



LUNG
FOUNDATION
OF MALAYSIA

11TH ANNUAL CONGRESS

MALAYSIAN THORACIC SOCIETY

“Expanding Horizons in Respiratory Medicine”

24TH – 26TH JULY 2009

THE ROYALE CHULAN
KUALA LUMPUR

SOUVENIR PROGRAMME & ABSTRACT BOOK

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MALAYSIAN THORACIC SOCIETY

Office Bearers 2008/2009

President	Professor Liam Chong Kin
Vice President	Associate Professor Roslina A Manap
Hon Secretary	Associate Professor Fauzi M Anshar
Hon Treasurer	Associate Professor Jessie De Bruyne
Hon Deputy Secretary	Dr Patrick Chan Wai Kiong
Hon Deputy Treasurer	Associate Professor Pang Yong Kek
Committee Members	Associate Professor Tengku Saifudin Tengku Ismail Dr Jurina Mohd Hassan Associate Professor How Soon Hin Associate Professor Hasniah Abdul Latif

Organising Committee

Advisor	Professor Liam Chong Kin
Organising Chairman	Associate Professor Pang Yong Kek
Hon Secretary	Associate Professor Fauzi M Anshar
Hon Treasurer	Associate Professor Jessie De Bruyne
Scientific Committee	Associate Professor Roslina A Manap (Chairperson) Associate Professor Hasniah Abdul Latif Associate Professor Tengku Saifudin Tengku Ismail
Publications	Associate Professor How Soon Hin
Social	Dr Jurina Mohd Hassan Dr Norzila Mohamed Zainudin
Audio-Visual	Dr Patrick Chan Wai Kiong

MESSAGE FROM THE PRESIDENT OF THE MALAYSIAN THORACIC SOCIETY



Dear friends and colleagues,

It is my great pleasure to welcome you to the 11th Annual Congress of the Malaysian Thoracic Society which is being held at the impressive and new Royale Chulan Hotel in Kuala Lumpur.

Associate Professor Roslina Abdul Manap and the Organising Committee have come up a refreshing and exciting scientific programme which covers a wide range of respiratory disorders relevant to our clinical practice in Malaysia. In line with the theme of the congress, “Expanding Horizons in Respiratory Medicine”, we have invited a distinguished faculty of international, regional and local speakers to discuss issues such as obstructive airway diseases including asthma and COPD, lung cancer, community-acquired and nosocomial pneumonias, Mycobacterial infections, pulmonary hypertension, pleural diseases, and common respiratory disorders in young infants and pulmonary complications of paediatric neuromuscular disease. For the first time in the history of annual congresses of the society, we will be having “The Great Asthma Debate” on the last day of the congress. Pulmonary rehabilitation, lung function testing and sleep-related breathing disorders will be covered in depth with hands-on sessions in the pre-congress workshops. Interesting adult and paediatric respiratory cases shall be presented in the Grand Rounds. The free paper oral and poster presentation sessions which provide a good opportunity for the participants to share their clinical experience and research findings will be judged by a panel of international and regional experts. Also during the congress, a Video on Pulmonary Rehabilitation and the National Registry of Respiratory Diseases will be launched and delegates will be the first in Malaysia to preview the draft of the new clinical practice guidelines on COPD management in Malaysia. Participating trade exhibitors will be showcasing their latest products which will be vying for your attention.

I sincerely hope you will gain valuable knowledge and skills at this congress and work towards elevating the standard of care for patients with respiratory diseases. I also hope this congress will provide you the opportunity to meet up with old friends and to make new ones. Lastly, I would like to express my sincere thanks to all who have lent their support and contribution to make this congress a success.

A handwritten signature in black ink that reads "Liam Chong-Kin". The signature is written in a cursive style and is underlined.

Professor Liam Chong-Kin

MESSAGE FROM THE CHAIRMAN OF THE LUNG FOUNDATION OF MALAYSIA



Dear colleagues and delegates,

As a co-organiser of this prestigious meeting, the Lung Foundation of Malaysia wishes to warmly welcome all participants to the 11th Annual Congress of the Malaysian Thoracic Society. This year's Congress with the theme "Expanding Horizons in Respiratory Medicine" will cover a comprehensive range of topics in lung diseases and address the latest advances in diagnosis and treatment. I trust you will find the Congress to be highly educational and interesting.

Apart from supporting activities to enhance knowledge and skills to care for patients with lung diseases, the Foundation also strives to promote scientific research in any field of Respiratory Medicine in this country. I am proud to inform that the Board of Trustees of the Foundation has increased the awards for winners of the oral and poster scientific presentations for this year. I am also pleased to inform that the Foundation will be awarding research grants worth RM70,000 and RM30,000 respectively for two research projects beginning this year. I hope our initiatives will encourage many researchers especially among young doctors to conduct more research and in the process contribute to the new knowledge and wellbeing of mankind.

The Annual Congress is not only a place to learn new knowledge or exchange ideas, but also a place to meet up with old friends and make new ones. I hope you will have the opportunity to broaden your network especially among those who share the same interest with you.

I hope you will have an enjoyable and fruitful meeting.

A handwritten signature in black ink, appearing to read 'Zainudin Md Zin'. The signature is written in a cursive style with a horizontal line underneath.

Dr Zainudin Md Zin

MESSAGE FROM THE ORGANISING CHAIRMAN OF THE 11TH MTS ANNUAL CONGRESS



On behalf of the Organising Committee, I would like to warmly welcome you to the 11th Annual Congress of the Malaysian Thoracic Society.

The Congress this year carries the theme “Expanding Horizons in Respiratory Medicine”. Several respiratory diseases, such as sleep related breathing disorders and COPD have charted significant milestones in recent years as a result of technological advances and improved understanding of the diseases. This has rekindled interest among medical professionals toward these diseases. Thus, three pre-congress workshops have been organised with the goal to enhance the delegates’ skills in the diagnosis and assessment of these disorders.

Updates on many other exciting advances, both for adult and paediatric respiratory medicine, have been knitted into the Congress programme. A distinguished faculty of speakers who are experts in their fields, both locally and overseas, has been invited to speak in this Congress. The Scientific Committee has worked relentlessly to ensure that the programme is not only educational but also “cerebrally stimulating”. A new format of presentation, “The Great Debate”, is introduced to allow the delegates to weigh the pros and cons of two different approaches in asthma management, through a lively and interactive discussion.

Like the past Congresses, the poster and oral presentation sessions are aimed to provide local researchers an opportunity to share their research findings, exchange ideas and perhaps even find interested parties to collaborate in their future researches.

This year’s Congress will be held at The Royale Chulan Hotel, a new luxurious five-star hotel, located at the heartland of Kuala Lumpur. I am sure its local Malaysian heritage architecture will certainly charm you.

I hope you will find this Congress an extremely rewarding experience, both professionally and socially.

A handwritten signature in black ink, appearing to be 'Pang Yong Kek', written in a cursive style.

Associate Professor Pang Yong Kek

PROGRAMME SUMMARY

DATE TIME	24 TH JULY 2009 FRIDAY	25 TH JULY 2009 SATURDAY		26 TH JULY 2009 SUNDAY		
0800 - 0830		WELCOME ADDRESS				
0830 - 0900		PLENARY 1		PLENARY 2		
0900 - 0930	PRE-CONGRESS CONCURRENT WORKSHOPS 1. Lung Function Testing 2. Pulmonary Rehabilitation 3. Sleep-Related Breathing Disorders	SYMPOSIUM 1A	SYMPOSIUM 1B	SYMPOSIUM 4A	SYMPOSIUM 4B	
0930 - 1000		POSTER PRESENTATION COFFEE		COFFEE		
1000 - 1030						
1030 - 1100						
1100 - 1130						
1130 - 1200			SYMPOSIUM 2A	SYMPOSIUM 2B	SYMPOSIUM 5	
1200 - 1230	LUNCH SATELLITE SYMPOSIUM <i>(Bayer Pharma)</i>					
1230 - 1300			LUNCH SATELLITE SYMPOSIUM <i>(GlaxoSmithKline)</i>			
1300 - 1330	Friday Prayers				LUNCH	
1330 - 1430						
1430 - 1500	PRE-CONGRESS CONCURRENT WORKSHOPS <i>(continuation)</i>		SYMPOSIUM 3A	SYMPOSIUM 3B		
1500 - 1530						
1530 - 1600			TEA			
1600 - 1630	TEA		ORAL SCIENTIFIC PRESENTATIONS			
1630 - 1700	MTS ANNUAL GENERAL MEETING					
1700 - 1730			ADULT CLINICAL GWR	PAEDIATRIC CLINICAL GWR		
1730 - 1800						
1930 - 2230	DINNER SATELLITE SYMPOSIUM <i>(Eli Lilly)</i>		DINNER SATELLITE SYMPOSIUM <i>(Boehringer-Ingelheim)</i>			
			MTS ANNUAL CONGRESS DINNER			

**PRE-CONGRESS
CONCURRENT WORKSHOP 1
24th July 2009, Friday**

0900 - 1200	PRE-CONGRESS CONCURRENT WORKSHOP 1 Lung Function Testing Chairperson: Associate Professor Fauzi Anshar	TAMING SARI 1
0900 - 0910	Introduction Assoc Prof Fauzi M Anshar	
0910 - 0930	Simple lung function tests Dr Kunji Kannan	
0930 - 1000	Advanced lung function tests Assoc Prof Loo Chian Min	
1000 - 1030	Cardio-pulmonary exercise testing Assoc Prof Loo Chian Min	
1030 - 1100	COFFEE	
1100 - 1120	Pulmonary function testing in children Dr Ahmad Fadzil Abdullah	
1120 - 1150	Case studies : Interpretation of lung function tests Dr Che Wan Aminuddin	
1200 - 1300	LUNCH SATELLITE SYMPOSIUM (Bayer Pharma) The position of moxifloxacin in CAP: Changes in the 2007 ATS/IDSA CAP guidelines Prof Philip Eng	TAMING SARI 1
1300 - 1430	Friday Prayers	
1430 - 1600	Hands-On Demonstrations : • Spirometry, incentive spirometry • Lung volumes and DLCO • Exhaled NO • Methacholine challenge test • CO ₂ monitor Facilitated by Faculty	
1600 - 1630	TEA	
1630 - 1800	MTS Annual General Meeting	TUN LANANG 1
1930 - 2200	DINNER SATELLITE SYMPOSIUM (Eli Lilly) Making advanced NSCLC treatment personal Dr Lim Hong Liang	TAMING SARI 1
	DINNER	TAMAN MAHSURI

**PRE-CONGRESS
CONCURRENT WORKSHOP 2
24th July 2009, Friday**

0900 - 1200	PRE-CONGRESS CONCURRENT WORKSHOP 2 Pulmonary Rehabilitation Chairperson: Assoc Prof Roslina A Manap	<i>TAMING SARI 2</i>
0900 - 0930	Introduction to pulmonary rehabilitation	
0930 - 1000	Outcome assessment in pulmonary rehabilitation <i>Assoc Prof Ayiesah Hj Ramli</i>	
1000 - 1015	Pulmonary rehabilitation: IJN experience <i>Datin Hjh Maimunah Johari</i>	
1015 - 1030	Pulmonary rehabilitation: PPUKM experience <i>Encik Riza Shahrom</i>	
1030 - 1100	COFFEE	
1100 - 1130	Airway clearance in COPD <i>Puan Zailani Muhamad</i>	
1130 - 1200	Exercise prescription (with case studies) <i>Puan Katijjahbe Mohd Ali</i>	
1200 - 1300	LUNCH SATELLITE SYMPOSIUM (<i>Bayer Pharma</i>) The position of moxifloxacin in CAP: Changes in the 2007 ATS/IDSA CAP guidelines <i>Prof Philip Eng</i>	<i>TAMING SARI 1</i>
1300 - 1430	Friday Prayers	
1430 - 1600	Practical Demonstrations On Exercise Testing : • 6-minute walking test • Incremental shuttle walk test • Inspiratory muscle training • Bike test <i>Facilitated by Faculty</i>	
1600 - 1630	TEA	
1630 - 1800	MTS Annual General Meeting	<i>TUN LANANG 1</i>
1930 - 2200	DINNER SATELLITE SYMPOSIUM (<i>Eli Lilly</i>) Making advanced NSCLC treatment personal <i>Dr Lim Hong Liang</i> DINNER	<i>TAMING SARI 1</i> <i>TAMAN MAHSURI</i>

**PRE-CONGRESS
CONCURRENT WORKSHOP 3
24th July 2009, Friday**

0900 - 1200	PRE-CONGRESS CONCURRENT WORKSHOP 3 Sleep-Related Breathing Disorders Chairperson: Assoc Prof How Soon Hin				<i>TUN LANANG 1</i>
0900 - 0930	Spectrum and diagnosis of sleep-related breathing disorders <i>Dr Ahmad Faizal Perdaus</i>				
0930 - 1000	Treatment options for sleep apnoea <i>Dr Constance Lo</i>				
1000 - 1030	Racing toward's compliance : Learning from F1 strategy in improving CPAP compliance <i>Ms Lalaine Gedal</i>				
1030 - 1100	COFFEE				
1100 - 1130	Interpretation of polysomnography <i>Dr Constance Lo</i>				
1130 - 1200	Cardiovascular consequences of sleep apnea <i>Mr Brett McLaren</i>				
1200 - 1300	LUNCH SATELLITE SYMPOSIUM (<i>Bayer Pharma</i>) The position of moxifloxacin in CAP: Changes in the 2007 ATS/IDSA CAP guidelines <i>Prof Philip Eng</i>				<i>TAMING SARI 1</i>
1300 - 1430	Friday Prayers				
1430 - 1600	Exercises in scoring sleep stages and respiratory events <i>Mr Brett McLaren</i>	<i>TUN LANANG 1</i>	1430 - 1600	Hands-On Demonstrations: • Setting up a sleep study <i>Malaysian Faculty</i> • CPAP therapy - "How I start a patient on CPAP" <i>Ms Lalaine Gedal</i> • BiPAP therapy - Setting up and titration: Step by step <i>Dr Constance Lo</i>	<i>TUN TEJA</i>
1600 - 1630	TEA				
1630 - 1800	MTS Annual General Meeting				<i>TUN LANANG 1</i>
1930 - 2200	DINNER SATELLITE SYMPOSIUM (<i>Eli Lilly</i>) Making advanced NSCLC treatment personal <i>Dr Lim Hong Liang</i> DINNER				<i>TAMING SARI 1</i> <i>TAMAN MAHSURI</i>

PROGRAMME

25th July 2009, Saturday

0800 - 0815	WELCOME ADDRESS <ul style="list-style-type: none"> • Prof Liam Chong Kin, President, Malaysian Thoracic Society • Assoc Prof Pang Yong Kek, Organising Chairman 	TAMING SARI 1 & 2
0815 - 0900	PLENARY 1 Chairperson: Assoc Prof Pang Yong Kek The TEAM concept - A new approach to asthma management Datin Dr Aziah Ahmad Mahayiddin	TAMING SARI 1 & 2
0900 - 1030	SYMPOSIUM 1A TAMING SARI 1 & 2 Chronic Obstructive Pulmonary Disease Chairpersons: Prof Liam Chong Kin / Assoc Prof Pang Yong Kek	0900 - 1030
0900 - 0930	Optimizing treatment in stable COPD - What does the evidence suggest? [pg 16] Prof Robert Adams	0900 - 0920
0930 - 1000	Early intervention and disease modification in the management of COPD [pg 17] Prof Donald Tashkin	0920 - 1000
1000 - 1030	The 2009 Malaysian clinical practice guidelines on management of chronic obstructive pulmonary disease (COPD) [pg 17-18] Prof Liam Chong Kin	1000 - 1030
0900 - 1030	SYMPOSIUM 1B TUN LANANG 1 Paediatrics : Pulmonary Complications of Paediatric Neuromuscular Disease Chairpersons: Dr Norzila Mohamed Zainudin / Dr Ahmad Fadzil Abdullah	0900 - 0920
	Paediatric neuromuscular diseases - Overview and what's new? [pg 18-19] Prof Ong Lai Choo	0920 - 1000
	Scoliosis in neuromuscular disease: <ul style="list-style-type: none"> • Respiratory assessment and management [pg 19] Dr Asiah Kassim • Orthopaedic assessment and management [pg 20] Dr Fazir bin Mohamad Respiratory support in neuromuscular disease Dr Norrashidah Abdul Wahab	1000 - 1030
1030 - 1100	POSTER PRESENTATION COFFEE	

PROGRAMME

25th July 2009, Saturday (CONTINUED)

1100 - 1230	SYMPOSIUM 2A <i>TAMING SARI 1 & 2</i> Lung Cancer Chairpersons: Dato' Dr Abdul Razak Mutalif / Assoc Prof Fauzi M Anshar	1100 - 1230	SYMPOSIUM 2B <i>TUN LANANG 1</i> Paediatrics : Common Respiratory Problems in Young Infants Chairpersons: Dr Rus Anida Awang / Dr Patrick Chan
1100 - 1130	The new lung cancer staging system [pg 20-21] Prof Liam Chong Kin	1100 - 1130	Viral bronchiolitis : An update [pg 23] Assoc Prof Jessie de Bruyne
1130 - 1200	Treatment of advanced non-small cell lung cancer – Right treatment for the right patient [pg 21-22] Prof Virote Sriuranpong	1130 - 1200	Bronchopulmonary dysplasia : Current controversies in approach and management [pg 23-24] Dr Mariana Daud
1200 - 1230	Practical palliative care in patients with lung cancer [pg 22] Dr Richard Lim Boon Leong	1200 - 1230	Gastroesophageal reflux disease [pg 24] Assoc Prof Hasniah Abdul Latif
1230 - 1400	LUNCH SATELLITE SYMPOSIUM (<i>GlaxoSmithKline</i>) Strategies for maintaining asthma control and reducing future risk Prof Robert Adams		<i>TAMING SARI 1 & 2</i>
1400 - 1530	SYMPOSIUM 3A <i>TAMING SARI 1 & 2</i> Respiratory Tract Infection 1 Chairpersons: Dr Hooi Lai Ngoh / Dr Hamidah Shaaban	1400 - 1530	SYMPOSIUM 3B <i>TUN LANANG 1</i> Respiratory Tract Infection 2 Chairpersons: Assoc Prof Roslina A Manap / Dr Jamalul Azizi
1400 - 1430	Issues in hospital-acquired pneumonia and HCAP [pg 25] Assoc Prof Roslina A Manap	1400 - 1430	Diagnosis and management of latent TB – The myths and challenges [pg 27] Assoc Prof Pang Yong Kek
1430 - 1500	Diagnosis and treatment of fungal lung infections [pg 25-26] Assoc Prof Gan Gin Gin	1430 - 1500	Clinical management of MDR and XDR-TB : Present issues and future prospects [pg 27-28] Prof Yew Wing Wai
1500 - 1530	Causes of culture-negative CAP – Does it matter? Assoc Prof Mohd Yasim Md Yusof	1500 - 1530	Atypical mycobacterium (MOTT) infections – Diagnosis and treatment [pg 28] Prof Yew Wing Wai
1530 - 1600	TEA		
1600 - 1700	ORAL SCIENTIFIC PRESENTATIONS [pg 32-37] Chairperson: Assoc Prof Roslina A Manap		<i>TAMING SARI 1 & 2</i>

PROGRAMME

25th July 2009, Saturday (CONTINUED)

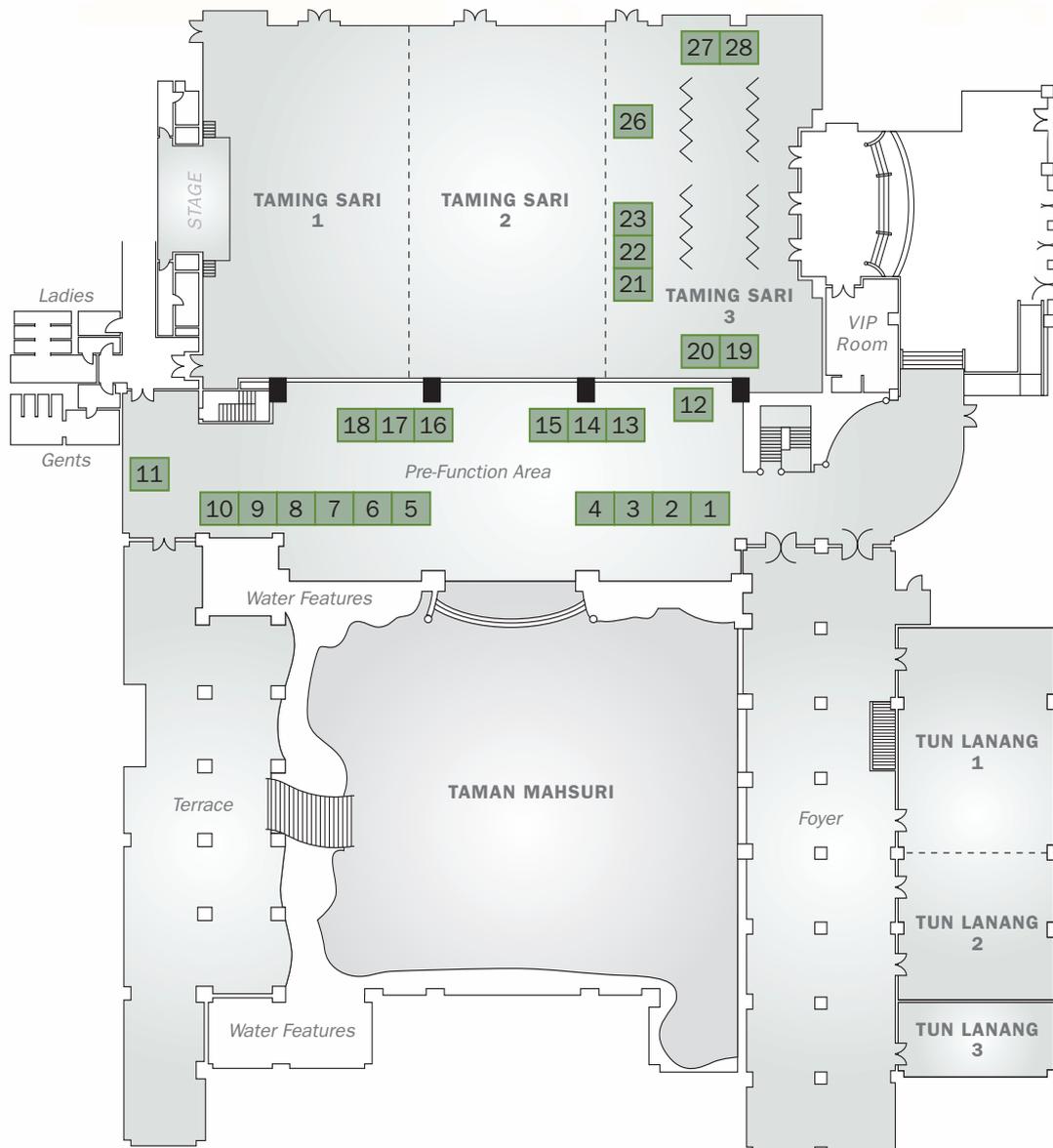
1700 - 1800	ADULT CLINICAL GWR Chairpersons: Dr Zainudin Md Zin / Prof Richard Loh • Queen Elizabeth Hospital • Hospital Universiti Sains Malaysia • Hospital Tengku Ampuan Afzan	TAMING SARI 1 & 2	1700 - 1800	PAEDIATRIC CLINICAL GWR Chairpersons: Dr Rus Anida Awang / Dr Anna Marie Nathan • Paediatric Institute • Gleneagles Medical Centre • Hospital Tengku Ampuan Afzan • University Malaya Medical Centre	TUN LANANG 1
1930 - 2030	DINNER SATELLITE SYMPOSIUM (Boehringer-Ingelheim) UPLIFT - New determinants in early intervention of COPD management Prof Donald Tashkin		TAMING SARI 1 & 2		
2030 - 2230	MTS ANNUAL CONGRESS DINNER		TAMAN MAHSURI		
2000	Welcome remarks by Associate Professor Pang Yong Kek, Organising Chairman				
2005	Speech by Dr Zainudin Md Zin, Chairman, Lung Foundation of Malaysia				
2015	Speech by Professor Liam Chong-Kin, President, Malaysian Thoracic Society				
2025	Launch of New MTS Website				
2030	Launch of Pulmonary Rehabilitation Video				
2035	DINNER				
2100	Presentation of Awards for Scientific Communications				
2110	Dinner (continued)				
2200	Close				

PROGRAMME

26th July 2009, Sunday

0815 - 0900	PLENARY 2 Chairperson: Assoc Prof Roslina A Manap Understanding inflammation in asthma [pg 29] Prof John Upham	<i>TAMING SARI 1 & 2</i>
0900 - 1030	SYMPOSIUM 4A <i>TAMING SARI 1 & 2</i> Pulmonary Hypertension Chairpersons: Dr Ashari Yunus / Dr Nor Aliza Md Tarekh 0900 - 0930 Classification of pulmonary hypertension and updated management guidelines Prof Keith McNeil 0930 - 1000 Lung disease and pulmonary hypertension Prof Keith McNeil 1000 - 1030 Lung transplantation - Patient selection and outcomes Dr Ashari Yunus	0900 - 1030 SYMPOSIUM 4B <i>TUN LANANG 1</i> Pleural Disease Chairpersons: Dr Jurina Hassan / Dr Norhaya Mohd Razali 0900 - 0930 Spontaneous pneumothorax [pg 29-30] Assoc Prof Tengku Saifudin Tengku Ismail 0930 - 1000 Pleural space infections [pg 30] Prof Lim Tow Keang 1000 - 1030 Diagnostic and therapeutic role of pleuroscopy in pleural disease [pg 31] Dr Jamalul Azizi
1030 - 1100	COFFEE	
1100 - 1230	SYMPOSIUM 5 Asthma Chairpersons: Dato' Dr George Simon / Prof Richard Loh The great asthma debate: Is SMART smarter than fixed-dose? Prof Robert Adams & Prof John Upham	<i>TAMING SARI 1 & 2</i>
1300 - 1330	LUNCH	<i>TAMAN MAHSURI</i>

FLOOR PLAN & TRADE EXHIBITION



BOOTH STAND	COMPANY	BOOTH STAND	COMPANY
1	Pfizer (Malaysia) Sdn Bhd	15	Wyeth (Malaysia) Sdn Bhd
2	Easmed Sdn Bhd	16 & 17	Nycomed Division
3	Hospimetrix Sdn Bhd	18	Endodynamics (M) Sdn Bhd
4	GlaxoSmithKline Pharmaceutical Sdn Bhd	19	BKS Medik Sdn Bhd
5 & 6	Boehringer Ingelheim (Malaysia) Sdn Bhd	20	All Eights (M) Sdn Bhd
7 & 8	Sandoz	21	Daya Cergas (M) Sdn Bhd
9 & 10	Roche (M) Sdn Bhd	22	Lung Foundation of Malaysia
11	Eli Lilly (Malaysia) Sdn Bhd	23	First Pharmaceutical Sdn Bhd
12	Somnotec (M) Sdn Bhd	26	Bayer Schering Pharma
13	Delta Medisains (M) Sdn Bhd	27	Insan Bakti Sdn Bhd
14	Merck Sharp & Dohme	28	Symbiomed

ACKNOWLEDGEMENTS

The Organising Committee of the 11th Annual Congress of the Malaysian Thoracic Society expresses its deep appreciation to the following for their support and contributions:

Ministry of Health Malaysia

Boehringer Ingelheim (Malaysia) Sdn Bhd

Bayer Schering Pharma

Eli Lilly (Malaysia) Sdn Bhd

GlaxoSmithKline Pharmaceutical Sdn Bhd

Nycomed Division

Roche (M) Sdn Bhd

Sandoz

AstraZeneca Sdn Bhd

Delta Medisains (M) Sdn Bhd

Easmed Sdn Bhd

Endodynamics (M) Sdn Bhd

Hospimetrix Sdn Bhd

Merck Sharp & Dohme

Pfizer (Malaysia) Sdn Bhd

Somnotec (M) Sdn Bhd

Wyeth (Malaysia) Sdn Bhd

All Eights (M) Sdn Bhd

BKS Medik Sdn Bhd

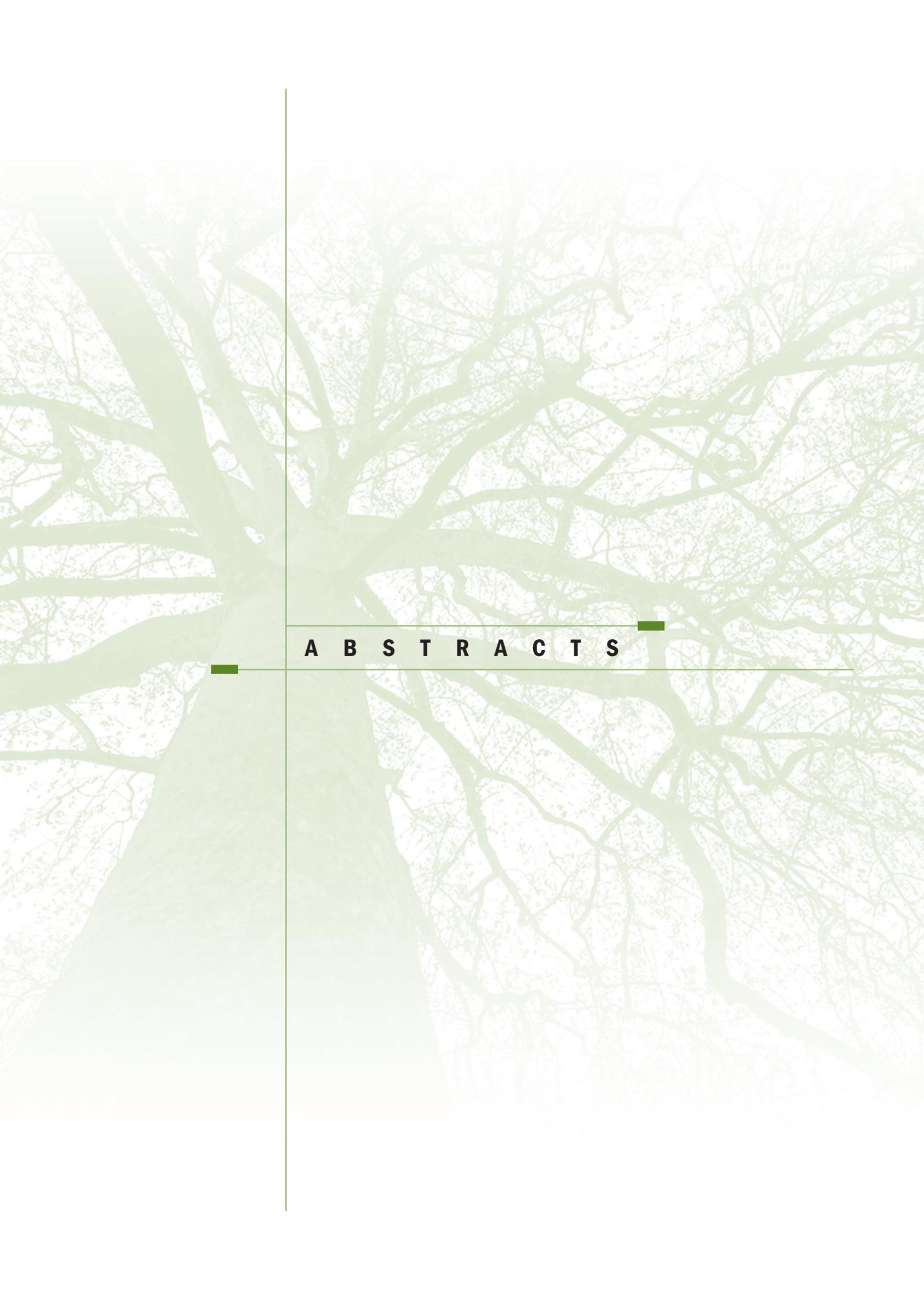
Daya Cergas (M) Sdn Bhd

First Pharmaceutical Sdn Bhd

Insan Bakti Sdn Bhd

Infors

Symbiomed



A B S T R A C T S

SYMPOSIUM 1 A
Chronic Obstructive Pulmonary Disease

EARLY INTERVENTION AND DISEASE MODIFICATION IN THE MANAGEMENT OF COPD

Donald P Tashkin

David Geffen School of Medicine at UCLA, Los Angeles, USA

Disease modification is commonly thought to imply a change in the underlying pathophysiologic process that alters the course of the disease. In COPD, this concept is generally regarded as being reflected by a reduction in the accelerated rate of decline in FEV1 with age that characterizes the progressive nature of COPD. Smoking cessation is an intervention that fulfills this definition of disease modification since it slows the rate of decline in FEV1. It could also be argued, however, that a therapeutic intervention, such as a drug, that results in a sustained improvement in lung function, as well as a sustained improvement in patient-centered outcomes, such as respiratory symptoms and health-related quality of life, and a reduction in exacerbations of COPD and in morbidity and mortality related to the disease, represents a favorable modification in the clinical course of the disease. Data from recent large-scale, long-term, randomized, placebo-controlled clinical trials (mainly from TORCH and UPLIFT) are presented that support the view that pharmacologic interventions, including a fixed combination of a long-acting beta-agonist (LABA) and an inhaled corticosteroid (ICS) (salmeterol/ fluticasone) and the long-acting muscarinic antagonist, tiotropium, result in sustained improvements in FEV1 over 3 and 4 years, respectively, as well as sustained improvements in health-related quality of life (assessed using the St. George's Respiratory Questionnaire), a reduction in exacerbations of COPD and a reduction in all-cause mortality, thus indicating a favorable impact on the clinical course of COPD. Subgroup analysis also demonstrated that similar benefits were noted in those subjects with moderate COPD (GOLD Stage II), providing support for pharmacotherapeutic intervention at a relatively early stage of the disease.

SYMPOSIUM 1 A
Chronic Obstructive Pulmonary Disease

**THE 2009 MALAYSIAN CLINICAL PRACTICE GUIDELINES ON MANAGEMENT OF
CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**

Liam Chong-Kin

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

COPD is a major health problem causing significant morbidity and mortality. It is the fourth leading cause of death in the world. Further increases in its prevalence and mortality are expected in the near future. Since the original guidelines on the management of COPD (by the Ministry of Health Malaysia, the Academy of Medicine of Malaysia and the Malaysian Thoracic Society) was published in 1998, there has been major advances in the management of this disease based on evidence from many large well-conducted international trials. An updated clinical practice guidelines (CPG) is needed to ensure that the recommendations for the management of COPD in Malaysia remain current. Furthermore, there is a wide variation in the management of COPD in Malaysia because of the variations in the level of awareness of the disease, availability of spirometry for the diagnosis, certain medications for the treatment, and medical expertise in different parts of the country, urban versus rural settings, as well as the public versus the private health care system. The likely benefits of developing and implementing this CPG include

- increasing the awareness of COPD with emphasis on early diagnosis and early intervention,
- decreasing the morbidity and mortality from the disease,
- improving prevention and management of COPD,
- encouraging local research interest in this highly prevalent disease, and
- correcting the nihilistic attitude towards COPD among health care providers by disseminating information about available pharmacological and non-pharmacological treatments for the disease

In developing and revising the CPG, high levels of evidence from many well-conducted international trials as well as international guidelines on COPD management are referred to.

The CPG is divided into the following sections:

- **Definition and Classification of Severity**
 - Stages of COPD
 - Pathophysiology of airflow limitation in COPD
 - Differences between asthma and COPD
- **Burden of COPD**
 - Epidemiology
 - Prevalence
 - Morbidity
 - Mortality
- **Risk Factors**
- **Assessment and monitoring of COPD**
 - Initial Diagnosis
 - Assessment of COPD severity
 - Ongoing monitoring and assessment of the disease
- **Reduce Risk Factors**
 - Smoking prevention and cessation
 - Avoiding occupational exposures
 - Avoiding indoor/outdoor air pollution
- **Management of stable COPD**
 - Education
 - Pharmacological treatment
 - Non-pharmacological treatment
 - Pulmonary rehabilitation
 - Oxygen therapy
 - Ventilatory support
 - Surgical treatments
- **Management of acute exacerbations of COPD**
 - Diagnosis and assessment of severity
 - Home management
 - Hospital Management
 - Hospital discharge and follow-up
- **Guideline recommendations in Primary Care**
 - Diagnosis
 - Comorbidities
 - Reducing exposure to risk factors
 - Implementation of COPD guidelines

SYMPOSIUM 1 B

Paediatrics : Pulmonary Complications of Paediatric Neuromuscular Disease

PAEDIATRIC NEUROMUSCULAR DISEASES – OVERVIEW AND WHAT'S NEW?

Ong Lai Choo

Department of Paediatrics, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

This overview will cover the inherited myopathies, muscular dystrophies and peripheral neuropathies, and briefly touch on myasthenia gravis and the acquired (inflammatory) myopathies and peripheral neuropathies. The inherited myopathies and muscular dystrophies are a diverse group of muscle diseases presenting with common complaints and physical signs: weakness, motor delay, and respiratory and bulbar dysfunction. The myopathies are caused by genetic defects in the contractile apparatus of muscle, and defined by distinctive histochemical or ultrastructural changes on muscle biopsy. The muscular dystrophies, in contrast, are diseases of muscle membrane or supporting proteins, which are generally characterized by pathological evidence of ongoing muscle degeneration and regeneration. The classification of childhood onset inherited peripheral neuropathies has become extremely complicated as they are clinically and genetically heterogenous. Although major advances in the molecular genetics have tremendously helped to aid in the understanding of the pathogenesis of these inherited muscle and nerve disorders, the lack of phenotype-genotype correlation in many of these conditions have added to the confusion. An appropriate diagnostic approach will still need to rely on some combination of careful history taking, physical examination findings, a careful determination of family history, electrodiagnostic studies, molecular genetic studies, muscle or sural nerve biopsy, and occasionally metabolic laboratory studies. An age - related approach, with emphasis on the pattern of weakness and wasting, presence of contractures, organomegaly, cardiac, respiratory and ophthalmologic manifestations is essential for guiding the physician in selecting the most appropriate diagnostic studies.

There is hope that the sequencing of genes, characterization of protein structure and function, and further elucidation of pathophysiology will have significant impacts on the treatment of many of these disorders which are otherwise considered incurable. An example is the conduction of early clinical trials of exon 51 skipping antisense oligonucleotides in boys with Duchenne muscular dystrophy. Therapeutic approaches like enzyme replacement therapy for Glycogen storage disease type II has shown remarkable success in reversing pathology in cardiac muscle and extending life expectancy in infantile patients, but it is less effective for skeletal muscle than what was hoped for.

Recent attention has also focused on not just prolonging but enhancing the quality of life in these children, with improved respiratory, cardiac, gastrointestinal/nutrition, orthopaedic and palliative care.

SYMPOSIUM 1 B

Paediatrics : Pulmonary Complications of Paediatric Neuromuscular Disease

SCOLIOSIS IN NEUROMUSCULAR DISEASE: RESPIRATORY ASSESSMENT AND MANAGEMENT

Asiah Kassim

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Neuromuscular disease (NMD) in children is a broad spectrum disease with variable prognosis e.g. muscular dystrophy, spinal muscular atrophy, myotonias, myopathies and neuro-metabolic diseases. Most children with neuromuscular diseases will develop respiratory complications. Respiratory complications in this group of patients include restrictive lung disease, sleep disordered breathing, recurrent chest infection or aspiration.

Scoliosis in neuromuscular disease is often seen especially in muscular dystrophy, spinal muscular atrophies and myopathies. NMD patients with scoliosis will have worsening restrictive lung disease and sleep disordered breathing.

Respiratory assessment in this group of patients involves regular monitoring and pre-operative assessment. After clinical assessment, other diagnostic and supportive tests i.e. arterial blood gas, full blood count, spirometry and polysomnography may be performed. Each test has its advantages and limitations.

Management includes surgical and non-surgical therapy. Choice of therapy varies depending on underlying disease, severity of illness, other medical problems and social background.

**SCOLIOSIS IN NEUROMUSCULAR DISEASE:
ORTHOPAEDIC ASSESSMENT AND MANAGEMENT**

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In patients with underlying neuromuscular disorders, rather complex and severe spinal deformities may develop, some involving the pelvis. The global management of these deformities can be quite challenging and often requires a multidisciplinary approach. The long-term effects of the spinal deformity in patients with neuromuscular conditions includes loss of the ability to sit. Pulmonary function may be markedly affected causing the patient to need assistive oxygen devices at night while sleeping. Not all patients with neuromuscular disease need surgery to correct or stabilize the spine. Where surgery becomes necessary, a thorough assessment of nutritional status and pulmonary function is extremely important. Detecting and correcting malnutrition preoperatively helps prevent postoperative wound infection and healing problems. An orthopedic examination, including assessment of all extremities and joints for contractures, spinal deformity, decomposition, and shoulder balance should be performed and documented. Ambulatory status is also evaluated.

Scoliosis may be detected on a routine checkup of the child. Sometimes the parent or caretaker notes the curve because of a change in body position or change in ability to sit. A progressive or large curve can affect a child's pulmonary function. Full pulmonary assessment should be conducted as patients with neuromuscular disorders are prone to pulmonary complications.

SYMPOSIUM 2 A
Lung Cancer

THE NEW LUNG CANCER STAGING SYSTEM

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The 6th Edition (2002) of the tumour, lymph node and metastasis (TNM) classification of lung cancer was largely unchanged from the 5th edition (1997) which was based on the analyses of data from a selected population of 5,319 patients in North America who had undergone surgical treatment from 1975 to 1988. In 1998, the International Association for the Study of Lung Cancer (IASLC) created the Lung Cancer Staging Project and an International Staging Committee (ISC) of multidisciplinary members to collect data worldwide from lung cancer patients for analysis to guide revisions to the 6th Edition of lung cancer staging system. The ISC of the IASLC collected 68,463 patients with non-small cell lung cancer and 13,032 patients with small cell lung cancer, registered or diagnosed from 1990 to 2000 in 20 countries in Asia, Australia, Europe and North America, whose records had adequate information for TNM classification. The T, N and M descriptors were analysed, and recommendations for changes in the seventh edition of the TNM classification were proposed based on differences in survival. For the T component, tumour size was found to have prognostic relevance, and its analysis led to recommendations to subclassify T1 tumours into T1a (≤ 2 cm) and T1b (> 2 to up to 3 cm) and T2 tumours into T2a (> 3 to up to 5 cm) and T2b (> 5 to up to 7 cm), and to reclassify T2 tumours > 7 cm into T3. In addition, the presence of additional nodules in the same lobe as the primary tumours, T4 tumours are reclassified as T3; the presence of additional nodules in another ipsilateral lobe, M1 is reclassified as T4; and pleural dissemination, T4 is reclassified as M1. There are no changes in the N category. In the M category, M1 is recommended to be subclassified into M1a [intrathoracic metastases which include contralateral lung nodules, and pleural nodules or malignant pleural (or pericardial) effusion] and M1b (distant metastases). The proposed changes for the new stage grouping were to upstage T2bN0M0 from stage IB to stage IIA,

and to downstage T2aN1M0 from stage IIB to stage IIA and T4N0-N1M0 from stage IIIB to stage IIIA. The proposed changes better differentiate tumours of different prognoses. With the agreement of both the International Union Against Cancer (UICC) and the American Joint Committee on Cancer (AJCC), the results of these analyses will be released for inclusion in the 7th edition of the TNM classification (TNM7) scheduled for publication in 2009 and which will be officially launched at the 13th World Conference on Lung Cancer to be held from 31 July to 4 August 2009 at San Francisco.

The proposed new TNM subgroups are shown in the table.

The proposed new TNM subgroups

T and M descriptors		N0	N1	N2	N3
UICC 6 th edition descriptor	New T/M	Stage	Stage	Stage	Stage
T1 (≤2 cm)	T1a	IA	IIA	IIIA	IIIB
T1 (>2 to 3 cm)	T1b	IA	IIA	IIIA	IIIB
T2 (>3 to 5 cm)	T2a	IB	IIA	IIIA	IIIB
T2 (>5 to 7 cm)	T2b	IIA	IIB	IIIA	IIIB
T2 (>7 cm)	T3	IIB	IIIA	IIIA	IIIB
T3 invasion		IIB	IIIA	IIIA	IIIB
T4 (same lobe nodules)		IIB	IIIA	IIIA	IIIB
T4 (extension)	T4	IIIA	IIIA	IIIB	IIIB
M1 (ipsilateral lung nodules)		IIIA	IIIA	IIIB	IIIB
T4 (pleural effusion)	M1a	IV	IV	IV	IV
M1 (contralateral lung nodules)		IV	IV	IV	IV
M1 (distant metastases)	M1b	IV	IV	IV	IV

Shaded cells indicate a proposed change in classification

SYMPOSIUM 2A
Lung Cancer

**TREATMENT OF ADVANCED NON-SMALL CELL LUNG CANCER
- RIGHT TREATMENT FOR THE RIGHT PATIENT**

Virote Sriuranpong

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Earlier meta-analysis of the treatment of advanced non-small cell lung cancer (NSCLC) with systemic chemotherapy demonstrated a modest survival improvement. With the invention of modern chemotherapy in combination with platinum, outcome of the treatment of advanced NSCLC could reach nearly one year survival. Until recently, palliative systemic chemotherapy was administered in an empirical manner. With the discovery of novel targeted agents targeting epidermal growth factor receptor (EGFR) signaling and angiogenesis pathways, advanced NSCLC may currently be treated with multiple lines of chemotherapy and targeted agents. The addition of a monoclonal antibody to vascular endothelial derived growth factor (VEGF) to standard chemotherapy has been shown to increase the survival of NSCLC beyond the one year boundary. Following a report of crude clinical predictors of response such as adenocarcinoma, never-smoking, and Asian ethnicity, a few US studies focusing the analyses of EGFR molecule revealed the critical mutations of the kinase domain as one of the molecular predictors of response to tyrosine kinase inhibitors (TKI). The knowledge in the field has been broadening further with

the identification of resistance mechanisms, for example, secondary resistant mutation of EGFR and modulation of MET to overcome TKI sensitivity of NSCLC cells. Attempt to elucidate the molecular mechanisms not only limited to TKI, several reports have advanced our knowledge in the selection of an appropriate chemotherapeutic agent for NSCLC. DNA repair molecule excision repair cross-complementation group 1 (ERCC1) has been shown to be the determinant of response to platinum compounds. Moreover, expression of ribonucleotide reductase M1 (RRM1) in conjunction with ERCC1 strongly contributes to the prognosis of patient in early stage NSCLC. Taken together, we are now in the era of translating the molecular portraits of lung cancer into the selective biomarkers tailoring the regimen for an individual patient.

SYMPOSIUM 2A
Lung Cancer

**PRACTICAL PALLIATIVE CARE IN PATIENTS
WITH LUNG CANCER**

Richard Lim Boon Leong

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Lung cancer is the commonest cancer in males and one of the commonest cancers in females in Malaysia. Many lung cancer patients unfortunately present at late stages where curative treatment options are limited. Thus, the majority of lung cancer patients eventually will develop progressive disease and ultimately deteriorate due to the disease. Palliative care is therefore a very important component in the management of lung cancer patients. Palliative care is defined as an approach that improves the quality of life of patients and families facing the problem associated with life-threatening illness through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems – physical, psychosocial and spiritual. Among the important physical aspects of palliative care in lung cancer includes the management of pain and dyspnoea. These symptoms should be well-managed in lung cancer patients in order to allow these patients to continue with life in comfort and as productively as possible. Apart from the physical aspects of care, attending to psychological, social and spiritual well-being is also extremely important to provide holistic care and quality of life. Finally, as patients eventually reach the end of life, several pertinent issues should be addressed such as escalating symptoms, terminal secretions, terminal agitation, maintaining dignity and supporting the family. Such aspects of palliative care should be familiar to all physicians treating patients with lung cancer in order to ensure that although active management of cancer must continue, comfort and quality of life is maintained throughout the patient's illness.

VIRAL BRONCHIOLITIS: AN UPDATE

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Viral bronchiolitis is one of the commonest conditions in infants presenting to the medical practitioner. The respiratory syncytial virus (RSV) is the commonest viral aetiologic agent in infants but becomes slightly less common with increasing age. Rhinovirus assumes more prominence in children over 12 months of age and those who had had previous wheezy episodes.

The diagnosis of bronchiolitis is a clinical one and depends greatly on the presence of wheezing in a young child. There are various causes of wheezing in this age group and this may confound clinical trials of various interventions used to treat "bronchiolitis".

It has recently become apparent that nebulised saline can benefit the child with bronchiolitis and it is now accepted as mainline therapy whereas corticosteroids, oral or inhaled, have not been shown to be very efficacious. Bronchodilators probably have little role in pure first-onset, viral-induced bronchiolitis in the infant.

Passive immunization against RSV had been shown to be useful especially in the ex-premature infant and infants with heart disease, chronic lung disease and immunodeficiency. However it has now been shown to also have a role in the acute treatment of RSV bronchiolitis.

Concern regarding recurrent wheezy episodes after RSV bronchiolitis led to several trials on pharmacological intervention for prevention of this subsequent wheezing. There may be a role for leukotriene inhibitors.

As we begin to tease out the aetiology of bronchiolitis and understand more about its pathogenesis it becomes apparent that it is not one disease that is being treated and therefore different approaches may be necessary.

BRONCHOPULMONARY DYSPLASIA: CURRENT CONTROVERSIES IN APPROACH AND MANAGEMENT

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Bronchopulmonary dysplasia (BPD) or chronic lung disease (CLD) remains a major problem in preterm infants. BPD was first described as a fibrotic pulmonary endpoint following severe respiratory distress syndrome (RDS). However, the clinical picture of BPD has changed ("new" BPD) with the improved treatment of RDS, including administration of antenatal corticosteroids, surfactant replacement therapy and other advances in neonatal intensive care, and infants surviving at younger gestation. This "new" BPD consists primarily of developmental pulmonary arrest among survivors of extreme prematurity. BPD causes not only significant complications in the newborn period, but is associated with continuing mortality, cardiopulmonary dysfunction, re-hospitalisation, growth failure, and poor neurodevelopmental outcome.

Four major risk factors for BPD include premature birth, respiratory failure, oxygen supplementation, and mechanical ventilation, although it is unclear whether any of these factors is absolutely necessary for the development of BPD. Genetic susceptibility, infection, and patent ductus arteriosus (PDA) have also been implicated in the pathogenesis of the disease.

Despite the increased knowledge on the pathogenetic mechanisms of BPD over the years, the incidence of the disease has not substantially been changed by the existing therapeutic approaches. The strategies with the strongest evidence for effectiveness in preventing or reducing the severity of BPD

include the prevention of prematurity and closure of a clinically significant PDA. Some evidence of effectiveness also exists for antenatal glucocorticoids, surfactant replacement therapy, vitamin A supplement, and modes of ventilatory support that minimize volutrauma and prevention of oxygen toxicity.

Oxygen plays an important pathogenic and therapeutic role in BPD. However, current evidence for an optimal oxygen saturation in premature infants is still scarce. Targeting infants at lower oxygen saturation levels than traditionally used seems to confer major advantages. High frequency oscillatory ventilation (HFOV), permissive hypercapnoea, and inhaled nitric oxide might offer benefit to infants at risk of BPD. Prophylactic or early institution of surfactant may be beneficial, particularly if combined with early extubation of the premature infants to continuous positive airway pressure (CPAP). High intramuscular doses of vitamin A has been shown to reduce the incidence of BPD. Currently, there is no other evidence to support other nutritional interventions to prevent BPD. Postnatal corticosteroids are effective, but with major side-effects. Anti-inflammatory drugs, like alpha (1)-proteinase inhibitor, pentoxifylline and dismutase have no proven benefits for BPD.

This presentation will summarize the existing evidence and controversies for respiratory and medical strategies to prevent or ameliorate the BPD.

SYMPOSIUM 2B

Paediatrics : Common Respiratory Problems in Young Infants

GASTROESOPHAGEAL REFLUX DISEASE

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Gastroesophageal reflux (GER) is a *physiological process* occurring throughout the day, representing a protective mechanism, to decompress an overdistended stomach. In contrast, gastroesophageal reflux disease (GERD) occurs when this normal event results in the occurrence of symptoms/signs or complications, involving a) the upper portion of the gastrointestinal tract b) the respiratory system or c) nutritional compromise.

GER has a high prevalence among infants because of a possible transient dysfunction in motility of the esophagus and the stomach, the large liquid intake during meals or constitutional factors. GER-related respiratory symptoms may be frequent and severe in infants because of dysfunction in swallowing, poor coordination between breathing and swallowing and delayed or inefficient utilization of airway protective mechanisms.

Mechanisms underlying GERD includes dysfunctional motility, excessive gastric acid secretion and anatomic malformations. In absence of malfunctions and malformations and in the setting of normal lower esophageal sphincter (LES) pressure, the most important mechanisms underlying GERD are transient LES relaxations (TLESRs).

The approach and management of infants with GERD depends upon the presenting symptoms or signs. The clinician should determine if the symptoms are caused by underlying pathological disease, or if there is evidence that the reflux is causing secondary complications such as esophagitis, failure to thrive or respiratory problems. Diagnostic modalities of GERD will be discussed.

The treatment options include lifestyle modification, pharmacological therapy and surgical procedures. In the absence of anatomic abnormalities or history of life-threatening complications, conservative therapies such as lifestyle modifications and pharmacologic therapy must be the initial choice.

ISSUES IN HOSPITAL-ACQUIRED PNEUMONIA AND HEALTHCARE-ASSOCIATED PNEUMONIA

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Classically, pneumonia was segregated into those that were nosocomial in origin ie. hospital-acquired pneumonia (HAP), including ventilator associated pneumonia (VAP), and those that arose outside the hospital ie. traditional community-acquired pneumonia (CAP).

The growing numbers of individuals in non-hospital healthcare facilities, for example, nursing homes, patients undergoing outpatient procedures or therapies such as haemodialysis, wound care, daycare therapy, patients who have been recently discharged from the hospital, and those with significant underlying immunosuppression has led to the new designation for pneumonia acquired in these environments namely, healthcare-associated pneumonia (HCAP). The purpose of HCAP is to identify a cohort of patients presenting to the hospital who nonetheless face an increased risk for colonization with MDR bacteria and respiratory infection with organisms, such as MRSA and *Pseudomonas aeruginosa*, traditionally considered as hospital-acquired organisms. Evidence indicates that HCAP differs from CAP with respect to pathogens and prognosis, and in fact, more closely resembles hospital-acquired pneumonia (HAP) and ventilator-associated pneumonia (VAP) requiring broader empirical antimicrobial therapy than CAP. Mortality is generally highest for patients with VAP, is intermediate with HCAP or HAP, and is lowest with CAP.

The appropriate initial selection of antibiotics has been shown to significantly improve the survival of patients with resistant organisms. Failure to identify high-risk patients may lead to the selection of inappropriate initial antimicrobial therapy and substantial delays before appropriate therapy is instituted.

VAP arises when there is bacterial invasion of the pulmonary parenchyma in a patient receiving mechanical ventilation. Risk factors for VAP include prolonged intubation, enteral feeding, witnessed aspiration, paralytic agents, underlying illness, and extremes of age. Guidelines to prevent VAP have been published by several expert groups and, when fully implemented, improve patient outcomes and are cost-effective.

Other important determinants of clinical outcome remain unknown, including the susceptibility of the patient's infection to the selected antimicrobial therapy, the concentration of antimicrobial agent in the target tissues, and the optimal dose of antimicrobial agent to treat infection without promoting resistance. Finally, it is also important to avoid overuse of antibiotics in HAP and related conditions.

DIAGNOSIS AND TREATMENT OF FUNGAL LUNG INFECTIONS

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Invasive fungal infection (IFI) is one of the most important infectious complications seen in immunocompromised patients, namely transplanted recipients and patients with cancer. The incidence of IFI ranges from 10% to 25% in hematopoietic stem cell transplant patients¹ and less than 17% in solid organ transplant patients². A case series of patients with febrile neutropenia episodes showed 34% had pneumonia and approximately 12% were due to fungal infections³.

Candidiasis was one of the most common IFI but this has changed with the widespread use of prophylactic fluconazole. It is found that *aspergillus* species were the predominant moulds, followed by zygomycosis and fusariosis in bone marrow transplant patients⁴. Most IFI occur within 60 days after bone marrow transplant /HSCT⁴, with a bimodal distribution for aspergillosis (an early peak at approximately 3 weeks post transplant, and later peak at approximately 3 months following transplant)⁵. The mortality rate of IFI in HSCT patients is as high as 70% to 90%⁶. In solid organ transplant recipients, the fungal species depends on the type of organ transplant where renal transplant recipients has the least risk of IFI. In patients with cancer, the risk of infection is higher amongst the patients with hematological malignancies and the fungal infections are mainly due to *aspergillus sp* compared to other type of cancers where candidiasis remained the important pathogen.

DIAGNOSIS AND MANAGEMENT OF LATENT TB – THE MYTHS AND CHALLENGES

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Based on the ATS guideline, a person is said to have latent TB infection (LTBI) if he shows positive reaction to the tuberculin skin test (indicated by induration measured in millimetres), but does not have any clinical, bacteriological or radiographic evidence of active tuberculosis.

Many individuals who have been infected with TB recovered spontaneously as the mycobacterium goes into a state of dormancy. However, 5 – 10% of these individuals will eventually develop disease reactivation. The majority (82%) of the reactivations occur within 2 years after exposure. These sporadic cases serve as an important source in spreading and perpetuating TB in the community. Thus, elimination of TB involves treatment of active TB as well as LTBI. The challenges faced in this regard are often due to lack of specific tools in diagnosis, limited resources and poor patient adherence to treatment.

In the past, the only available diagnostic test for LTBI was the tuberculin skin test. However, due to its cross-reactivity with BCG and non-tuberculous mycobacteria, it has not been widely used in this country for detecting LTBI. Two new tests, based on T-cell interferon gamma release assay, the Quantiferon-gold test and the Elispot test, showed promising results in term of their specificity (> 90%).

Screening should be targetted at those with higher risk of disease reactivation, as the treatment involves considerable resources and toxicity. These include individuals with history of recent close contact with an index case, individuals who are immunocompromised (e.g. patients with HIV, chronic renal dialysis and immunosuppressant therapy); and individuals at high risk of acquiring TB infection (health-care workers, prison wardens, intravenous drug users, nursing home and dialysis centre patients and workers).

Treatment of LTBI involves single or dual drug regimes. The lengths of treatment varied from 2 to 9 months, depending on the regimes used. The most popular and well studied regime is isoniazid therapy.

CLINICAL MANAGEMENT OF MDR- AND XDR-TB : PRESENT ISSUES AND FUTURE PROSPECTS

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Multidrug-resistant tuberculosis (MDR-TB) denotes drug-resistant TB with bacillary resistance to at least isoniazid and rifampicin *in vitro*. Drug-resistant TB generally results from inappropriate drug regimen, poor drug quality, erratic drug supply, and poor patient adherence to treatment, reflecting failure in the implementation of an effective TB control programme. Directly observed treatment, short-course (DOTS) is a cost-effective strategy for TB control. Proper implementation of the DOTS strategy should achieve a high cure rate for disease and curtail the development of drug resistance. Innovations in reinforcement of this strategy should further facilitate its delivery and enhance its effectiveness. However, established MDR-TB is difficult to treat and necessitates the use of alternate chemotherapy regimens, comprising second-line and third-line reserve drugs that are generally more costly and toxic, and have to be given for a more prolonged duration, usually in the range of 18 – 24 months. Optimal delivery of these regimens mandates the use of a programme, embracing several key components, and is often referred to as the “DOTS-Plus”

strategy. Adjunctive surgery in selected MDR-TB patients helps to improve their outcomes. More exploration is required regarding the use of immunotherapy. The recent emergence of extensively drug-resistant TB (XDR-TB) representing MDR-TB with additional bacillary resistance to fluoroquinolones and one or more of the second-line injectables – kanamycin, amikacin and capreomycin poses a serious challenge to the global control of TB. Given the size of the problem of MDR-TB and XDR-TB worldwide, gigantic instillation of resources is required to meet the fund gap for control of this formidable challenge, largely through better and more rapid drug susceptibility testing, regular and accurate drug-resistance surveillance, development of new anti-TB drugs and other therapeutic modalities, intensive infection control, especially in HIV settings, as well as strengthening of currently functioning DOTS and drug-resistance programmes.

SYMPOSIUM 3B
Respiratory Tract Infection 2

**ATYPICAL MYCOBACTERIUM (MOTT) INFECTIONS :
DIAGNOSIS AND TREATMENT**

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Atypical mycobacteria (mycobacteria other than tuberculosis – MOTT, nontuberculous mycobacteria – NTM) are ubiquitous environmental organisms that have been recognized as a cause of pulmonary infections for several decades. Lung involvement by these microbes may range in severity from subclinical / mild clinical (indolent) infection to overt disease associated with extensive destruction. The prevalence of MOTT/NTM disease seems to be escalating due to a number of reasons. Increased understanding on the host susceptibility determinants has also been gained. Diagnosis of pulmonary disease due to MOTT/NTM requires a constellation of clinical, radiological and bacteriological criteria. Treatment generally requires antimicrobial combinations for a prolonged duration, and is often accompanied by drug intolerance and even toxicity. Thus, decision to treat MOTT/NTM pulmonary disease is an important decision for both the physician and the patient. In instituting therapy, there is a need to establish realistic expectation regarding the outcomes. For some patients, close observation and use of adjunctive therapies, such as airway clearance techniques, may be a reasonable alternative to immediate antimycobacterial chemotherapy. Surgery can be a useful adjunct in some selected patients. Randomized controlled trials would provide stronger evidence-based data to guide treatment of MOTT/NTM lung disease.

UNDERSTANDING INFLAMMATION IN ASTHMA

John Upham

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In recent decades the prevalence of asthma and allergic disorders has risen considerably in most parts of the world. This rapid change in prevalence highlights the importance of environmental factors which can either initiate asthma or can modify the clinical expression of asthma.

Airway inflammation is a consistent feature of asthma and is central to disease pathogenesis. However, the pattern of inflammation appears to vary within the asthmatic population. Allergic asthma is well recognised clinically, and is characterised by infiltration of the airway mucosa with Th2 lymphocytes, eosinophils and mast cells. Allergic sensitisation and symptoms of asthma typically begin in early childhood. In other types of asthma, allergic mechanisms appear to be less relevant, including some types of occupational asthma and much of the asthma that begins in adult life. In these other varieties of asthma, the pattern of inflammation is often characterised by a lack of eosinophils, and a greater involvement of neutrophils and macrophages. Patterns of inflammation in asthma are likely to vary in different regions of the world based on genetic background, prevalence of allergens and parasite infestation, and the extent of air pollution. Respiratory virus infections appear to be a major trigger for asthma exacerbations, and increasing evidence suggests that people with asthma are vulnerable to virus infections.

While inhaled steroids and long acting beta agonists are highly effective at controlling asthma in most people, there is a need to develop new approaches that can change the natural history of asthma with the aim of inducing disease remission.

SYMPOSIUM 4B

Pleural Disease

SPONTANEOUS PNEUMOTHORAX

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Spontaneous pneumothorax is a common clinical condition which requires immediate evaluation and management. However, the data on the incidence of spontaneous pneumothorax in Malaysia is lacking. Primary pneumothorax occurs in otherwise healthy young adults who may present with large pneumothorax but experiences minimal symptoms. In contrast, secondary pneumothorax occurs in older population with coexisting chronic lung disease like chronic obstructive pulmonary disease, where even a small pneumothorax can be life threatening.

The immediate management depends on the underlying lung condition, size of pneumothorax and degree of symptoms. The initial treatment of a primary spontaneous pneumothorax (PSP) is controversial. The therapeutic options available in the initial management of spontaneous pneumothorax include observation without intervention, simple aspiration and insertion of chest tube into the chest wall.

Several guidelines have been developed to assist doctors in the management of pneumothorax. The two most widely available are from the British Thoracic Society¹ and the American College of Chest Physicians Delphi consensus statement². The British Thoracic Society guideline recommends simple aspiration for all PSP requiring intervention. The placement of chest tubes is only advocated for patients who fail simple aspiration. However, the American College of Chest Physicians Delphi consensus statement guideline found simple aspiration to be rarely appropriate in the management of PSP. Symptomatic secondary spontaneous pneumothorax should be treated with chest tube drainage.

Studies have shown that the success rates are high and the recurrence rates of simple aspiration are comparable to chest tube drainage. Simple aspiration is the least invasive modality with low complication rate and it has economic cost-saving benefits, particularly with respect to admission rates and hospital length of stay. However, a larger size of pneumothorax seems to be associated with increased likelihood of failure of simple aspiration.

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SYMPOSIUM 4B **Pleural Disease**

PLEURAL SPACE INFECTIONS

Lim Tow Keang

Respiratory & Critical Care Medicine, National University Hospital, Singapore

There is an increase in the incidence of pleural infections in recent years. Pleural infections are associated with considerable mortality and morbidity. Treatment often requires complicated management steps and prolonged hospitalization. Effective management requires a pro-active and multi-disciplinary approach. This update will describe recent advances which include portable bedside ultrasonography, rapid diagnosis of tuberculous pleuritis, intra-pleural fibrinolysis and video assisted thoracoscopic management methods. We propose a management plan which incorporates current best evidence and which advocates a more aggressive approach to pleural drainage.

DIAGNOSTIC AND THERAPEUTIC ROLE OF PLEUROSCOPY IN PLEURAL DISEASE

A R Jamalul Azizi

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Pleuroscopy is a minimally invasive procedure, providing pulmonologists a view into the pleural space and allowing biopsy of abnormal pleura under direct visualisation. It was introduced in Malaysia in late 2004. UKM Medical Centre was the first institution offering this service followed by centres in Sabah, Terengganu, Pahang, Penang, Kedah, Kelantan, UM Medical Centre and Institut Perubatan Respiratori in Kuala Lumpur.

Pleuroscopy allows examination of the contents of the thoracic cavity under conscious sedation for diagnostic purposes. Therapeutic procedures such as talc poudrage and adhesiolysis can also be performed. Pleuroscopy is not intended to replace video-assisted thoracoscopic surgery performed by thoracic surgeons.

Pleuroscopy can be performed using rigid, flex-rigid or flexible instruments. It provides excellent visualization of the parietal and visceral pleurae. Indications for pleuroscopy include pleural effusion of unclear etiology and staging of lung cancer.

Absolute contraindication for pleuroscopy is lack of pleural space. Such cases should be referred to thoracic surgeons for thoracotomy. The use of pleural ultrasound greatly assists the pulmonologist in assessing suitability for pleuroscopy. I believe ultrasound will become part of pulmonologists' armamentarium in the near future.

Since September 2006, our centre in Sabah has performed pleuroscopy on more than 300 patients. We also presented our pleuroscopy work last year at the World Congress for Bronchology in Tokyo, Japan and have trained local and overseas doctors in this field.

In our experience, pleuroscopy is a safe, high yield procedure and cost effective. It is easy to perform and well tolerated by most patients.

With the establishment of a cardio-thoracic centre in Sabah this year, we also plan to develop rigid pleuroscopy in future. This will further increase the diagnostic yield in certain cases.

ORAL SCIENTIFIC PRESENTATIONS

Chairperson : Assoc Prof Roslina A Manap

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|-------------|--|----|
| OP 1 | Outbreak Of Tuberculosis In Penang Prison, Malaysia
Abdul Razak M¹, Amer Hayat Khan², Syed Azhar S S²,
Mohamed Azmi Hassali²
¹ Department of Respiratory Medicine, Penang Hospital, Penang, Malaysia
² School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, Malaysia | 33 |
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OUTBREAK OF TUBERCULOSIS IN PENANG PRISON, MALAYSIA

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BACKGROUND

Much concern has been expressed about the high prevalence of tuberculosis (TB) in prisons where the prisoners are at higher risk of developing diseases as a result of overcrowding, physical and mental stress and improper ventilation.

OBJECTIVE

To evaluate the incidence, management and treatment outcomes of tuberculosis in the Central and States Prison of Penang.

METHODS

A retrospective and prospective descriptive study conducted from January 2006 to December 2008, at the chest clinic, Penang Hospital. All the registered tuberculosis cases from the state prison were reviewed. Information on demographic, racial distribution, details of tuberculosis diseases with its management, site of primary infection, drug sensitivity patterns, prior history of tuberculosis disease and HIV status were the part of data collected. Data were analysed using SPSS version 15 (SPSS Inc. Chicago, IL) and Microsoft Excel.

RESULTS

A total 1,548 tuberculosis cases reported during the study period. Seventy (4.5%) cases were from the prison with an incidence rate of 323, 417 and 225 per 100,000 inmates (total inmates for 2006, 2007 and 2008 were 6849, 7421 and 8088 respectively). The mean age of the prison patients were 40.75 ± 7.89 years. Racial distribution: 38 (43.2%) Malay, 32 (36.4%) Chinese, 16 (18.2%) were Indians and 2 (2.3%) other races. The majority of the patients 65 (73.8%) had pulmonary tuberculosis and 13 (14.7%) had extra-pulmonary disease. 18 (20.5%) were relapse cases 7(8%) prisoners defaulted the treatment after being released from the prison.

CONCLUSION

The incidence rate of tuberculosis in prison ranges from 225 to 417 per 100,000 inmates. This rate is 4 to 8 times higher than the population outside the prison (62/100,000). This high incidence in the prison, suggests active transmission of tuberculosis, thus appropriate measures should be taken to prevent the outbreak of this deadly infection in prison. All new inmates should be screened for TB before they are allowed to mix with the other inmates. A mechanism to prevent prisoners from defaulting upon discharge from prison is important.

CLINICAL PATTERNS AND SEASONAL TRENDS AMONG PAEDIATRIC INPATIENTS WITH CHRONIC RESPIRATORY DISORDERS

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INTRODUCTION

Chronic respiratory disorders are often caused by viruses and seasonal outbreaks are often observed in many parts of the tropical countries.

OBJECTIVE

This study was conducted to investigate the clinical patterns and seasonal trends in paediatric patients with chronic respiratory disorders.

METHODOLOGY

A prospective eighteen-month study was conducted in Ward KK5, Institut Pediatrik Hospital Kuala Lumpur amongst children aged 1 month to 17 years. Patient data were extracted from medical records. Standard bacteriological culture and multiplex PCR for twelve respiratory viruses were conducted for the sputum and nasopharyngeal aspirate samples collected.

RESULTS

Eighty samples were collected from 52 boys and 28 girls, comprising of Malays (60%), Chinese (25%) and Indians (9%). Majority were aged between 1 to 6 years. The common diagnoses were bronchiectasis (25%), bronchiolitis obliterans (23%) cystic fibrosis (19%) and bronchopulmonary dysplasia (6%). Bronchiectasis was common in boys whereas cystic fibrosis was more common in girls. The most prevalent pathogen causing infections are RSV (30%), parainfluenza virus (26%) followed by rhinovirus (12%), *Staphylococcus aureus* (25%) and *Pseudomonas aeruginosa* (7%). RSV infection was most frequent in the 3 to 12 months age group. The incidence of RSV infection appeared to begin in November and continued till March. The incidence of other viral pathogens appeared to fall from April till October. Bacterial infections are perennial.

CONCLUSION

RSV and parainfluenza virus was most frequently found in patients with chronic respiratory infections. Similar to what occurs in other tropical countries, the virus outbreaks peak in the end of the year till the beginning of the following year.

RESPONSE AND PROGRESSION-FREE SURVIVAL IN PATIENTS WITH ADVANCED LUNG ADENOCARCINOMA TREATED WITH GEFITINIB

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OBJECTIVES

To evaluate the response and progression-free survival (PFS) in patients with advanced lung adenocarcinoma treated with gefitinib, an epidermal growth factor receptor-tyrosine kinase inhibitor.

METHODOLOGY

This was a retrospective analysis of consecutive patients with stage III or IV lung adenocarcinoma treated at our centre with gefitinib 250 mg once daily until disease progression.

RESULTS

Of a total of 71 patients [median age, 59 (range, 35-86) years; 37 female], 53 (74.6%) were never smokers, 51 (72.8%) had stage IV disease and 36 (50.7%) had no prior cytotoxic chemotherapy. No patient had complete response while 26 patients (36.6%) had partial response (PR) and 26 patients (36.6%) had stable disease (SD) with gefitinib treatment, giving a disease control (PR + SD) rate (DCR) of 73.2%. Response to gefitinib was seen in 14 (56%) of 25 patients with ECOG performance status (PS) 1, 12 (31.6%) of 38 patients with ECOG PS 2, and none in patients with ECOG PS 3 and 4. On multivariate analysis, the independent predictor of response to gefitinib was ECOG PS 1 [odds ratio (OR) 95% confidence interval (CI), 5.39 (1.64 – 17.74); $p = 0.006$]. The DCR was significantly higher in never smokers than smokers (83% vs 44.4%, $p = 0.004$). The median PFS was 27.7 weeks (6.5 months). The median PFS was significantly longer in female vs male patients (39.0 vs 21.2 weeks; $p < 0.001$), never smokers vs smokers (32.3 vs 8.3 weeks, $p = 0.001$), and stage III vs stage IV disease (44 vs 24 weeks, $p = 0.021$). In a multivariate Cox proportional hazard model, the independent predictors of longer progression-free survival were female gender [HR (95% CI), 0.38 (0.22 – 0.66); $p < 0.001$] and stage III disease [HR (95% CI) 0.54 (0.30-0.98), $p = 0.042$].

CONCLUSIONS

In patients with advanced lung adenocarcinoma treated with gefitinib, the overall RR was 36.6%, DCR was 73.2% and the PFS was 6.5 months.

A PROSPECTIVE STUDY ON THE OUTCOME OF HOSPITAL ACQUIRED PNEUMONIA IN PATIENTS ADMITTED TO MEDICAL WARDS IN THE NATIONAL UNIVERSITY OF MALAYSIA

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INTRODUCTION

Hospital-acquired pneumonia (HAP) and healthcare-associated pneumonia (HCAP) are considered leading causes of morbidity and mortality among hospital-acquired infections despite good antibiotics and preventive measures. Most studies have been focused on critically-ill patients receiving mechanical ventilation and there is scarce information on HAP outside the intensive care units.

OBJECTIVES

To assess:

1. 30-day mortality rate among HAP/HCAP patients in non-ICU medical wards.
2. Commonest organisms cultured among this group of patients.
3. Risk factors contributing towards 30-day mortality.

METHODOLOGY

Medical inpatients who developed HAP and patients admitted with HCAP to the medical wards fulfilling the American Thoracic Society (2005) definition were recruited. The Japanese Respiratory Society (JRS) severity rating scale for HAP was used to assess pneumonia severity.

RESULTS

We recruited 109 patients. The median age was 67 (20 – 90) years. 55% of patients had HCAP while 45% were diagnosed as HAP including early-onset HAP (6.5%) and late-onset HAP (38.5%). The 30-day mortality was 29.4%. An etiological diagnosis was identified in 19.3% of clinical samples. The commonest organisms isolated were *S. aureus* (4.6%), *Coagulase-Negative Staphylococci* (2.8%), *methicillin-resistant S. aureus* (0.9%), *P.Aeruginosa* (0.9%), *Acinetobacter sp* (0.9%), *E.coli* (0.9%), *Stenotrophomonas sp.* (0.9%) and *Serratia sp.* (0.9%). Multivariate analysis revealed moderate to severe category of the JRS scale (OR:5.8, CI:1.50-22.5) and inappropriate initial antibiotics (OR:10.0, CI:2.16-46.5) as independent predictors of 30-day mortality.

CONCLUSION

HAP and HCAP are important causes of mortality, observed most frequently among elderly patients with several co-morbidities. Gram-positive as well as Gram-negative organisms are important etiological agents. Recognition of pneumonia severity and appropriate empirical antibiotic selection are important factors affecting outcome.

THE USE OF CAPNOMETRY IN PATIENTS PRESENTING WITH ACUTE BREATHLESSNESS IN EMERGENCY DEPARTMENT

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INTRODUCTION

This study was done in the Emergency Department HUSM to define the utility and role of capnometry in acutely breathless patients attending emergency department.

OBJECTIVES

The objectives of the study are :

1. To determine correlation between end tidal CO₂, PaCO₂ and acid base disorders in non-intubated acutely breathless patients.
2. To determine correlation between ETCO₂ with PaCO₂ in patient presenting with pulmonary disorders.

METHODOLOGY

150 cases of patients arriving at the emergency department HUSM with acute breathlessness fulfilling the inclusion and exclusion criteria were enrolled during a study period of six months. The patients gave written/verbal consent, were triaged and proformas were filled. Demographic data were collected and the ETCO₂ data recorded. The association between age, sex, race, premorbid condition and clinical diagnosis with ETCO₂ were analyzed using simple linear regression. Correlation between ETCO₂ and PaCO₂ was analyzed using Pearson correlation coefficient. Other variables also was analyzed to see correlation between ETCO₂ using simple linear regression.

RESULTS

From this study, it was found that :

1. There is a strong correlation in between ETCO₂ and PaCO₂ with Pearson's correlation coefficient 0.716 and p value of 0.00 ($p < 0.05$).
2. There is good correlation between ETCO₂ and acidosis state where Pearson's coefficient correlation is 0.374 and p value 0.02 ($p < 0.05$).
3. There is a negative correlation between ETCO₂ with hypercapnia and patients presenting with pulmonary disorder with Pearson's correlation coefficient of 0.738 and p value of 0.00 ($p < 0.05$) and 0.336 and p value of 0.00 ($p < 0.05$) respectively.

CONCLUSION

ETCO₂ is applicable as a form of non invasive cardiopulmonary monitoring in the non-intubated acutely breathless patient. However the usage of ETCO₂ to predict PaCO₂ should be done with caution especially in cases that involve in pulmonary disorder and in hypercapneic patients.

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THE IMPACT OF A PILOT TRAINING PROGRAM AND EDUCATIONAL SERIES RELATED TO SMOKING CESSATION INTERVENTION FOR TB-DOTS PROVIDERS IN MALAYSIA ON THEIR KNOWLEDGE, ATTITUDES, AND PERCEIVED COMPETENCE

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BACKGROUND

The association between tuberculosis (TB) and tobacco smoking is becoming increasingly important. DOTS providers are uniquely positioned to intervene with TB patients who are smokers. Unfortunately, most healthcare professionals are inadequately trained to provide such services. This study aimed to evaluate the impact of a training program related to tobacco cessation on knowledge, attitudes, and competence of TB-DOTS providers in Malaysia.

METHODS

We developed and delivered a structured training program and materials regarding smoking cessation intervention (SCI). DOTS providers who were planned to be involved in a larger project, known as SCIDOTS Project, from seven healthcare facilities were involved in the program.

RESULTS

Ten DOTS providers (all nurses) participated in the training program and completed both the pretest and posttest survey questionnaire. The awareness among the nurses on the association between TB and tobacco increased from 30 – 70% at baseline to 80 – 100% after the educational series. After the training program, the trainees' mean scores in knowledge of the health risks of tobacco and tobacco-related diseases, the link between TB and tobacco, and overall knowledge significantly increased from the baseline ($p < 0.05$). Furthermore, the majority (90 – 100%) were positive about most of their roles and responsibilities in providing smoking cessation services. Upon completion of the program, a larger proportion of the trainees (70 – 100%) believed that they were competent and confident in performing most aspects of tobacco cessation and control activities.

CONCLUSION

This preliminary study has highlighted the gap related to SCI in nursing education and calls for urgent curricula reforms. It has also established the feasibility of utilizing TB-DOTS providers in addressing the two colliding epidemics of public health importance. In general, this study has managed to contribute substantial additional information regarding the KAP of TB-DOTS providers.

CHARACTERISTICS AND TREATMENT OUTCOMES OF SMOKING VERSUS NON-SMOKING TUBERCULOSIS PATIENTS IN PENANG, MALAYSIA: A RETROSPECTIVE COHORT STUDY

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BACKGROUND

Despite resurgence in research on the association between smoking and tuberculosis (TB), the increasing body of evidence supporting the association between smoking (current and former) and the risk of being infected with *Mycobacterium tuberculosis*, risk of developing TB and dying from TB, the association between smoking and characteristics of TB disease and its treatment outcomes has been rarely highlighted. Furthermore, data on prevalence of smoking among TB patients is also scanty.

METHODS

A retrospective cohort study was conducted to determine the prevalence of smoking among TB patients and the differences in treatment outcomes between smoking and non-smoking TB patients. Data were extracted from medical records of patients who were registered at Chest Clinic of Penang Hospital in Malaysia between 1 January 2006 and 31 June 2008.

RESULTS

The prevalence of ever-smokers and never smokers among TB patients was 53.4% (543/1017) and 46.6% (474/1017), respectively.

Smoking was significantly associated with male gender, alcohol use and intravenous drug use. Ever smokers were significantly more likely to present with weight loss (OR 2.37), productive cough (OR 3.70), fever (OR 1.79), night sweat (OR 1.75), hemoptysis (OR 1.92), dyspnoea (OR 3.74) and loss of appetite (OR 2.67) and less likely to have other extrathoracic symptoms on presentation (OR 0.54). In addition, ever smokers (compared with never smokers) have increased likelihood of lung opacity on CXR (OR 6.74), treatment failure (OR 7.48), default (OR 7.17) and were less likely to be cured (OR 0.34). Lung effusion and dying from TB failed to reach statistical significance. After controlling for age, sex, history of chronic disease, alcohol use and IVDU, ever smoker were still less likely to be cured (AOR 0.31, 95% CI 0.17-0.57) and more likely to default treatment (AOR 3.24, 95% CI 1.01-10.45). (All P value < 0.05 for significant result).

CONCLUSION

The prevalence of smoking was high among TB patients in Malaysia. Smoking showed considerable association with lung involvement. This association also had significant effect on the severity of clinical, microbiological and radiological presentations resulting in more aggressive course of the disease compared with never smoking patients. The study suggests that smoking was a predictor of poor TB treatment outcomes and prognosis.

PERSPECTIVES OF PATIENTS WITH TUBERCULOSIS AND DIABETES MELLITUS (TBDM) ON MEDICATION RELATED ISSUES

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INTRODUCTION

Diabetes mellitus has been known to be a risk factor for tuberculosis infection. Our preliminary study revealed that almost 23% of TB patients had DM. However, little is known on how TBDM patients cope with their medications.

OBJECTIVE

To explore medication related issues of TBDM patients.

METHODOLOGY

A qualitative study employing semi-structured interviews was carried out with twenty TBDM patients in Penang. All interviews were audio taped, transcribed verbatim and analysed using NVivo7. Transcripts were thematically analysed using the constant comparison approach.

RESULTS

Most TBDM patients were elderly with the mean age of 57.3 (\pm 9.2) years (range 42 – 78). Five themes emerged from the interviews. The first describes “adverse reactions” related to their medications. Vomiting was the most common complaints followed by painful toes and ankles, blurring of vision, swelling of the limb, itchiness, palpitation, drowsiness and fatigue. The second theme that emerges, illustrates “patients’ concerns about medications”. For example, many patients were apprehensive about taking multiple medicines in empty stomach. The third theme includes the use of “traditional/herbal medicine”. There were both positive and negative opinions on the use of these complementary medicines. The final two themes are “emotional impact of consuming multiple medicines” and “directly observed treatment short-course (DOTS)”. Patients expressed a wide range of emotions from being calm, accepting, depressed and resentment. Most of them found DOTS to be effective, flexible, provides opportunity for better care and promotes peer support. However, some complained about difficulties in adhering to DOTS.

CONCLUSION

Attention to the issues and needs of TBDM patients may improve treatment outcome and patients’ quality of life.

HEALTHCARE RESOURCE UTILIZATION FOR PEDIATRIC IN-PATIENTS WITH RESPIRATORY TRACT INFECTIONS IN UMMC

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INTRODUCTION

Respiratory tract infections are the most common causes for hospitalization among pediatric patients that often leads to increase in healthcare resource utilizations and hospital costs.

OBJECTIVES

To determine the healthcare resource utilization and costs in in-patients diagnosed with respiratory tract infections.

METHODOLOGY

An eighteen months retrospective study was conducted by reviewing medical records of patients aged 1 month to 12 years diagnosed with respiratory tract infections. The data collected included patient demography, length of hospitalization, diagnosis, antibiotic and discharge medications, laboratory tests and their respective costs.

RESULTS

Out of the 1100 patients studied, males constitute 67% and the mean age was 1.81(0.80) months. The most common diagnoses were bronchiolitis (28%), colds/URTI (26%) and acute tonsillitis (18%). The bacterial isolates were mainly *Staphylococcus aureus* (16%), MRSA (12%) and *Klebsiella pneumoniae* (10%) while the viral isolates were Respiratory Syncytial Virus (12%), Parainfluenza virus (10%) and influenza virus (4%). Overall, half of the patients received at least one antibiotic. Antibiotic prescription was highest in patients with colds/URTI (27%), bronchiolitis (24%) and acute tonsillitis (20%). Amoxicillin-clavulanic acid was most frequently prescribed for all ages. Antibiotic prescription was higher among patients less than twelve months and intravenous antibiotics were used in 68% patients. The average length of hospitalization was 4.75 days. Estimated mean cost for hospital stay was RM 120.52 (69.82), followed by RM 81.11 (67.33) for diagnostic measure and radiography, RM 32.02 (16.30) for staff utilization, RM 30.02 (21.30) for antibiotic prescriptions and RM 31.13 (13.17) for discharge medications.

CONCLUSION

Hospital stay followed by diagnostic and radiography measures represents the highest healthcare resources utilized among the in-patients.

PULMONARY TUBERCULOSIS WITH OR WITHOUT CAVITIES: DO THEY BEHAVE DIFFERENTLY?

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OBJECTIVE AND BACKGROUND

There have been many opinions on the behaviour of tuberculosis that presents with and without cavities on Chest x-rays. Thus the objective of this observational study is to assess the characteristics for those who present with cavities and those without.

METHODS

This was a retrospective study done on all patients registered at the chest clinic Hospital Seberang Jaya for the entire year 2007. The CXR upon presentation was reviewed to determine if there were cavities or not. Various baseline characteristics, duration of treatment and final outcome was analyzed.

RESULTS

A total of 116 patients records were reviewed. Those who had cavities had a 2.6 higher chance of presenting with sputum positive TB and this was significant. There was no significant difference in the delay of presentation, presence of diabetes, smoking history, baseline serum albumin, history of old PTB or complications with the anti-TB. Those with the cavities tend to have an extended regime of 9 months or more and also a higher mortality rate, but this was not significant.

CONCLUSIONS

Patients with or without cavities are normally treated the same in Malaysia. From this study, there were no differences in most of the characteristics reviewed. However, as there is a higher mortality rate among those with cavities, there may be a role to prolong treatment in those who present with cavities to 9 months. This however would need more studies.

	ODDS RATIO	CONFIDENCE INTERVAL	
		UPPER	LOWER
Sputum Positive	2.5778	1.0104	6.5768
Delay in presentation	0.9383	0.4414	1.9944
Diabetes	1.6723	0.7766	3.6012
Smoking	0.8284	0.3932	1.7452
Albumin > 30	0.7639	0.2768	2.1079
Complications with treatment	1.3655	0.4275	4.3617
Healing with fibrosis	2.6323	1.2134	5.7103
Death	7.92	0.9647	65.0244
Extended treatment	1.8	0.7724	4.1947
Previous TB	1.5082	0.3581	6.3517

CHARACTERISTICS OF PATIENTS WITH OBSTRUCTIVE SLEEP APNOEA IN PENANG HOSPITAL FOR THE YEAR 2008

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OBJECTIVE AND BACKGROUND

Obstructive Sleep Apnoea (OSA) incidences are increasing worldwide and is now recognized as a risk factor for cardiovascular diseases. Thus the objective of this study was to assess the type of patients referred to our clinic for a sleep study and also to look into the severity of OAS among our patients.

METHODS

A retrospective analysis of all cases registered for a sleep study for the year 2008 was looked into. Factors such as presenting symptoms, weight, age, BMI and degree of severity was taken into consideration.

RESULTS

A total of 45 patients were referred for a sleep study out of which only 33 were diagnosed as OSA (definition those with an AHI (Apnoea Hypopnoea Index) of more than 5). Those with OSA were expectedly of higher BMI with 20 patients with BMI above 35 (morbidly obese). A majority though (42%) did not have any other risk factors for cardiovascular disease. (Diabetes mellitus, hypertension, dyslipidaemia or ischaemic heart disease). However most of our patients had severe OSA as determined by the AHI index and also had poor oxygenation parameters. Despite the severity of the disease, only 2 out of the 33 patients are actually on CPAP treatment. The reasons for not being on CPAP are not keen, financial constraints while a large number (19 out of 33) were lost to follow-up.

CONCLUSIONS

OSA remains under diagnosed. Once suspected our patients tend to have very severe disease, compounded by other major risk factors for cardiovascular disease. Despite this most of all our patients are not on CPAP. This probably mirrors the lack of awareness of this condition among patients and also health care workers.

METHACHOLINE CHALLENGE TEST (MCT) AS AN ADJUNCTIVE INVESTIGATIVE TOOL IN PATIENTS WITH ASTHMA-LIKE SYMPTOMS: THE SABAH EXPERIENCE

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INTRODUCTION

Patients with asthma-like symptoms can be a diagnostic dilemma as there is a wide range of differential diagnosis. Bronchial challenge test using methacholine is widely used in many countries to exclude or confirm asthma. In Malaysia, we are not aware of any centre performing this test. Our centre in Sabah has been providing this service since July 2008.

OBJECTIVE

To describe our experience with MCT at Queen Elizabeth Hospital as a supporting tool in the investigation of patients with asthma-like symptoms.

METHODOLOGY

Review of case notes of patients who underwent MCT from July 2008 till April 2009. MCT was performed using dosimeter technique. Results were classified as high hyper responsiveness if the provocative dose of methacholine required to achieve 20% fall in FEV₁ (PD₂₀) was less than or equal to 0.125 µmol, moderate hyper responsiveness if PD₂₀ was between 0.125 to 1.99 µmol or mild hyper responsiveness if PD₂₀ was between 2.00 to 6.6 µmol. PD₂₀ of more than 6.6 µmol constitutes a negative MCT.

RESULTS

29 patients had MCT during the study period. 19 cases were included in this review. The age ranged from 13 to 70 years old. There were 12 males and 7 females. Duration of symptoms ranged from 2 weeks to 23 years. MCT was positive (mild or moderate hyper responsiveness) in 10 out of 19 patients. No patient had high bronchial hyper responsiveness.

CONCLUSIONS

MCT is a useful adjunctive tool in the investigation of patients presenting with asthma-like symptoms. This test obviates empirical asthma treatment.

THE APPEARANCE OF TUBERCULOUS PLEURAL DISEASE AT PLEUROSCOPY: AN EARLY REPORT

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INTRODUCTION

Unexplained pleural effusion is a common referral for pleuroscopy in our thoracic endoscopy unit. Mycobacterium Tuberculosis (MTB) is a common cause of pleural effusion in Sabah. Pleuroscopy is a minimally invasive procedure to ascertain the underlying aetiology of pleural effusion. While histology remains the gold standard for the diagnosis of TB pleural effusion, the recognition of macroscopic appearance of TB during pleuroscopy may allow early diagnosis and treatment to reduce mortality and morbidity while waiting for histology results.

OBJECTIVES

To describe the appearance of TB pleural effusion diagnosed via pleuroscopy.

METHODOLOGY

Prospective study from July 2008 to December 2008. Inclusion criteria were: (i) patients presenting with pleural effusion, (ii) histology of parietal pleural biopsy consistent with granulomatous disease and (iii) response to anti-TB treatment. Exclusion criteria were: (i) patients with smear positive sputum AFB and (ii) lack of pleural space for pleuroscopy based on ultrasound findings.

RESULTS

11 patients who underwent pleuroscopy was diagnosed to have TB pleural effusion. All had adhesions at pleuroscopy. The parietal pleura was diffusely inflamed and hyperemic in all patients. 81% of patients (n = 9) had nodules. The nodules were mixed in appearance and 6 patients had caseating nodules. The number and size of nodules and appearance of pleural fluid were not diagnostic. 5 patients with a pre-pleuroscopy diagnosis of parapneumonic effusion had TB pleural effusion. None of the patients suffers any major complications.

CONCLUSIONS

The macroscopic appearance of parietal pleura during pleuroscopy may help achieve early diagnosis of TB pleural effusion and allow early initiation of anti-TB treatment.

THE STRONG ASSOCIATION OF ANTHRACOFIBROSIS AND TUBERCULOSIS: AN OBSERVATION FROM A STATE IN MALAYSIA WITH HIGH PREVALENCE OF TUBERCULOSIS

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INTRODUCTION

Anthracofibrosis or dark pigmentation in the bronchial mucosa with bronchial narrowing has been described in various populations during bronchoscopy. It has been associated with Mycobacterium Tuberculosis infection (TB), biomass burning as well as occupational lung diseases. The pathogenesis however has never been fully understood.

OBJECTIVES

To look at the prevalence of anthracofibrosis in acid fast bacilli (AFB) sputum smear negative patients who underwent bronchoscopy for various reasons in the state of Sabah and study its association with TB.

METHODOLOGY

A retrospective study. The bronchoscopy report of all patients who underwent flexible bronchoscopy between the period of July 2008 to Dec 2008 was reviewed. Those with anthracofibrosis are identified and their case notes studied. Their characteristic, histology report of bronchial biopsy and their response to treatment recorded.

RESULTS

Anthracofibrosis was found in 6 out of 318 patients (1.8%) who underwent flexible bronchoscopy. We found evidence of TB in 5 out of the 6 (83.3%) patients who had anthracofibrosis. In Sabah, anthracofibrosis is strongly associated with TB. In contrast to previous studies which looked at patients who already developed anthracofibrosis, our series described 2 patients who subsequently developed anthracofibrosis at the site of treated endoluminal tuberculoma.

CONCLUSION

Anthracofibrosis is associated with TB. Endoluminal tuberculoma appears to be the precursor of anthracofibrosis in some of the cases. This may give insight into the pathogenesis of anthracofibrosis. In areas with high prevalence of TB, the discovery of anthracofibrosis during bronchoscopy should prompt investigations towards the diagnosis of TB and consideration of anti TB medication.

BACTERIAL PATHOGENS ISOLATED IN PATIENTS WITH ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (AECOPD) REQUIRING HOSPITALISATION

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OBJECTIVES

To determine the bacterial pathogens isolated in patients with AECOPD requiring hospitalisation and to ascertain the association between the severity of stable COPD and the isolation of bacterial pathogens during AECOPD requiring hospitalisation.

METHODOLOGY

A retrospective study of patients with AECOPD requiring hospitalisation in the University Malaya Medical Centre over a 2-year period from 1st November 2006 to 31st October 2008. The results of sputum and blood cultures taken on admission were reviewed. Serological tests for atypical pathogens were not performed.

RESULTS

228 episodes of AECOPD requiring hospitalisation in 150 patients (138 males, 12 females) with a mean (\pm SD) age of 70.8 ± 9.9 years were included in this study. Bacterial pathogens were isolated in the sputum or blood in 52 episodes (22.8%). The most frequently isolated bacterial pathogens were *Klebsiella pneumoniae*, *Haemophilus influenzae*, *Pseudomonas aeruginosa* and *Staphylococcus aureus* which were isolated in 15 (6.6%), 9 (3.9%), 9 (3.9%) and 9 (3.9%) episodes of AECOPD, respectively. Of 43 COPD patients who had spirometry performed during their stable state, 13 had very severe COPD ($FEV_1 < 30\%$ predicted), 17 had severe COPD, 10 had moderate COPD and 3 had mild COPD. There were 57 episodes of AECOPD in these 43 patients. Bacterial pathogens were more frequently isolated in patients with very severe COPD compared to those with mild-to-severe COPD, 11 (52.4%) of 21 episodes versus 8 (22.2%) of 36 episodes, respectively ($p = 0.041$).

CONCLUSIONS

The most frequently isolated bacterial pathogens in patients with AECOPD requiring hospitalisation were *K. pneumoniae*, *H. influenzae*, *P. aeruginosa* and *S. aureus*. Bacterial pathogens were more frequently isolated in patients with very severe COPD compared to those with milder COPD.

SUCCESSFUL REMOVAL OF AN INCISOR TOOTH VIA A FRESH TRACHEOSTOMY USING A DORMIA BASKET: A CASE REPORT FROM SABAH

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INTRODUCTION

Tooth aspiration during motor vehicle accidents involving facial injuries is relatively common and flexible forceps via flexible bronchoscope are not very helpful in removing the tooth due to its size and slippery nature. While rigid bronchoscope remains the standard of care in removing foreign bodies in the airway, occasionally, the nature of injury (e.g. fracture of cervical vertebrae) does not permit insertion of rigid bronchoscope.

CASE REPORT

We describe a case of aspiration of an incisor tooth in a patient who sustained cervical vertebral fracture that was successfully removed using a urology stone extraction basket (Dormia basket) inserted directly through a fresh tracheostomy tube under guidance of a flexible bronchoscope. The incisor tooth was lodged in the right main bronchus. The patient underwent tracheostomy prior to the removal and attempt to remove the tooth began immediately after tracheostomy. Ventilation was performed via an endotracheal tube while flexible bronchoscopy was performed via the tracheostomy and the tooth identified. A urology stone extraction basket was inserted into the tracheostomy under flexible bronchoscopy guidance and grasping forceps through the working channel of the flexible bronchoscope were used to guide the tooth into the basket. The tooth was successfully removed through the tracheostomy.

CONCLUSION

Improvisation of available equipments with multidisciplinary approach can successfully remove foreign bodies aspirated during motor vehicle accidents without resorting to rigid bronchoscopy or thoracic surgery.

FEATURES AND PATHOGENS IN COMMUNITY ACQUIRED PNEUMONIA

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BACKGROUND

The objectives of this study were to determine the prevalence and the local pattern of aetiological pathogens causing CAP among non ICU hospitalized patients and to look at the association of risk factors (old age, comorbidities and smoking), severity of CAP at presentation (based on CURB -65 score), clinical and radiological features with any specific group of pathogens to guide empirical antibiotic therapy.

METHODOLOGY

A cross-sectional study including adults >18 years old who were hospitalised for CAP. Blood and sputum cultures, serology, viral studies and sputum AFB and TB culture were collected. Clinical data obtained were analysed for prevalence and the association with the identified and specific group of pathogens.

RESULTS

143 subjects were analysed. Prevalence of identified pathogens in CAP was 38.5%. The most common identified aetiology was gram negative pathogens:- *Haemophilus influenzae* (6.3%) and all *Klebsiella species* [including *Klebsiella pneumoniae* (6.3%)].

Multivariate analysis revealed:- prior antibiotic therapy reduced the likelihood to identify pathogens [$p = 0.040$, OR 0.42]. Underlying bronchiectases ($p = 0.026$, OR 4.19) or presence of alveolar infiltrates ($p = 0.045$, OR 3.54) were significantly associated with identified pathogens. Presence of purulent sputum ($p = 0.001$, OR 9.43) or underlying bronchiectases ($p = 0.005$, OR 6.73) were associated with gram negative pathogens. Diabetes mellitus ($p = 0.013$, OR 8.53) and cavitation on chest radiograph ($p = 0.003$, OR 19.32) were associated with *Mycobacterium tuberculosis*. Univariate analysis on gram positive pathogen showed only fever $> 38.5^{\circ}\text{C}$ were significantly associated with this pathogen ($p = 0.014$). Subjective feeling of breathlessness were less likely associated with with identified ($p = 0.012$, OR 0.35) or gram negative pathogens ($p = 0.030$, OR 0.321).

CONCLUSION

Gram negative pathogens were the most common pathogen identified which was similar in the previous local study. Certain factors and clinical presentation of CAP were associated with specific groups of pathogen.

THE ROLE OF FIBREOPTIC BRONCHOSCOPY (FOB) FOR THE DIAGNOSIS OF TUBERCULOSIS IN PATIENTS WITH HUMAN IMMUNODEFICIENCY VIRUS INFECTION (HIV)

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INTRODUCTION

It can be difficult to establish the precise cause of respiratory infection in HIV-infected patients whom sputum samples are repeatedly negative for infections or sputum was not obtainable. Fibreoptic bronchoscopy (FOB) plays an important role for diagnosing opportunistic lung infection especially pulmonary tuberculosis (PTB).

METHODOLOGY

To determine the yield of FOB for diagnosis of tuberculosis in HIV- infected patients missed on routine sputum evaluation or sputum not obtainable. This study reviewed the cases of HIV-infected patients presented with pulmonary symptoms and/or abnormal chest radiograph referred to Respiratory Unit, Penang Hospital for bronchoscopic examination. In all the cases, sputum for acid fast bacilli (AFB) was negative or not obtainable prior to bronchoscopy. Clinical manifestation, chest radiograph findings and bronchoscopic specimen results were analysed.

RESULTS

From 2006 to 2008 a total of 44 bronchoscopic examinations were performed on 42 HIV-infected patients. Twenty four patients (24/42, 57.1%) have their pulmonary diagnosis identified. Pulmonary tuberculosis is the most common pulmonary infection diagnosed (15/24, 62.4%). Diagnostic yield of bronchoalveolar lavage (BAL) specimen for acid fast bacilli (AFB) direct smear were 6/44 (13.6%). Diagnostic yield of BAL AFB culture was 11/44 (25%). In our series, the clinical presentation did not reveal obvious correlation with bronchoscopically positive PTB. Most of them presented with non specific symptoms. There was a positive correlation between chest radiograph abnormalities (hilar lymphadenopathy, cavitating lesion or pleural effusion) and bronchoscopically positive PTB ($P < 0.05$).

CONCLUSIONS

In HIV-TB co-infected patients, a significant number of them are not able to produce sputum samples and AFBs are not identified on routine sputum examination. It is medically important to identify PTB utilizing early bronchoscopy.

RISK OF FALL AND BALANCE PERFORMANCE AMONG ELDERLY COPD PATIENTS IN PPUKM

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INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is defined as a systemic disease and not just a lung disease. Skeletal muscle dysfunction among COPD patients is well documented and it causes reduction in functional balance and may increase the risk of falls.

OBJECTIVE

The objective of this study was to identify the risk of fall and to determine balance performance among elderly COPD patients in Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM).

METHODOLOGY

A cross-sectional study involving 50 subjects of different stages of COPD with mean age of 71 ± 6.54 was performed. There were 82% ($n = 41$) male and 18% ($n = 9$) female in the subject population. Among the ethnic group 64% ($n = 32$) were Chinese, 32% ($n = 16$) Malays and 4% ($n = 2$) Indians. Each subject was assessed with Timed Up and Go test (TUG) for dynamic balance and Peninsula Fall Risk Assessment Tool (FRAT) for risk of fall.

RESULTS

Findings demonstrated reduction in dynamic balance as TUG time is higher when compared to normal reading ($<10s$). Reduction of dynamic balance correlates with severity of the disease ($p = 0.039$, $r^2 = 0.011$) but not with age ($p = 0.174$), FRAT score ($p = 0.107$) and history of fall ($p = 0.169$).

Results of FRAT demonstrated 4 subjects had high risk of fall while others had low risk of fall. FRAT score does not correlate with severity of disease ($p = 0.750$) and age ($p = 0.841$). Ten subjects (20%) fell at least once in the past one year. However, FRAT is not a suitable tool to assess fall risk among COPD patients as the clinical features and systemic effects of COPD cannot be assessed in FRAT.

CONCLUSIONS

On conclusion, elderly COPD patients exhibit deficiency in dynamic balance which is associated with disease severity but not influenced by age. This study suggests assessment of dynamic balance should be incorporated in pulmonary rehabilitation program.

A STUDY OF LUNG CANCER SURVIVAL AND ITS ASSOCIATED FACTORS IN HOSPITAL UNIVERSITI SAINS MALAYSIA

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The prognosis of lung cancer remains poor with overall five year survival figures varying between 5 and 10% worldwide. Smoking is the most important risk factor for lung cancer as supported by the epidemiologic evidence since 1950s. Smoking increase the risk of all histologic subtypes of lung cancer and there is an increasing rate of adenocarcinoma. Various prognostic factors that independently predicted survival outcome have been widely studied. The primary objective of this study was to determine baseline characteristics at presentation and survival of lung cancer patients treated at HUSM. A total of 238 patients were recruited into this retrospective cohort study. 12 patients were surgically resectable while 226 patients were non surgical resectable. Male predominated with 159 patients (66.8%) and the mean age 59.2 +_ 11.5 years. Malay comprised the majority distribution (80.7%) compared to non Malay (19.3%). 176 patients (73.9%) were smoker and only 62 patients (26.1%) were non smoker. Among the non smokers, 38.5% had adenocarcinoma and 68.4% were women. Adenocarcinoma was the commonest cell type in both men and women as well as in smoker and never smoker. Those patients with poor performance status had lower survival rate as compared to those with good performance status (p value < 0.01). Patients who received chemotherapy only showed better survival compared with palliative treatment only (p < 0.01 and HR 0.11) while combination therapy of chemotherapy and radiotherapy proved to be a good prognostic factor to influence survival with a median time of 32 months (p < 0.01). In conclusion, overall median survival time for lung cancer patients treated in HUSM was 25 months. Performance status at presentations and treatment type showed a significant prognostic factor that influence survival in our lung cancer patients.

IMPROVED QUALITY OF LIFE MEASURED WITH A GENERIC INSTRUMENT (SHORT FROM - 36) FOLLOWING PULMONARY REHABILITATION PROGRAM AMONG CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS' IN UNIVERSITI KEBANGSAAN MALAYSIA MEDICAL CENTRE

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This study evaluated the effects of an 8-week comprehensive pulmonary rehabilitation program (PRP) on quality of life as measured by the Short From-36 (SF-36). Sixty-six subjects were prospectively enrolled to the intervention group and 56 to the control group. The PRP consisted of 16 exercise sessions including bicycle ergometer exercise training, upper-extremity training, and stretching, along with psychosocial counseling and education. Demographically, there were 58.1 % ($n = 36$) males in the intervention group compared 41.9% ($n = 26$) in the control group. 65 (52.85 %) are Malays, 36.59% ($n = 45$) Chinese and 10.57% ($n = 13$) Indians. There were 52.2% ($n = 35$) non-smokers in the intervention group compared to 47.8% ($n = 32$) in the control group and 55.4% ($n = 31$) smokers in the intervention group compared to 44.8% ($n = 25$) in the control group. Baseline characteristics are comparable for age, sex, race,

smoking history, FEV1 and some domains of SF36 : general health, emotional role, mental health, general physical health (p = 0.230) and general mental health (p = 0.120) but not for physical function, physical role, bodily pain, vitality and social function. Following PRP there were statistically significant differences in most domains of SF-36 and FEV1. Among the control group, there was statistically significant change in role physical, role emotional, general mantel health and FEV1 with p < 0.005. Findings demonstrated no significant correlation between baseline scores of FEV1 and domains of SF36 between both control and intervention group. Multivariate analysis demonstrated that after adjusting for pre rehabilitation scores, general physical health demonstrates significant interaction effect, (p = 0.001) with small effect size (eta squared, p = 0.332). There was a relationship between pre-intervention and post intervention scores on the quality of life (general physical health) as indicated by an eta squared value of 0.490 while for general mental health there was no significant interaction effect, F = 0.042, p = 0.837 with large effect size (eta squared, p = 0.001). HRQoL assessed by the SF-36 demonstrated improvement following a PRP.

KEY WORDS

Chronic Obstructive Airway Disease (COPD), Pulmonary rehabilitation program (PRP), Short Form-36 (SF-36), Health related quality of life (HRQol), FEV1.

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EPIDEMIOLOGY OF LUNG CANCER IN PAHANG MALAYSIA

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BACKGROUND

Lung cancer remains one of the most common cause of cancer death. An estimated 213380 new cases of lung cancer will be diagnosed in 2007 in United State. Adenocarcinoma is the most common lung cancer nowadays. The article reveal the epidemiology of lung cancer in our region, Pahang Malaysia

METHOD

All patients suspected to have lung cancer from November 2007 were recruited. Each patient detail demographic data, full medical history, all investigations findings and histopathological results were recorded.

RESULTS

From November 2007 till December 2008, 68 patients were confirmed lung cancer. 78% were males and 22% were females. 66% of them were Malay, 27% were Chinese, 3% were Indian and 4% were arbogine. The mean age was 60 ± 10 years. 55% of the patients had ECOG 0/1. 80% of our lung cancer patient were smoker. 93% of the confirmed lung cancer patients presented at advanced stage (Stage 3b or 4) and the remaining were stage 3A. The commonest site for lung cancer metastasis was the lung (17%) followed by brain (10%), liver (9%), and the remaining were adrenal, bone and celiac lymph node. About 10% had underlying chronic lung disease (2% lung fibrosis, 8% COPD). 84% were NSCLC, 5% were SCLC, 1% was carcinoid and the remaining were confirmed malignant cell only. Commonest NSCLC was adenocarcinoma (43%) followed by squamous cell (20%), and the remaining were carcinoid, neuroendocrine and large cell cancer.

CONCLUSION

Adenocarcinoma is the commonest lung cancer in our region.

RHEUMATOID ARTHRITIS ASSOCIATED INTERSTITIAL LUNG DISEASE: RELATIONSHIP BETWEEN CLINICAL AND HIGH RESOLUTION COMPUTED TOMOGRAPHY FINDINGS

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INTRODUCTION

Pulmonary involvement is one of the commonest extra-articular manifestations of rheumatoid arthritis (RA). A variety of pulmonary disorders have been described in association with RA. Among the most common are interstitial lung disease (ILD) and bronchiectasis.

OBJECTIVES

To determine the characteristic of ILD in RA patients in relation to clinical characteristics, pulmonary function test (PFT), high resolution computed tomography (HRCT) thorax with disease activity and severity.

METHOD

RA patients were recruited for 6 months. Patients had disease duration of 5 years and above. Rheumatology and respiratory examinations were performed. Disease activity and severity were assessed using Disease Activity Score 28 (DAS28), Health Assessment Questionnaire (HAQ) and Rheumatoid Arthritis Articular Damage (RAAD) score. Full PFT including forced expiratory flow from 25% and 75% of vital capacity (FEF_{25-75%}), diffusion capacity of lung for carbon monoxide (DLCO) and HRCT of thorax were performed.

RESULTS

The prevalence of RA associated ILD is 44% and 67% of patients are asymptomatic. There was significant higher proportion (68%) in patients of Chinese ethnicity who have ILD. DLCO was abnormal in all patients and FEF_{25-75%} was low in 16%. Restrictive pattern was 66.7% by PFT. The most common HRCT thorax findings were reticulation (46%) followed by ground glass opacities (38.1%) and bronchiectasis (28.6%). There was no association between ILD with male gender, disease duration, smoking, rheumatoid factor, extra-articular manifestations, disease activity or disease severity.

CONCLUSION

ILD is common among RA and most patients have subclinical disease. The most frequent finding of HRCT thorax is reticulation which indicates mild fibrotic disease.

SPUTUM CONVERSION, WEIGHT AND CHEST RADIOGRAPH CHANGES AMONG SMEAR POSITIVE PULMONARY TUBERCULOSIS PATIENTS

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BACKGROUND AND PURPOSE

Sputum culture conversion is more reliable than smear conversion in assessing treatment response among smear positive pulmonary tuberculosis patients but the earlier test is more time consuming and expensive. Previous studies using weight gain and radiographic resolution to assess treatment response were inconclusive. We aim to look at sputum conversion, weight and chest radiograph changes among our smear positive pulmonary tuberculosis patients.

METHODS

A retrospective study of confirmed positive sputum acid-fast bacilli (AFB) smear patients who completed treatment from January 1999 to December 2004. Data on weight, chest radiograph and sputum AFB smear analyzed.

RESULTS

156 patients were identified. After 4 weeks of anti-tuberculous drug, only 14.7% of the patients remained smear positive which further reduced to 7.7%, 3.2% and 1.3% at 8, 12 and 16 weeks respectively. There were 3 patients who had sputum conversion during intensive phase but smear turned positive again during maintenance therapy. One of them was identified as treatment failure. Chest radiograph changes at 8 weeks were not affected by underlying immunocompromised illness or positive AFB by 8 weeks but more patients with worsened chest radiograph had positive AFB direct smear at 4 weeks ($p = 0.001$). 90% of the patients had weight gain 8 weeks after treatment but 5% had weight loss and the rest had no change in weight. Weight changes at 8 weeks were not affected by underlying immunocompromised illness or chest radiograph or sputum conversion at 4 or 8 weeks.

CONCLUSION

Sputum smear conversion, weight gain and chest radiograph are useful to assess treatment response among smear-positive tuberculosis patients. Reappearance of smear-positive sputum must be interpreted with caution and not be regarded as treatment failure without other evidence.

ADHERENCE TO THE SPIROMETRIC CRITERIA OF GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN THE DIAGNOSIS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is defined by Global Initiative for Chronic Obstructive Lung Disease (GOLD) as a progressive disease with airflow limitation that is not fully reversible. The diagnosis of COPD is based on history and physical examination, which should be confirmed by spirometry with the presence of post bronchodilator FEV₁/FVC ratio less than 0.7.

OBJECTIVE

To study the adherence to the GOLD criteria in diagnosing COPD by reviewing the spirometric data in patients who were diagnosed and treated as COPD.

METHODOLOGY

Chest clinic case notes in three hospitals in Penang state were reviewed. Patients who have been diagnosed and treated as COPD without other uncontrolled pulmonary or cardiac conditions were selected. The FEV₁, FVC and FEV₁/FVC ratio were examined to determine the presence of, and the type of pulmonary function abnormalities.

RESULTS

97 patients (91male), aged 39 to 86 years (mean 67.91, SD ± 9.13) were included. Only 33 (34%) patients demonstrated spirometric isolated obstructive defect, whereas 13 (13.4%) and 22 (22.7%) showed isolated restrictive defect and mixed obstructive/ restrictive defects respectively. 29 patients (29.9%) however, had at least once shown normal spirometric results (i.e FEV₁/FVC ≥ 70% with FEV₁ and FVC ratio ≥ 80% predicted) during their office visits, in other words, 42 patients (43.3%) did not have spirometric evidence of obstructive airway disease. Among those who demonstrated obstructive or mixed abnormalities (total 55 patients), only 3 (5.5%) had bronchodilator reversibility test performed.

CONCLUSION

In our study, a significant proportion of patients who were diagnosed and treated as COPD did not fulfill the GOLD spirometry diagnostic criteria. Bronchodilator reversibility test was infrequently done before the diagnosis of COPD was made.

HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH COPD AND ANXIETY AND DEPRESSION

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INTRODUCTION

Psychological disturbances such as anxiety and depression were recognized as the major factors that worsened the quality of life of COPD patients. These patients have significant impairment in their psychosocial functions which further deteriorate their physical wellbeing

OBJECTIVES

The aim of our study is to find the relationship between health related quality of life of COPD patients and anxiety and depression. The second objective is to compare between the impact of severity of COPD and psychological disturbances on quality of life of the patients.

METHODS

A total of 110 COPD patients were enrolled in this study. These patients were given questionnaires to evaluate the level of anxiety, depression and quality of life. The disease severity was classified according to GOLD classification of disease severity.

RESULTS

There was significant relationship between mean QoL activity and impact and anxiety. All domains of health related quality of life were strongly related to depression. In addition, there was no significant relationship between health related quality of life and severity of COPD.

CONCLUSION

Health related quality of life was strongly related to depression and anxiety but has no significant relationship with the severity of COPD. Hence, this study entails the importance of detecting both anxiety and depression in COPD patients to optimize recovery and improve patients' quality of life.

KEYWORDS

COPD, Anxiety, Depression, health related quality of life, severity of COPD.

GASTROESOPHAGEAL REFLUX DISEASE (GERD) CAN BE A POTENTIAL RISK FACTOR FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) EXACERBATION

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INTRODUCTION

COPD exacerbation is known to have significant impact on patients' lung function decline, health-related quality of life and mortality. We conducted this study to examine the association between the frequency of COPD exacerbations and GERD symptoms.

METHODOLOGY

This is a cross-sectional study involving 70 patients with an established diagnosis of COPD who attended the chest clinic/admitted to the respiratory ward in National University Hospital of Singapore. The diagnosis and severity of GERD symptoms were established via a validated Chinese GERD questionnaire (GERDQ). A score of ≥ 12 is suggestive of GERD. The frequency of COPD exacerbation recorded was based on patients' recollection of events suggestive of COPD exacerbation over the past one year prior to the interview.

RESULTS

For $n = 70$, The majority of patients recruited were males (88.6%) between 60 – 89 years olds. The mean for the GERDQ score was 9.79 and for COPD exacerbation/year was 3.76; whereby 68.6% had 0-3 exacerbations, 20% had 4-7 exacerbations and 11.4% had > 7 exacerbations that year. For patients with 0-3 exacerbations/year, only 16.7% have GERDQ score of > 12 ; whereas those with 4-7 and > 7 exacerbations/year, 42.9% and 75% of them respectively had GERDQ score of > 12 . Patients with more frequent exacerbations had a higher proportion of severe GERDQ scores (6 -15), 12.5%, 28.6% and 75%, respectively for 0-3, 4-7 and > 7 exacerbations/year.

CONCLUSION

Patients with symptomatic GERD had more frequent episodes of COPD exacerbation in the last one year. Those with more severe GERD symptoms had higher incidence of COPD exacerbations. These findings suggest a causal relationship between the two conditions.

CONGENITAL TRACHEAL STENOSIS: A SUCCESS STORY

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CASE REPORT

This is the first reported case of successful tracheoplasty in a Malaysian paediatric patient. LMJ was born prematurely at thirty three weeks gestation with birth weight of 2.17 kg. He was initially treated as transient tachypnea of newborn and was discharged from hospital after four days. Three days later he was readmitted for recurrent cyanosis. He was treated for pneumonia and required assisted ventilation within twenty four hours of hospital admission. His condition deteriorated and he developed complications like septic shock, pulmonary haemorrhage, disseminated intravascular coagulopathy and necrotizing enterocolitis. He was ventilated for total of fifty four days with three reintubations episode for blocked and dislodged tube. All intubations were using uncuffed endotracheal tube size 3.0, 3.5 and 4.0 without difficulty.

Post-extubation he developed biphasic stridor. Flexible and rigid bronchoscopy confirmed the diagnosis of short segment tracheal stenosis at 1.5 cm above the carina. The trachea was sixty to seventy percent stenosed. CT Scan with airway reconstruction outline the same lesion. On fifth of February 2009, corrective tracheoplasty was done after multidisciplinary discussions. The procedure was uneventful. Repeat bronchoscopy after three weeks showed marked improvement with mild stenosis of less than ten percent with no granulation tissue at anastomotic site. Four months after surgery, he remained well with mild stridor even during respiratory tract infections.

CONCLUSION

Although congenital tracheal stenosis is a very rare condition but it causes significant morbidity and mortality. The success of doing the first autologous tracheoplasty in this case will enlighten us in managing future airway diseases that require surgery.

CASE SERIES OF CONGENITAL TRACHEAL STENOSIS IN PAEDIATRIC INSTITUTE, HOSPITAL KUALA LUMPUR

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INTRODUCTION

Congenital tracheal stenosis (CTS) in children is a very rare condition in children with variable outcomes.

METHODOLOGY

Retrospective data of confirmed cases from 2004 until 2009 were collected. Case was confirmed by bronchoscopy. Information collected includes demographic, antenatal history, perinatal events, presentation, complications and management.

RESULTS

There were total of six cases confirmed to have CTS. They were all males except one case with current age between four to sixty months old. All are born at term except in two cases with birth weight range from 2.4 to 3.5 kg. All developed respiratory distress at birth except one case. They were referred at the age of one to forty one months old for noisy breathing. Two of them were ventilator dependent and one case was oxygen dependent. Five cases developed recurrent cough. Four had recurrent respiratory tract infections. Frequency of hospital admissions varies from one to twenty nine admissions. Bronchoscopy findings were upper tracheal stenosis (3) and lower trachea stenosis (3). Severity of stenosis varies from twenty to sixty percent with complete cartilage ring in three cases. Feeding problems were seen in three cases include gastro-esophageal reflux disease or swallowing difficulties. Three patients were managed conservatively, two cases required surgery (tracheoplasty, tracheostomy) and one case required nocturnal CPAP.

CONCLUSION

Cases in this series presented with recurrent respiratory symptoms at variable age group depending on the severity of tracheal stenosis.

A BOY WITH POST TRAUMATIC PNEUMATOCOELE

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CASE REPORT

This is a case report of a six year old boy with post-traumatic pneumatocele. He was previously a healthy but presented to hospital after he was involved in motor-vehicle accident. Initial assessment revealed a boy who was not in respiratory distress but suffered abdominal pain. Further assessment with CT-Scan of abdomen and lower thorax confirmed splenic injury. He was managed conservatively without surgical intervention. However, his CT-Scan also showed dilated lower airways in Left Lower lobe which was described as bronchiectasis. Three months later he was reassessed. Clinically he was well and asymptomatic. Repeat HRCT Thorax revealed both lung fields were normal with no evidence of bronchiectasis except fibrosis along the fissure in the left lung.

CONCLUSION

Post traumatic pneumatocele is an uncommon presentation especially in children but need to be recognized as it can cause respiratory complications like pneumothorax, infection and respiratory distress.

UNUSUAL CAUSE OF CHRONIC COUGH IN A CHILD

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Chronic cough in young children is usually related to lung pathology. Occasionally problems in other systems could cause chronic cough and it could be difficult to detect it earlier. We present a case of a very young child with unobserved foreign ingestion in the oesophagus who presented with chronic cough.

CASE STUDY

NA. was a 1 year 6 months old previously well girl. She presented to emergency department with complaints of chronic cough for the past 1 month. The cough occurred for almost everyday and was described as chesty and not related with time or feeding. It was not paroxysmal in nature and she otherwise had no other symptoms. There was no other specific aggravating or relieving factors. She was treated for upper respiratory tract infection by several GP's however the cough still persisted and it worsened four days before admission. She also became tachypneic and had difficulty sleeping. A day before admission she developed fever, vomiting and her voice became hoarse. However there was no stridor or wheezing. There was no history of observed choking with food or foreign body. There was no asthma in the family, and this was her first episode of shortness of breath and being admitted. She was delivered full term with birth weight of 3.0kg.

On examination she was not dysmorphic, she was pink and well perfuse but appeared tachypneic with respiratory rate of 44/min with subcostal recession. Other vital signs were normal. The oxygen saturation was 96% on room air. There was no clubbing or chest deformity. The air entry was good and equal and there was no audible wheeze or drooling of saliva noted. Other systemic examinations were unremarkable.

The chest x-ray showed a round radioopaque object at level of 2 – 3rd ribs. There was no obvious lung atelectasis.

Direct laryngoscopy for foreign body removal was performed. There was a 1-sen rusted coin at the upper oesophageal sphincter and the sphincter appeared quite oedematous. There was no perforation or bleeding identified.

However, she developed bronchospasm at recovery bay and was ventilated at PICU for 1 day. Her chest x-ray also showed a consolidation of right lower lobe. Her condition gradually improved and there were no more episodes of bronchospasm or respiratory distress. She completed a course of IV ceftazidime and IV metronidazole and a course of prednisolone. She was discharged well 10 days later.

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AIRWAY OBSTRUCTION SECONDARY TO AIRWAY ABNORMALITY ASSOCIATED WITH PULMONARY ARTERY SLING IN A CHILD

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INTRODUCTION

Tracheal obstruction can be due to tracheal stenosis or trachea anomaly rather than due to trachea compression by pulmonary artery sling when both presence in a patient. The patient can present with sign and symptom of airway obstruction without swallowing problem. We are presenting a case with this rare condition.

CASE SUMMARY

PNE was a 1 year 7 month old girl. She was delivered at term via caesarean section for bleeding placenta praevia with a birth weight of 3220g. She was briefly intubated during neonatal resuscitation for poor respiratory effort and need temporary intubation. She was treated as transient tachypnea of neonate. Since discharged from SCN, she was noticed to have persistent tachypnea at rest associated with noisy breathing which worsened in a prone position and with activity. She also had history of slow and prolonged feeding for first few months of life. There was no choking and coughing associated with feeding and her weight gain was good. She was admitted at 3 months old because of respiratory distress with symptoms of URTI. She had deep suprasternal, subcostal and intercostal recession with biphasic stridor. The cardiovascular and abdominal findings were unremarkable. This episode was treated with nebulised budesonide and a course of antibiotic. An upper laryngoscope done showed mild laryngomalacia. An echocardiogram done revealed a small patent foramen ovale and no other abnormal finding. The parents were reluctant to proceed with lower airway scope at this period. The child continued to have few admissions for worsening respiratory distress and stridor secondary to respiratory tract infections. A lower bronchoscopy eventually showed abnormalities of the airway in which there were stenosis of the distal portion of trachea with a small abnormal tracheal bronchus emerging just before the stenosis. The left and right bronchus were small and had 90° angulation from the trachea. The CT Thorax suggested a congenital anomaly of the trachea with right tracheal bronchus, trachea stenosis and a pulmonary sling from an aberrant left pulmonary artery. A barium swallow was normal.

The child is currently 1 year 7 months old. She is thriving with normal developmental milestones, very active at home and will play until she has respiratory distress. She has no problem with feeding and presently taking adult diet. Her stridor was very minimal during sleeping but aggravated with activity and crying. She will need a course of steroid, prolong course antibiotic and aggressive positional lung physiotherapy to recovered if she was admitted for respiratory distress.

A DIAGNOSTIC VALUE OF MANTOUX TEST IN TUBERCULOSIS: A CASE CONTROL STUDY

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INTRODUCTION

The prevalence of tuberculosis is increasing despite aggressive strategies and control programmes. Mantoux test nevertheless remains important especially in extra-pulmonary, paediatric and smear negative cases. One of the issues in using mantoux test is its accuracy in diagnosis of active TB remains uncertain.

OBJECTIVES

To determine the diagnostic accuracy, the best cut off points of positive mantoux, and to identify the associated factors that influence mantoux indurations among TB patients.

METHODOLOGY

Case control study was used for diagnostic study, and cross sectional study using confirmed active TB was applied to identify associated factors of mantoux size. A total of 140 subjects were involved which include 50 cases of active TB and 90 subjects in control group. TB cases were retrieved from chest clinic, HUSM from 1st January 2008 till 31st March 2009.

RESULTS

The diagnostic study of different cut points of positive mantoux showed three cut points of comparable results. The sensitivity of 8mm, 10mm and 12mm cut points were 72, 66 and 50 percents respectively. Among these, 12mm cut off points showed greater yield of specificity and positive predictive values, which were 96 and 86 percents respectively. From the analysis, there were no association between mantoux size and factors such as gender, race, BCG, co-morbidities and degree of TB involvement.

CONCLUSION

Mantoux test is important in diagnosis of tuberculosis especially in extra-pulmonary, smear negatives or doubtful TB cases. The sensitivity and specificity of mantoux test is dependent on the cut off points of indurations that defines a positive results in a specific population. The higher cut off points, the greater the specificity and positive predictive values. Being in the high TB burden population, we conclude that the mantoux is fairly sensitive but yet a highly specific test in the diagnosis of tuberculosis. the positive cut off point value is 12mm.

SUCCESSFUL TREATMENT OF PERSISTENT PNEUMOTHORAX BY CHEMICAL PLEURODESIS IN ADOLESCENT WITH PULMONARY METASTASIS SECONDARY TO OSTEOSARCOMA

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This is a 13 year old girl who presented with 5 weeks history of swelling below the right knee. There was no pain, weakness nor any constitutional symptoms. The biopsy subsequently showed that it was a right fibula osteosarcoma. The CT scan of thorax showed that there were multiple metastatic nodules in both lungs.

Following the first course of chemotherapy, she developed bilateral spontaneous pneumothorax 6 days later, which was managed immediately with bilateral chest tube insertion.

Despite successful drainage of the pneumothorax, there was persistent re-accumulation of air on clamping. The chest tube was left in for 22 days.

Finally pleurodesis was done using oxy tetracycline. The repeated chest X-ray subsequently showed resolution of the pneumothorax.

The patient was able to continue her chemotherapy without any respiratory complications.

We would like to discuss the role of chemical pleurodesis in children with persistent air leak.

CORRELATION BETWEEN DOCTOR PERCEPTION (GINA GUIDELINE) AND PATIENT ACT CONTROL DURING ASTHMA ASSESSMENT

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INTRODUCTION

Asthma is a common respiratory illness affecting 5% of the population and is a cause of significant morbidity. The Global Initiative for Asthma was created to increase awareness of asthma among health professionals to improve prevention and management through a concerted worldwide effort. Asthma control test (ACT) is one of the validated measures of assessing asthma control, as recommended by the GINA guideline. We have administered its use in our asthma clinic in Selayang Hospital.

OBJECTIVE

To assess correlation between the doctors' perception of asthma control according to the GINA guideline and self reporting ACT score.

METHOD

Patients with an established diagnosis of asthma were recruited from our asthma clinic in Selayang Hospital over a 12 month period, from 30 May 2008 until 29 May 2009. Patients were attended by the asthma educator nurse for assessment and counseling prior to doctor's consultation. The Asthma Control Test was administered during this period. Patients' medical records were reviewed to look at the level of control given by the attending physician, blind of the ACT score.

RESULT

A total of 211 patients were recruited. Out of 38 patients labeled as having uncontrolled asthma, about 87% reported an ACT score of less than 20 and 3% had a full ACT score. In the partially controlled group,

which consisted of 65 patients, 88% of patients had ACT score of less than 20. Surprisingly, 63% of patients reported an ACT score of less than 20 despite a diagnosis of controlled asthma given by the physician. In this group, only 7% describe their asthma as fully controlled, evident by a full ACT score of 25. In the remaining 33 patients who had ACT score done, no assessment was provided by the physician regarding patients' asthma control.

DISCUSSION

The primary goal of asthma management is aimed to achieve and maintain control. In this study, ACT score of less than 20 appears to correlate with doctors' perception in patients with uncontrolled and partially controlled asthma. However, patients' perception of control does not appear to match doctors' observation in the controlled group. The discrepancy may lead to inappropriate management. A simultaneous objective and subjective assessment of control is important to decide on subsequent treatment.

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ASTHMA CONTROL – LEVEL OF CONTROL AND AGREEMENT BETWEEN THE ASTHMA CONTROL TEST (ACT) AND GLOBAL INITIATIVE FOR ASTHMA (GINA) GUIDELINES

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OBJECTIVE

To evaluate and determine agreement of asthma control using ACT and GINA guidelines-classification level of asthma control.

METHODOLOGY

This is a cross sectional study involving 53 patients attending the Respiratory Clinic, Hospital Sultanah Nur Zahirah, Kuala Terengganu in September 2008 to Jun 2009. ACT is a validated, 5 items, patients completed measures of asthma control questionnaire. In this study ACT score was then categorized into three groups; below 20 as poorly controlled; 21-24 as partly controlled and more than 25 as controlled. Self administered (ACT) and interviewer guided assessment (GINA) were applied to obtain information from the subjects.

RESULTS

The percentage of asthma control using ACT and GINA categories were; controlled (1.9% vs 22.6%), partly controlled (30.2% vs 22.4%) and poorly controlled (67.9% vs 50.9%) respectively. The kappa statistic was 0.305 with p value 0.001. ACT categories correctly classified asthma control using GINA-defined by 100% in controlled, 31.3% in partly controlled and 72.2% in poorly controlled group.

CONCLUSION

ACT fairly agreed with GINA in classifying control of asthma. However, using GINA overestimates control of asthma compared to ACT in our population.

KEYWORDS

Asthma, control, ACT, GINA.

THE PREDICTORS FOR SPUTUM CULTURE POSITIVE PULMONARY TUBERCULOSIS AMONG SPUTUM SMEAR NEGATIVE PATIENTS

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INTRODUCTION

Sputum culture results in detecting *Mycobacterium tuberculosis* or TB infection may take weeks and delaying treatment may allow further transmission of disease^{1,2,3}. Hence, this study is aimed to determine the predictors associated with sputum culture positive among sputum smear negative patients.

METHOD

A retrospective record review was conducted at Chest Clinic, Hospital Sultanah Bahiyah, a general hospital in Kedah Malaysia from 2004 till 2008. A total of 141 Pulmonary Tuberculosis adult patients with sputum smear negative who attended the clinic were included in the study. Those who relapse were excluded. The subjects' demographic, clinical, radiological, comorbidity, lifestyle-related characteristics and further sputum culture results were obtained from their medical records. Multivariable Logistic Regression was applied for the analysis using SPSS 12.0.

RESULTS

More than half of the subjects were males (61.7%) and Malays (78%). The common co morbidities were Diabetes Mellitus (13.5%) and HIV seropositivity (7.1%). Almost half of them were smokers (44.7%) followed by IVDU (7.1%) and alcoholic. Approximately one fifth (22.7%) were found to have sputum culture positive. The identified significant factors associated with presence of TB sputum culture positive were male (OR: 3.04; 95% CI: 0.98, 9.41; $p = 0.053$), Chinese (OR: 5.20; 95% CI: 1.66, 16.22; $p = 0.005$ and smoker (OR: 0.28; 95% CI: 0.09, 0.89; $p = 0.032$).

CONCLUSIONS

Male, Chinese and non-smoker were the significant predictors of sputum culture positive pulmonary tuberculosis when their smears were negative.

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OLIPRO TEST @ LIPOARABINOMANNAN AND 38-KDA ANTIGEN AS A DIAGNOSTIC TEST IN PATIENTS DIAGNOSED TO HAVE ACTIVE PULMONARY TUBERCULOSIS IN RESPIRATORY CLINIC HOSPITAL SULTANAH BAHYAH, ALOR SETAR, KEDAH

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INTRODUCTION

The development of serological test in diagnosis of tuberculosis helps to provide faster and easier method to diagnose tuberculosis. There are 2 major approaches of rapid non-cultural diagnosis of tuberculosis; detection of mycobacterial antigens or use of nuclei acid probes in clinical. The aim of our study is to assess the accuracy of Lipoarabinomannan (LAM) and 38-kDa antigen @ OLIGO test in diagnosing active TB.

METHODOLOGY

This is a cross sectional study involving 29 adults of suspected tuberculosis or treat as tuberculosis patients in Hospital Sultanah Bahiyah. Their blood was taken for Olipro test, a new serology method of detecting antibody in serum. The clinical judgment by attending physician and the sputum direct smear results was obtained as gold standard. The sensitivity, specificity, positive predictive and negative predictive value was assessed. Their dependent relations were analyzed using Mc Nemar test.

RESULTS

The sensitivity and specificity of Olipro test to recognize active pulmonary tuberculosis as being diagnosed by physician decision was 68.7% and 85.6% respectively. The positive predictive value and negative predictive value of Olipro test was 84.6% and 70% in detecting and excluding active tuberculosis by the in charge physician respectively.

CONCLUSION

Oligo test has considerably high positive predictive value which is helpful to diagnose active tuberculosis.

MALIGNANT PERIPHERAL NERVE SHEATH TUMOR

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Neurofibromatosis type 1 (NF1) is an autosomal dominant disorder and characterized by a range of clinical manifestations, including neurofibromas, café au lait spots, and Lisch nodules¹. It also predisposes an individual to the development of malignant tumors including malignant peripheral nerve sheath tumors (MPNST)². MPNSTs comprise approximately 5 – 10% of all soft tissue sarcomas and can occur either spontaneously or in association with NF1². We report a case of a 40 year-old man who is a known case of neurofibromatosis with MPNST who presented with massive right pleural effusion and pleural biopsy histologically diagnosed as metastatic sarcoma.

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