THE MANAGEMENT OF PULMONARY TUBERCULOSIS: A CASE REPORT FROM MALAYSIA

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Objectives

To describe impact of type II diabetes mellitus (DM) on treatment duration of pulmonary tuberculosis (PTB) and to illustrate adequate management of vomiting associated with anti-tuberculosis drugs.

Case presentation

A 46 year old patient with history of type II diabetes mellitus presented to the Chest Clinic with complaints of productive cough, low grade fever and night sweating. Positive sputum smear and cavities in upper lobe of left lung confirmed the diagnosis of PTB. He was prescribed World Health Organisation's recommended six months' therapy for tuberculosis (TB). During treatment, patient suffered from persistent vomiting for which he was advised to take metoclopramide tablet (10mg) before take anti-TB drugs. Even though the patient was quite adherent to TB therapy, the duration of treatment was prolonged up to 10 months. This delay in treatment outcome was attributed to frequent vomiting and uncontrolled blood sugar levels throughout therapy. DM is a known risk factor for TB and can adversely affect the immune system. According to United States Pharmacopoeia, dissolution time specification for rifampicin in fixed dose combination (FDC) is 45 minutes. This indicates that anti-TB drugs must remain in gastrointestinal tract for at least 45 minutes. Orally administered metoclopramide achieves peak plasma concentration 1 to 2 hrs; therefore it must be administered at least 45-60 minutes before intake of anti-TB drugs.

Conclusion

Appropriate glycaemic control is cornerstone in management of tuberculosis with diabetes. It is strongly recommended that such patients should be co-managed by chest physician and endocrinologist. Patient's compliance to anti-diabetic drugs should be strictly emphasised. Establishment of TB-diabetes clinic may yield more promising results. Moreover, appropriate management of vomiting can also reduce duration of tuberculosis treatment.

PP 8

PATHOGEN AND SENSITIVITY PATTERN IN A HOSPITAL TREATING PULMONARY DISEASES

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Background

Most guidelines on community acquired pneumonia still name Streptococcus pneumoniae as the main pathogen, but as a centre treating respiratory diseases, organisms isolated would be mostly gram-negative as we are dealing with damaged and diseased lungs. It is also alarming that the resistance of these gram-negative organisms to wide spectrum antibiotics is increasing.

Method

A surveillance study was carried out from 1 January 2009 until 31 December 2010. All sputum, tracheal aspirate, bronchial washing and pleural fluid specimens that were sent for cultures from outpatient and inpatient department, were included in the study. The specimens were investigated according to standard microbiological test and subjected to antibiotic susceptibility testing.

Results

Throughout the period, there were 1716 positive cultures. Klebsiella species was the most common pathogen, 627 (36.54%); followed by Haemophilus parainfluenza 296 (17.25%) and Pseudomonas aeruginosa 208 (12.12%). Only 33 (1.92%) cultures grew Streptococcus pneumonia. In 5.71% of the cultures, extended spectrum beta-lactamase was detected. Methicillin-resistant Staphylococcus aureus accounted for 20.37% of the Staphylococcus aureus growth.

Conclusion

Gram-negative organisms are the most common organism in hospitals dealing with respiratory diseases and there is an increasing percentage of resistant organisms.

PP 9

ASTHMA STATUS: HOW WELL CONTROLLED ARE OUR PATIENTS?

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Background

The poor management of patients by healthcare professionals specifically in using the stepping up pharmacological treatment based on current clinical practice guidelines greatly contributes to poor asthma control.

Objective

To assess adult asthma control and treatment practices in public primary care clinics with reference to the Global Initiative for Asthma Guideline (GINA 2010).

Method

A cross-sectional study assessing asthma control was carried out in two public primary care clinics in Selangor from January to February 2011. Data were obtained by interviewing asthmatic patients (age ≥ 18) using a modified questionnaire based on GINA 2010 which included demographic details, assessment of current clinical asthma control (over past 4 weeks) and patients' current treatments.

Results

100 patients were included in the study. The mean age was 47.09 years (SD+15.0) with a male/female ratio of 1:1.17 (46:54). According to the clinical assessment, 15% of respondents achieved controlled status whereas 35% and 50% achieved partly controlled and uncontrolled asthma status respectively. Forty-four percent of respondents had a severe asthmatic attack within the previous six months, of which 14% required hospital admission. Although a majority of patients (85%) did not achieve controlled status, only 22% of these patients received step-up treatment, while 59% were maintained on their current treatment post consultation.

Conclusion

Asthma is still largely poorly controlled thus highlighting the need for remedial measures by healthcare professionals to improve management of adult asthma according to available evidence and guidelines.

PP 10

ASTHMA KNOWLEDGE AND PRACTICES AMONGST OUR PRIMARY CARE ATTENDERS

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Background

Patients' knowledge regarding asthma is an essential component of their asthma management in improving adherence leading to better control, but is often neglected.

Objective

To evaluate patients' knowledge and practices with regards to their asthma in accordance with the Global Initiative for Asthma Guidelines (GINA 2010).

Methods

A cross-sectional study assessing knowledge and practices amongst adult asthmatic patients (age ≥ 18) was carried out in two public primary care clinics in Selangor from January to February 2011. Patients were interviewed using a modified questionnaire based on the GINA2010 which included demographic details, basic knowledge of symptoms and triggers of an asthma attack and patients' response as well as patients' practices at home with regards to their asthma.

Results

100 patients were included in the study. The mean age was 47.09 years (SD+15.0) with a male/female ratio of 1:1.17 (46:54). Most of the respondents had basic knowledge regarding symptoms and triggers of an asthma attack, but only 68% would attend a clinic presenting with an acute attack. Twenty-six percent of the patients were found to have inappropriately used the prophylactic steroid inhaler during an acute attack. In addition, almost all the patients (99%) did not record home symptoms and only 3% monitored PEFR readings at home.

Conclusion

Patient's knowledge of asthma is still inadequate in some key areas leading to poor control of their asthma. Thus, it is imperative for patients to receive proper education, training and encouragement in order to empower them to manage their condition.

PP 11

CHILDHOOD ASTHMA: AN ASSESSMENT OF ASTHMA CONTROL IN PRIMARY SCHOOL CHILDREN

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Introduction

Assessment of asthma control is an integral part of asthma management. Children with uncontrolled asthma have a high risk of poor health outcomes with frequent exacerbations, repeated emergency visits and hospitalisations.

Objectives

To assess the level of asthma control in primary school children with reported asthma.

Methodology

This is a two-phased cross-sectional study involving 6441 school children in six primary schools in the Port Dickson District, Negeri Sembilan, Malaysia. In Phase 1, self administered questionnaires were used to identify children with physician-diagnosed asthma reported by parents. In Phase 2, asthma control was assessed using GINA 2009 guidelines. Data on socio-demography, health care utilisation and medicine use were collected.

Results

A total of 448 (8.9%) children were reported to have asthma. Of these, 311 (69.4%) parents agreed to participate in Phase 2. There were 214 (68.8%) Malays, 89 (28.6%) Chinese and 8 (2.5%) of them were other ethnicities. Only 161 (51.8%) children had good control, 99 (31.8%) had partial control and 51 (16.4%) had uncontrolled asthma in the past one week. In the past one year, 157 (50.5%) children had asthma exacerbations, 21(6.8%) had hospitalisations and 104 (33.4%) visited emergency room for asthma. Only 108 (34.7%) asthmatic children had regular follow up. Controller medications were underutilised (12.2%) compared to reliever medications (35.0%). There was significant association found between ethnicity and asthma control

Conclusion

Asthma control was poor in primary school children surveyed in the Port Dickson district. Only one third of them had regular follow up and controller medications were underutilised indicating a need to optimize asthma management and reinforce asthma education.

PP 12

KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING INHALATION DEVICES AMONG PATIENTS WITH AIRWAY DISEASE IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTRE

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Introduction

Inhalers are the cornerstone of treatment in airway disease such as asthma and chronic obstructive pulmonary disease (COPD).

Objectives

The aim of this cross-sectional study was to assess patients' knowledge, attitude and practice regarding inhalation devices. We also determined their influence on asthma control and health status in COPD.

Methodology

Consecutive stable asthma and COPD patients aged 18 years old and above were assessed during outpatient visits. Questionnaires concerning knowledge, and attitude, Asthma Control Test (ACTTM) and COPD Assessment Test (CATTM) were administered. Inhaler technique was assessed by direct observation using validated checklists.

Results

One hundred and twenty (70 asthma, 50 COPD) patients, mean age 60 (18-87) years were recruited. Of those, only 18.3% had good knowledge whilst 82.5% displayed positive attitude. Ninety two percent of TurbuhalerTM users demonstrated good inhaler technique, 64.3% for AccuhalerTM and 55.1% for pressurised metered dose inhaler (pMDIs). Adult patients possessed better attitude than the elderly (55.6 vs. 44.4%, p=0.008) whilst educated patients demonstrated better inhaler technique than less educated patients (68.1 vs. 31.9%, p=0.044). Among patients with good knowledge, 77.3% showed good techniques (p=0.018). Our study also demonstrated that all patients with good technique possessed good health status (p=0.008). Surprisingly, there was no significant association between inhaler technique and asthma control (p=0.150).

Conclusion

Knowledge regarding inhalers was generally poor. However, positive attitudes were frequently shown especially amongst adult patients. Pressurised MDIs were poorly handled whereas TurbuhalerTM was the easiest. Good knowledge of inhalers showed positive influence on patients' technique, which also positively influenced health status amongst COPD patients. Educating patients may improve their inhaler technique and health status.

Key words

asthma, COPD, pressurised MDIs, Turbuhaler, Accuhaler

PP 13

PERCEPTION, KNOWLEDGE AND ATTITUDE OF SECONDARY SCHOOL STUDENTS IN SHAH ALAM, SELANGOR TOWARDS TOBACCO SMOKING

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Introduction

Tobacco smoking among school students and its associated health effects are major concerns to society. The prevalence of tobacco smoking among school students is rising. A recent study in 2007 found the prevalence of smoking among Malaysian school children was 43%.

Objectives

The purpose of our study was to look at knowledge, attitude and perception about tobacco smoking among Form 4 students in Shah Alam, Malaysia.

Methodology

This study was conducted by distribution of a questionnaire developed as part of the Global Youth Tobacco Survey by World Health Organisation to Form 4 students in 3 schools at Shah Alam.

Results: 10.5% of students were current smokers. 46.9% of the children came for families where one or both parents smoked and 31 % of the parents never discussed consequences of smoking with them. 88.5% of the students knew that smoking was harmful to their health and 84% felt the issue was covered well in class. Most students felt that smoking made one less attractive. Though they felt that smokers were "stupid" to smoke, 63% felt it would not affect their friendship with one.

Conclusion

Our study showed that even though Form 4 students in Shah Alam that we interviewed were knowledgeable of the ill-effects of smoking and were taught about this as part of their school curriculum, 43% of them smoked. Since around 44% of students' fathers were smokers and around 30% of parents never discussed with their children regarding the ill-effects of smoking, we feel that parents serve as role models that contribute to the prevalence of smoking among school children.

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PP 14

UNDERUSE OF INHALED CORTICOSTEROIDS IN ADULTS WITH ASTHMA IN HOSPITAL SULTANAH NUR ZAHIRAH, KUALA TERENGGANU

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Inhaled glucocorticosteroids are currently the most effective anti-inflammatory medication for the treatment of persistent asthma (GINA 2009, NAEPP 2007). This cross-sectional study was done to assess the underuse of inhaled corticosteroids (ICS) in adults, and its relationship to their asthma control. The reasons for the underuse were also identified. Asthmatic patients from respiratory clinic, ward, and Outpatient Department were assessed by using a validated self-filled questionnaire. Out of 64 respondents who were recruited into this study, 14 respondents (21.9%) knew how to differentiate the controller and reliever for their anti-asthmatic medication. 18 respondents (28.1%) admitted that they took less puffs of ICS, while 24 respondents (37.5%) claimed that they took ICS for a lesser period of time. The overall ICS underuse rate of this study was 39.1%. Among the respondents who underused their ICS, the most common reason given was forgetfulness (31.3%). A direct self-reporting underuse of ICS showed a significant result with Malaysian Medication Adherence Scale score (MALMAS) [$p < 0.001$]. The mean (± S.D.) of asthma control test score of the respondents was 16.20 (± 5.24), which ranged from 5 to 25 with a median of 18 score. Among the respondents, it was found that the number of the respondents with ACT score less than 20 was 42 (65.6%), while 21 respondents (32.8%) had ACT score between 20 and 24. Only one respondent scored the total score of 25 for ACT. T-test was used to identify any association between asthma control and ICS underuse. However, the present study did not showed any significant association between ACT score level and underuse of ICS.

PP 15

EFFECT OF BODY MASS INDEX (BMI) ON ASTHMA CONTROL AND TREATMENT

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OBJECTIVES

To assess the association of BMI with Asthma Control Test (ACT) score, Global Initiative for Asthma (GINA)-defined asthma control and the use of controller medication.

METHODOLOGY

Patients attending the Asthma Clinic from 1-Jan-11 to 30-Apr-11 were requested to answer the ACT. The patient's demographic data, GINA-defined asthma control and prescribed controller medications were documented during the same clinic visit. Patients were stratified based on BMI.

RESULTS

80 overweight patients (BMI ≥ 23.0) had totally controlled asthma, 46 had partially controlled asthma and 51 had uncontrolled asthma. The numbers were 25, 11 and 10 for the normal BMI patients and 3, 6 and 2 for the underweight patients (BMI < 18.5) respectively. 352 overweight patients had a mean ACT score of 19.2, mean score of 80 normal weight patients was 19.3, and 20 underweight patients scored 16.3 on average. Among the overweight patients, 8 patients were on step 1 treatment, 38 patients required ICS alone, 174 patients required ICS/LABA combination only, 105 patients needed ICS/LABA with leukotriene modifier and/or sustained release theophylline, another 18 patients were on some other combination treatment. The numbers were 6, 5, 39, 23 and 4 for the normal weight patients and 2, 1, 11, 4 and 1 for the underweight patients respectively.

DISCUSSION

Higher BMI was not associated with lower ACT score, poorer GINA-defined asthma control or higher requirement for controller treatment. The underweight patients had lower ACT score and poorer asthma control due to the small number of patients compared to other groups.

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PP 16

A CASE OF MALIGNANT MESOTHELIOMA DIAGNOSED VIA PLEUROSCOPY

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Introduction:

Diagnosis and treatment of malignant pleural mesothelioma (MPM) is difficult. Pleural effusion or pleural thickening on plain chest x-ray is frequently observed in patients with MPM.

Case description:

We describe a 59 year old lady who was referred from a district hospital for a recurrent right pleural effusion associated with loss of weight and haemoptysis of two months' duration. She has a history of right breast mastectomy for malignancy in 1980. Pleural tap revealed straw coloured exudative fluid. CT scan thorax was reported as metastatic breast malignancy involving the lung, pleura, liver, spleen, adrenal and bones. Pleuroscopy revealed multiple nodules over the parietal surface and on the diaphragm. Biopsy showed multiple fragments of malignant tumor which tested positive for CK 116, CK5-6, vimentin and CK7. These findings were consistent with diffuse mesothelioma (epithelioid variant).

Discussion

Tissue diagnosis is essential for accurate diagnosis as illustrated in this case. Her previous history of breast malignancy was a 'red herring'. Exudative pleural effusion in Sabah has always been thought to be predominantly due to tuberculosis leading to empirical anti-TB treatment. Pleuroscopy ensures adequate tissue since biopsy is performed under direct vision (unlike Abrams needle closed blind pleural biopsy). Adequate tissue is essential for immunohistochemical examination.

PP 17

ASSOCIATION BETWEEN SMOKING, LUNG FUNCTION, OBESITY AND LIPID PROFILE IN MALAYSIAN SUBJECTS WITH FASTING HYPERGLYCEMIA

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Introduction

Obesity, type 2 diabetes mellitus and abnormal lipid profile are important components of metabolic syndrome. Reduced lung function can be a late complication of type 2 diabetes mellitus. Smoking and metabolic syndrome increase the risk of cardiovascular disease.

Objectives

To compare measures of obesity, lipid profile and lung function between smokers and non-smokers in Malaysian subjects with fasting hyperglycemia.

Methodology

Data was obtained from 1397 adult non-smokers and 553 smokers in a cross-sectional population based study. Non-smokers and smokers were classified based on these criteria; hyperglycemia with fasting blood glucose (FBS) >5.6 mmol/L, and abnormal lung function (ALF) < 70% FEV1, (ECCS prediction equation) into: Group 1: Normal lung function and Normoglycemia, Group 2: Normal lung function and Hyperglycemia, Group 3: ALF and Normoglycemia and Group 4: ALF and Hyperglycemia. Data expressed as mean ± SD was analysed using general linear model with SPSS 16.1 to compare across groups.

Results

Among non-smokers, as expected, hyperglycemic subjects (groups 2 and 4) had significantly higher body mass index (BMI), waist circumference and serum triglycerides than the normoglycemic subjects (group 1 and 3). However, among smokers no such difference was found between normoglycemic and hyperglycemic subjects, or those with normal of abnormal lung function.

Conclusion

Among non-smokers, BMI, waist circumference and high serum triglycerides were associated with hyperglycemia and not with ALF and this association was not present among smokers. This may imply that smoking has a greater influence on measures of obesity and lipid profile compared to the effect of hyperglycemia.

PP 18

A CASE REPORT: MANAGEMENT OF ADENOCARCINOMA OF LUNG – NOT ALWAYS EVIDENCED BASED

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Introduction

Management of Adenocarcinoma of the lung has seen a magnitude of changes in recent years. Numerous studies have revolutionised management modalities. In practice though, often treating doctors use evidence-based treatments, but if lack of evidence, then it is normally very individualised treatment, depending on various factors.

We report a case of a 64 year old lady, who was diagnosed as Stage IIIB adenocarcinoma of lung in May 2009, treated with two resections, 2 chemotherapy regimes and now doing very well on a tyrosine kinase inhibitor.

This case illustrates the importance of multi-team approach, judicious use of imaging including PET / CT and understanding of treatment options by both treating physician and patient.

PP 19

COMPARING MEDIAN OVERALL SURVIVAL IN LOCALLY ADVANCED OR METASTATIC NSCLC TREATED WITH PLATINUM-BASED-CHEMOTHERAPY AND BEST SUPPORTIVE CARE

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Introduction

Lung cancer is the leading cause of cancer deaths worldwide. Platinum-based combination chemotherapy is currently recommended as standard treatment for advanced non-small-cell lung cancer (NSCLC).

Objective

To compare the overall survival between chemotherapy-naive patients with locally advanced or metastatic Non Small Cell Lung Cancer treated with platinum-based chemotherapy and best supportive care.

Methods

A retrospective analysis of patients with histologically or cytologically proven locally advanced or metastatic NSCLC diagnosed at our centre in 2007.

Results

121 patients were diagnosed with NSCLC. Median age was 62 years. 55 patients were treated with chemotherapy and the rest were given supportive care. The median survival was 9.43 (3.63-29.83) months for patients treated with chemotherapy and it was 3.77(0.27-14.77) months for patients given supportive care. Treatment with chemotherapy independently influenced the median survival [HR (95% CI) 0.26 (0.17-0.41), p <0.0001]. The 6 month and 1 year survival rate was 85.5% and 27.3% respectively for the chemotherapy group and 22.7% and 3.0% for the best supportive care group. In the sub-population analysis of patients treated with platinum-based chemotherapy, univariate analysis showed a trend for longer survival in patients < 65 years old, in females and non-Chinese. On the multivariate analysis, the female gender almost reached statistical significance [HR (95% CI) 0.51 (0.26-1.02), p = 0.057] as an independent factor for longer survival.

Conclusion

In patients with locally advanced and metastatic NSCLC, there was a longer median survival among patients treated with platinum-based chemotherapy compared to patients given best supportive care.

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PP 20

EPIDERMAL GROWTH FACTOR RECEPTOR MUTATIONS IN MALAYSIAN PATIENTS WITH NON-SMALL CELL LUNG CANCER

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Introduction

There has been no report on the frequency of epidermal growth factor receptor (EGFR) mutations in Malaysian patients with non-small cell lung cancer (NSCLC).

Objectives

To determine the frequency of EGFR mutations in NSCLC and to correlate the presence of EGFR mutation with ethnicity, gender, age, smoking status and NSCLC cell type in Malaysian patients.

Patients and Methods

This is a prospective study on consecutive NSCLC patients who attended the University Malaya Medical Centre. Mutations in the EGFR gene in pre-treatment NSCLC biopsy specimens were detected by direct DNA sequencing.

Results

EGFR mutations were detected in 31 (43.1%) of a total of 72 patients with NSCLC - 21 (67.7%) had deletion mutation in exon 19 and 10 (32.3%) had substitution mutation in exon 21. EGFR mutations were detected in 21 (63.6%) of 33 female compared to 10 (25.6%) of 39 male patients [odds ratio (OR), 2.48; 95% confidence interval (CI), 1.37-4.49; p=0.003]. Twenty-three (60.5%) of 38 never smokers compared to 8 (23.5%) of 34 ever smokers were mutation-positive (OR, 2.57; 95% CI, 1.33-4.97; p=0.033). Of 42 patients younger than 65 years, 22 (52.4%) were mutation-positive compared to 9 (30%) of 30 patients aged 65 years or older (OR, 1.75; 95% CI, 0.94-3.24; p=0.099). Mutation-positive patients were younger (mean age, 56.5 + 12.7 years) than mutation-negative patients (mean age, 62.9 + 11.8 years) (p=0.029).

EGFR mutations was detected in 21 (39.6%) of 53 Chinese, 9 (52.9%) of 17 Malay and one (50%) of 2 Indian patients. Mutations were detected in 28 (45.9%) of 62 adenocarcinoma, one (25%) of 4 squamous cell carcinoma, none of adenosquamous carcinoma and large-cell carcinoma, and 2 (50%) of 4 NSCLC not otherwise specified patients.

Conclusions

In Malaysian patients with NSCLC, EGFR mutations were significantly more common in female patients and in never smokers. EGFR mutation-positive patients were significantly younger.

PP 21

ROLE OF PET/CT IN THE MANAGEMENT OF LUNG CANCER

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Abstract

Positron emission tomography (PET) is a unique imaging technique that provides details of functional processes in the body. Through the integration of CT and PET, form and function are merged to create a better imaging tool, particularly in the staging and diagnosis of lung cancer. This is a retrospective evaluation of the use of this PET/CT scanning for lung cancer at Penang Hospital, done for the year 2008 to 2010.

Method

All patients referred from the Respiratory Department, Penang Hospital to the Nuclear Medicine Department, Penang Hospital for the 3 years were evaluated by the physicians from both these departments.

Results

A total of 74 cases were evaluated. The racial distributions were Chinese 44, Malay 18, Indian 8 and others 4. More than half, (53%), were 60 years of age and above. Patients referred for staging were, 21, re-staging 19, treatment response 16, diagnosis 9 and recurrence 9. For those referred for staging, 57% were upgraded and 29% were downgraded. About 33% were diagnosed as malignant, for cases sent for diagnostic evaluation, and these were confirmed by biopsy.

Conclusion

PET/CT is the preferred noninvasive method for staging lung cancer. PET/CT is more accurate in detecting lymph node metastases compared with CT alone. By fusing the two datasets together, PET/CT provides an improved method to accurately evaluate for local and distant metastatic disease. In this study, 57% of the cases were upgraded, thus altering the line of management and its use in diagnosing lung nodules is proven by a positive tissue diagnosis post PET/CT in 33% of cases. Furthermore, a number of distant metastases were detected, which alters the plan for management, especially surgical intervention.

PP 22

QUITTING SMOKING CLINIC AT PENANG GENERAL HOSPITAL AND THE OUTCOME OF INTERVENTION

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Introduction

Quitting smoking is a process carried out over time, involving repeated attempts followed by relapse. The success of quitting smoking is determined by many factors and the abstinence rate varies among smokers trying to quit.

Objective

To describe the profiles of smokers attending the Quit Smoking clinic at Penang General Hospital, from January 2010 till December 2010 and to study the outcome of intervention throughout the process of quitting smoking.

Methodology

This retrospective study employed methods of data collection from smokers who attended Quit Smoking clinic from January 2010 to December 2010.

Results

Among the 238 smokers who attended Quit Smoking clinic, 98.32% are male and 1.68% are female. 56% of them started smoking between 18-25 years old, 67% had smoked for more than 20 years, 51% had smoked more than 20 cigarettes per day and 67% had attempted to quit in the past. Among 207 smokers who continued their follow up at 3 months, 40.57% of them had quitted smoking while 59.43% had not. Of the 84 quitters, 73.8% were on nicotine replacement therapy while 22.6% were on varenicline.

Conclusion

Most of the smokers who attended the Quit Smoking Clinic were male and most of them had attempted to quit in the past. Motivation and repeated effort are needed to ensure complete abstinence.

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PP 23

SURVEY OF BRONCHOSCOPY PRACTICE IN MALAYSIA

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Background

Flexible bronchoscopy is one component of the armamentarium used widely in interventional pulmonology and is a useful diagnostic and research tool. Practices vary widely between practitioners. It is very important to study and understand the differences in the practice.

Methods

A survey was conducted during annual Malaysian Thoracic meeting and email survey sent to all members of the Malaysian Thoracic Society in 2010. 350 questionnaires were sent and 242 (80%) surveys were returned. Among those who responded only 42 (12.2%) regularly performed bronchoscopy.

Results

The participants consisted of consultants (62%), subspecialty trainees (33%) and postgraduate candidates (5%). Among the participants were respiratory physicians and respiratory trainees (90.5%) and general physicians (9.5%). of the 42 responders, 62% were male and 38% were female. About 71.5% of the participants were trained locally to perform bronchoscopy and the rest were trained in overseas centers (28.5%). Volume of procedures per year also ranged from less than 30 procedures (23.8%), 31-50 (9.5%), 51-80 (4.8%), 81-100 (4.8%) to more than 100 procedures per year (57.1%). About 76.2% of participants perform the bronchoscopy on inpatients and 23.8% performed it on day care cases. Majority of the practitioners performed bronchoscopy under sedation (95%) and a minority under general anaesthesia (5%).

Conclusion

The result of this survey gives us better perspective for the future improvement and development of special interest group of interventional pulmonology, which is currently in the infant stage in Malaysia. This survey may indicate the need for common standards for the practice of bronchoscopy in Malaysia.

PP 24

PATTERNS OF CIGARETTE SMOKING AND PERCEPTION AMONG MEDICAL STUDENTS IN A PUBLIC UNIVERSITY IN MALAYSIA

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A cross-sectional survey was conducted to assess the patterns of cigarette smoking and perception among medical students (N=875) in a public university in Malaysia. 5 22 (60%) responded and 23 students (4.4%) indicated they currently smoke tobacco at time of study. Out of total respondents, 18% had tried smoking and 3% had tried other methods of tobacco. Out of those who smoke, 73.9% were male, 78% were in their clinical years of study, 82.6% had smoked at a younger age and had tried other types of tobacco products (21.7%). It was also revealed that 43.5% will smoke when offered by friends and will continue to smoke within a year (56.5%) but not in five years (69.6%) from now ($p<0.001$). Majority respondents (96%) agreed they will never attempt to smoke cigarettes even if offered by friends, within one year or five years time. They also agreed smoking gives bad impact on health and environment. Furthermore, smokers believed smoking reduces weight and make them more attractive despite knowing that it would lead to substantial health effects on diseases such as cancer, heart and lung disease, low birth weight and congenital anomaly ($p<0.05$). No associations were found with factors such as having knowledge about smoking rules in the campus, history of parents who smoke and family discussions on health hazards of smoking. Being a smoker, there was also no significant difference in the number and circle of friends compared to a non smoker. In conclusion, the majority of medical students have positive attitudes and behaviour against tobacco use. However, this study highlights that although the prevalence of smoking among the medical students are low, false perceptions existed among them. Since these students are future healthcare professionals, special efforts should be emphasised in enhancing their knowledge and beliefs on tobacco use and control.

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PP 25

PREVALENCE OF CO-MORBIDITIES IN COPD PATIENTS ATTENDING RESPIRATORY CLINIC IN UITM SELAYANG AND SELAYANG HOSPITAL

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Introduction

There is increasing awareness and interest in the frequency and nature of co-morbidities in patients with chronic obstructive pulmonary disease (COPD). These greatly contribute to the increasing severity of the disease, poor overall quality of life and rising mortality. This study aims to assess the prevalence of co-morbidities in COPD patients according to their stages of severity based on the Global Initiative for Obstructive Lung Disease (GOLD) Guidelines 2010.

Methods

This was an observational retrospective study in which data was obtained from electronic medical records of patients who attended the respiratory clinic in UiTM Selayang Campus and Selayang Hospital between January 2008 and June 2011. Demographic features recorded included age, gender, race and smoking history. Co-morbidities recorded included stroke, ischaemic heart disease, heart failure, hypertension, diabetes mellitus, dyslipidaemia, pulmonary tuberculosis, bronchiectasis and the use of long term oxygen therapy.

Results

74 patients with complete data were included in this study. The patients were divided into subgroups based on FEV1 values: mild (n=1), moderate (n=19), severe (n=39) and very severe (n=24). The mean age of the patients was 68 years old, predominantly male (n=73), with a racial breakdown as follows; Chinese (51.4%), Malays (37.8%), Indian (6.8%) and Orang Asli (1.3%). 30% of the patients continued to smoke with a mean pack years of 56. The three commonest co-morbidities in COPD patients across the subgroups were hypertension (50%), dyslipidaemia (34%) and diabetes mellitus (30%).

Conclusion

This study highlights the complex spectrum of co-morbidities in COPD patients. The need to identify and manage these issues in an integrated and comprehensive manner is pivotal in delivering holistic care to these patients.

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PP 26

BRONCHOSCOPY AUDIT: A REVIEW OF RESULTS AND CORRELATION WITH RADIOLOGICAL DIAGNOSIS

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Introduction

Bronchoscopy is a useful diagnostic tool used by physicians to diagnose diseases including lung cancer and tuberculosis (TB) and is often done in line with radiological imaging to aid diagnosis. This audit was designed to review results obtained from bronchoscopies and its correlation with radiological diagnosis.

Methods

140 patients that had undergone bronchoscopy from May 2010 to January 2011 in Hospital Selayang were included. Demographic data, radiological interpretations and bronchoscopy results were collected retrospectively from clinical notes.

Results

Majority of the patients were inpatient (49.3%), male (65.7%) and Malay (50%). Average age was 54.8 years. The main indication was to rule out TB (36.4%) or malignancy (33.6%), to find the aetiology of the radiological abnormalities (23.6%) and to rule out opportunistic infection (5.7%). 48.6% had abnormal findings while 20% were suspicious of malignancy. 59.3% of biopsies and 42.9% of brushings were positive for malignancy. Of the bronchoalveolar lavage (BAL) findings (n=138), 7.1% were positive for malignancy and 2.2% showed features of tuberculosis. For those procedures done to rule out TB (n=51), 19.6% were found to be smear positive and 37.3% were culture positive. Out of the bronchoscopies done for suspected malignancy (n=47), 36.1% had positive biopsy results, 6.4% had positive brushings and 21.3% had positive BAL cytology results. Bronchoscopy were only diagnostic in 7 cases out of those done to find out the aetiology of the radiological abnormalities (n=31). Bronchoscopy provided an alternative diagnosis in 10 cases and only confirmed the radiological suspected diagnosis in 44 cases.

Conclusion

From this audit, results gained from bronchoscopy overall had poor correlation with the diagnosis suspected radiologically.

PP 27

SURGERY FOR PRIMARY SPONTANEOUS PNEUMOTHORAX: RESULTS FROM HOSPITAL SERDANG

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Introduction

Surgical indications for primary spontaneous pneumothorax (PSP) include prolonged air leak, failure of the lung to re-expand and recurrent SP. We describe our initial experience and technique at a regional cardiothoracic unit.

Methods

We conducted a retrospective review of consecutive PSP cases operated at our institution. From November 2009- April 2010 (18 months), 46 operative procedures were performed in 44 SP patients. Mean patient age was 27 years and a majority were male (n=38) (86%). Twenty-three (52%) patients were active smokers and 9 had no drain prior to surgery. In the remaining 35 (79.5%) patients mean duration of the pre-operative drain (ie. persistent air leak) was 12.1 days.

Indications for surgery included a 1st episode SP with a persistent air leak in 29 (66%) patients. Two patients presented with simultaneous bilateral SP. Operative procedures involved a minimally invasive video assisted thoracoscopic (VATS) approach in 39 (88.7%) (including 2 simultaneous bilateral VATS procedures) and 5 open thoracotomies.

Results

There was no operative or in-hospital mortality in this series. Mean duration of post-operative drain was 6.7 days and mean hospital stay was 8.15 days. There was no intra-operative conversion of any VATS procedures and no patient developed any infective complications (eg. port site infection or empyema). Three (6.5%) patients were re-explored for haemothorax (n=2) and recurrent pneumothorax (n=1). Four patients had a residual air space which resolved with prolonged suction.

Conclusion

Our initial experience suggests most PSP patients can be treated successfully with a minimally invasive VATS approach with low morbidity. An increased awareness is required to promote smoking cessation and ensure early referral to the chest physician/ thoracic surgeon for specialist treatment. We advocate a standard 3 port VATS approach with an apical pleurectomy, bullectomy and basal pleural abrasion in such patients.

PP 28

CLINICAL PRESENTATION OF OBSTRUCTIVE SLEEP APNEA SYNDROME REFERRED TO SLEEP CLINIC IN INSTITUT PERUBATAN RESPIRATORI

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This report is part of the Sleep Registry in Institut Perubatan Respiratori (IPR). The objective was to review the clinical features of suspected obstructive sleep apnoea syndrome (OSAS) patients at presentation when referred to IPR. Questionnaires and retrospective case-notes of 110 patients referred to IPR from 2008- 2009 with suspected OSAS were reviewed. 84% of patients referred to IPR were diagnosed with significant OSAS. Mean age at presentation was 47 years and both genders had equal percentages. 60% of the patients were Malays and worked in the government sector. Most patients presented with snoring (92%), hypersomnolence (84%) and nocturnal choking (53%). The symptoms were noticed by partners since 40% of the total study population were married. 87% of patients had symptoms noticed years prior to initial presentation to doctors. The majority of patients were referred from Ear, Nose and Throat (ENT) Department and government hospitals. The presence of co-morbidities did not influence the diagnosis of OSAS. The majority of patients had a Mallampati score of 3 or 4 at 56% and were obese (Body Mass Index [BMI] >30). We noted that 66% of the study population were diagnosed as significant OSAS (moderate and severe category). Multivariate analysis showed that age, presence of hypersomnolence and BMI were predictors of OSAS diagnosis. However, snoring was not a predictor of OSAS. Age, hypersomnolence, witnessed apnoea and Mallampati score were predictors for OSAS severity. Surprisingly BMI was not a predictor for OSAS severity.

Conclusion

Majority of patients referred were young. Late presentation to health services resulted in significant OSAS at the time of diagnosis. BMI was not a predictor of OSAS severity. Snoring was not a significant predictor for OSAS diagnosis.

PP 29

PREVALENCE OF SNORING AND OBSTRUCTIVE SLEEP APNOEA IN OVERWEIGHT CHILDREN IN A TERTIARY HOSPITAL

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Introduction

Obstructive sleep apnoea (OSA) produces significant morbidity especially in the overweight but confirmatory polysomnogram (PSG) is not readily available.

Objectives

To determine the prevalence of snoring and OSA in overweight children in a tertiary hospital and to identify risk factors associated with OSA in these children.

Methodology

In this cross-sectional study from 1st October 2009 till 31st January 2011, 89 overweight children seen in UMMC paediatric clinics and wards were enrolled by convenience sampling. A set of questionnaires pertaining to demographic data, a Paediatric Sleep Questionnaire (PSQ) and Epworth Sleepiness Scale (EPSS) were administered, followed by a simple examination. Patients who had positive sleep scores or had at least one significant symptom of OSA (secondary nocturnal enuresis, increased work of breathing or witnessed apnoea during sleep) underwent a PSG. Results were analysed using SPSS17.

Results

Ninety-one percent (n = 81) of children were obese. Sixty-four children (71.9%) snored with 28(31.5%) being habitual snorers. A PSG was indicated in 32 children (24 completed). Fourteen children had OSA on PSG. Factors that were significantly associated with OSA were mouth breathing (both on parental report and physical examination), secondary nocturnal enuresis, difficulty in breathing at night and observed apnoea during sleep, high EPSS score, and tonsillar size. In multivariate logistic regression, the EPSS score ($p = 0.013$) and difficulty in breathing at night ($p<0.001$) were statistically significant factors associated with OSA in overweight children

Conclusions

OSA is a significant problem in overweight children. Screening questionnaires and examination are useful to predict children likely to have OSA.

PP 30

UKMMC CHRONIC OBSTRUCTIVE PULMONARY DISEASE CLINICAL PATHWAY; DEVELOPMENT, IMPLEMENTATION AND EFFECTIVENESS FOR IN-PATIENT MANAGEMENT

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Introduction

Chronic obstructive pulmonar disease (COPD) is a major cause of morbidity and mortality in the world. Decreasing the length of stay and admission rates in hospitals can reduce the burden of COPD. Clinical pathway has been shown to be able to do this. We aimed to develop and implement the first COPD clinical pathway in Malaysia.

Objectives

To develop and implement a COPD clinical pathway for in-patient management of COPD exacerbation in UKMMC and to examine the effectiveness in 4 clinical outcomes of care involved: length of stay (LOS), complications, readmissions and mortality.

Method

A non-randomised cross-sectional (retrospective and prospective) study of patients admitted with a primary diagnosis of acute exacerbation of COPD between January 2007 and December 2010. 193 patients were analysed. 98 were from previous admissions from medical records (control group treated with standard care) and 95 were new admissions (intervention group treated following the COPD clinical pathway).

Results

There were significant differences between the groups in length of stay and complications. There were no differences in terms of number of readmission and mortality. Patients in clinical pathway group had a shorter length of stay (median 5 days in CP group, median 7 days in non CP, $p<0.001$) and less complications (14.7% developed complications in CP group, 38.8% developed complications in non CP group, $p <0.001$).

Conclusion

The use of COPD clinical pathway in COPD exacerbation demonstrated a reduction in the length of stay. Patients in the CP group also had lesser complications and did not appear to have an increase rate of unplanned readmissions or mortality.