Souvenir Programme & Abstract Book

MALAYSIAN THORACIC SOCIETY

7th Annual Congress

16 – 17 July 2004

"A Respiratory Escapade in Kota Kinabalu"

Shangri-La's Tanjung Aru Resort

Kota Kinabalu, Sabah

Contents

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7TH MTS ANNUAL CONGRESS

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Message from the President, Malaysian Thoracic Society

It is my great pleasure to welcome you to the 7th Annual Congress of the Malaysian Thoracic Society. The theme "A Respiratory Escapade in Kota Kinabalu" is a very appropriate one because this meeting is held here in the "Land below the Wind" where we are so close to the sea and also the highest mountain in Southeast Asia. Furthermore, this is the first time the annual scientific meeting of the society is held outside Peninsular Malaysia.

Like in previous congresses organised by the Society, both adult and paediatric respiratory topics are covered. I would like to thank Assoc Prof Roslina Abdul Manap and the Organising Committee for coming up with an interesting scientific programme. A distinguished faculty of speakers who are authorities in the field of Respiratory and Critical Care Medicine have been selected to talk on non-invasive ventilation, occupational lung disease, persistent cough in children, respiratory infections and tuberculosis, paediatric critical care, and the future of Respiratory Medicine in Malaysia. The favourite topics of asthma and COPD are covered in the sponsored lunch and dinner symposia. The oral and poster presentations provide a good opportunity for the participants to share their clinical experience and research findings. Interesting adult and paediatric respiratory cases will be presented in the Grand Rounds.

The Society is very appreciative of the generous support provided by the various pharmaceutical and medical equipment companies. Please visit the exhibition booths to find out the latest products of the pharmaceutical and medical equipment industries. I hope you will have an enjoyable and exciting meeting in Kota Kinabalu.

Prof Dr Liam Chong Kin

Message from the Organising Chairman, 7th MTS Annual Congress

I wish to extend a very warm welcome to all delegates to the 7th Annual Congress of the Malaysian Thoracic Society.

In a departure from previous years, the scientific programme this year focuses on respiratory disease and practice in Malaysia. To this purpose, symposia on occupational lung disease, respiratory infections and critical care (both in adults and paediatrics), have been planned. A special forum on the Future of Respiratory Medicine in Malaysia is also included for the first time with exciting topics such as lung transplantation. The important subject of training and credentialling of respiratory specialists will also be discussed. The clinical grand rounds on the other hand will highlight the challenges faced by those involved in managing respiratory diseases in our local setting.

The free communications presented in the oral presentation and poster sessions will provide an excellent opportunity for the exchange of ideas among participants, and to encourage research in the growing field of Respiratory Medicine. A selected trade exhibition brings you the latest products available to help care for your patients.

I hope this meeting will also provide you the opportunity to meet up with friends in relaxed and pleasant surroundings, hence the theme "A Respiratory Escapade in Kota Kinabalu". I look forward to your active participation in this Congress to ensure its success.

Wishing you a productive meeting.

Roslina Abdul Manap

Assoc Prof Roslina Abdul Manap

Programme Summary

TIME \ DAY	16 JULY 2004 FRIDAY	17 JULY 2004 SATURDAY
0800 – 0900	REGISTRATION OPENING REMARKS	
0900 – 1000	PRE-CONGRESS WORKSHOP ON NON-INVASIVE VENTILATION	SYMPOSIUM 2
1000 – 1100		TEA
1100 – 1200		THE FUTURE OF RESPIRATORY MEDICINE IN MALAYSIA
1200 – 1300	LUNCH / FRIDAY PRAYERS	LUNCH SATELLITE SYMPOSIUM *(GlaxoSmithKline)*
1300 – 1400		
1400 – 1500	SYMPOSIUM 1A & 1B	SYMPOSIUM 3A & 3B
1500 – 1600		CLINICAL GRAND ROUNDS
1600 – 1700	TEA FREE PAPERS	TEA
1700 – 1800		MTS AGM
1800 – 1900		
1900 – 2000	EVENING SATELLITE SYMPOSIUM *(Merck Sharp & Dohme)*	EVENING SATELLITE SYMPOSIUM *(Boehringer-Ingelheim / Pfizer)*
2000 – 2100		MTS CONGRESS DINNER
2100 – 2200		

18 July 2004, Sunday — Free and Easy
Departure of Delegates

Daily Programme

16 July 2004, Friday

0730 – 1700 **REGISTRATION**

0815 – 0830 **OPENING REMARKS** — BALLROOM 2
by *Roslina Abdul Manap*, Chairperson, Organising Committee

0830 – 1200 **PRE-CONGRESS WORKSHOP – NON-INVASIVE VENTILATION**
Chairperson: Liam Chong Kin

0830 Pathophysiology of Acute Respiratory Failure and How Non-Invasive Positive Pressure Ventilation (NIPPV) Works [pg 10]
Lee Kang Hoe

0850 NIPPV: Practical Aspects – What Ventilator, What Mode, What Settings, What Mask and How to Start?
Patrick S K Tan

0910 NIPPV for Acute Respiratory Failure due to Airway Obstruction
Patrick S K Tan

0930 NIPPV for Acute Respiratory Failure due to Non-Obstructive Causes
Jamsari Sukro

0950 Q & A

1010 Tea

1030 Paediatric Non-Invasive Ventilation [pg 11]
Adrian Y Goh

1050 Non-Invasive Ventilation in Paediatrics for the Non-Intensivist [pg 12]
Norrashidah Abd Wahab

1110 Diagnosis and Management of Nocturnal Hypoventilation
(Speaker to be confirmed)

1130 Indications for Home Non-Invasive Ventilation
(Speaker to be confirmed)

1150 Q & A

1200 – 1430 **LUNCH** — KINABALU ROOM

FRIDAY PRAYERS

1430 – 1600 **SYMPOSIUM 1A: Occupational Lung Disease** — BALLROOM 2
Chairpersons: I Kuppusamy / Richard Loh

Epidemiology and Spectrum of Occupational Lung Diseases in Malaysia [pg 13]
Krishna Gopal Rampal

Diagnostic Issues and Compensation in Malaysia
Abdul Rahim Rahman Hamzah

The Treatment of Occupational Lung Disease [pg 14]
Neil C Barnes

SYMPOSIUM 1B: Paediatric Respirology: The Toddler With A Persistent Cough — TANJUNG ROOM
Chairpersons: Norzila Zainudin / Norrashidah Abd Wahab

Persistent Cough: One Mechanism to Rule Them All? [pg 15]
Anne B Chang

Approach to the Toddler with Persistent Cough [pg 16]
Mazidah Abd Rasid

Treatment of Cough: Choices, Fallacies and What Actually Works? [pg 17]
Anne B Chang

Daily Programme

16 July 2004, Friday

1600 – 1630	TEA	
1630 – 1730	**FREE PAPERS** Chairperson: Richard Loh **Panels: Neil C Barnes / Anne B Chang**	BALLROOM 2
1900 – 2100	**EVENING SATELLITE SYMPOSIUM** *(Merck Sharp & Dohme)* Chairperson: Roslina Abd Manap **Airway Inflammation – From the Nose to the Lungs** **George K Simon** Followed by BBQ Dinner	BALLROOM 2

17 July 2004, Saturday

0900 – 1030	**SYMPOSIUM 2: Respiratory Infections** Chairpersons: Lim Kim Hatt / Abdul Razak Muttalif **Epidemiology of Community Acquired Pneumonia in Malaysia** *[pg 18]* **Liam Chong Kin** **Tuberculosis in Sabah, Malaysia: Facts and Challenges** *[pg 19]* **Jiloris F Dony** **TB Control Programme in Malaysia** **I Kuppusamy**	BALLROOM 2
1030 – 1100	TEA	
1100 – 1230	**'THE FUTURE OF RESPIRATORY MEDICINE IN MALAYSIA'** Chairpersons: Liam Chong Kin / Hamidah Shaban **FORUM A : Training and Credentialing of Respiratory Specialists in Malaysia** **Zainudin Md Zin** **FORUM B : Lung Transplantation** Lung Transplant Recipient Selection *[pg 20]* **Ashari Yunus** Organ Procurement and Lung Transplantation *[pg 21]* **Mohd Ezani Md Taib**	BALLROOM 2
1230 – 1400	**LUNCH SATELLITE SYMPOSIUM** *(GlaxoSmithKline)* Chairperson: Zainudin Md Zin	KINABALU ROOM
1230	Asthma Management in Malaysia – Hopes and Reality **Zainudin Md Zin**	
1245	Shaping the Future of Asthma Management – Moving Towards Total Control **Neil C Barnes**	
1315	Q & A	
1330	LUNCH	

Daily Programme

17 July 2004, Saturday

1400 – 1500 **SYMPOSIUM 3A: Hot Topics** — BALLROOM 2

Chairpersons: Pang Yong Kek / Jamalul Azizi

Advances in the Management of Severe Sepsis *[pg 22]*
Lee Kang Hoe

Advances in the Management of Pulmonary Emboli *[pg 23]*
Neil C Barnes

(Concurrent) **SYMPOSIUM 3B: Paediatric Respirology: Paediatric Critical Care** — TANJUNG ROOM

Chairpersons: Patrick W K Chan / Mazidah Abd Rasid

New Tools in Paediatric Ventilatory Support: High-Frequency Oscillatory Ventilation (HFOV) and Non-Invasive Ventilation *[pg 24]*
Adrian Y Goh

The Child that cannot be Extubated: Where Do We Go From Here? *[pg 25]*
Norzila Zainudin

1500 – 1630 **CLINICAL GRAND ROUNDS** (Concurrent)

Adult Grand Rounds — BALLROOM 2
Coordinator: Liam Chong Kin

Paediatric Grand Rounds — TANJUNG ROOM
Coordinator: Jessie A de Bruyne

1630 – 1700 TEA

1700 – 1800 **MTS AGM** — TANJUNG ROOM

1830 – 2030 **EVENING SATELLITE SYMPOSIUM** — KINABALU ROOM
(Boehringer-Ingelheim / Pfizer)

"Breathing for Life – Is There Hope for COPD Patients?"
Chairperson: Roslina Abd Manap

1900 Introduction by Chairperson

1905 Diagnosis – Could it be COPD?
Liam Chong Kin

1935 Changes in the COPD Treatment Options – A Rational Approach
George K Simon

2005 Q & A

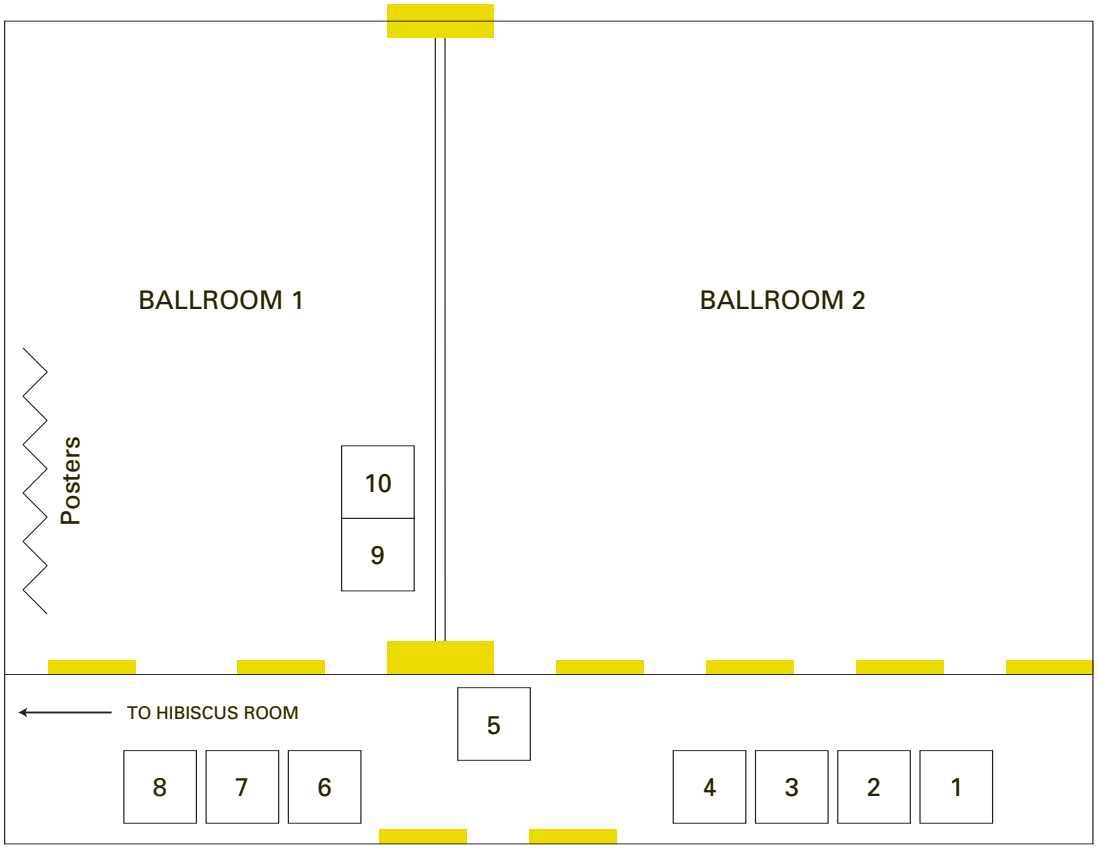
2030 – 2200 **MTS CONGRESS DINNER** — KINABALU ROOM

18 July 2004, Sunday

Free and Easy

Departure of Delegates

Floor Plan & Trade Display



Booth No	Company
1	Utama Associates
2	Schering-Plough
3 & 4	GlaxoSmithKline
5	Dynamed Sdn Bhd
6 & 7	Boehringer-Ingelheim / Pfizer
8	Innovmedics / Somnotex (M) Sdn Bhd
9	Resmed / Lifeline Innovators
10	Malaysian Healthcare
Hibiscus Room	AstraZeneca Hospitality Suite

Acknowledgements

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Malaysian Healthcare

Resmed / Lifeline Innovators

Schering-Plough Sdn Bhd

Utama Associates Sdn Bhd

Eli Lilly (Malaysia) Sdn Bhd

Bayer Healthcare

PATHOPHYSIOLOGY OF ACUTE RESPIRATORY FAILURE AND HOW NON-INVASIVE POSITIVE PRESSURE VENTILATION (NIPPV) WORKS

Lee Kang Hoe
Department of Medicine, National University Hospital, Singapore

Acute respiratory failure (ARF) is the inability of the lungs to meet the metabolic demands of the body. This leads to hypoxemia. It may be related with (Type 2) or without (Type 1) hypercapnia. In type 1 ARF, there is an increased shunt fraction (low V/Q units) located in the lungs (e.g. pneumonia, pulmonary oedema, etc.) or a diffusion block (e.g. pneumocystis carinii pneumonia). Non-lung causes of type 1 ARF include cardiac shunts, and pulmonary vascular problems. In type 2 respiratory failure, there is inadequate minute ventilation (high V/Q units). This may be related to increased carbon dioxide production, or a problem of carbon dioxide elimination. Ventilatory failure may be a result of central causes or peripheral neuromuscular problems, and may be because of chest wall or pleural diseases. Increased dead-space e.g. from severe airway obstruction (e.g. severe asthma, severe COPD, etc.) would also lead to type 2 failure.

NIPPV improves ARF the same way that invasive mechanical ventilation improves ARF, except that the interface for the delivery of support is not invasive (viz. endotracheal tube or tracheostomy). This means that shunt fraction can be reduced with the application of expiratory positive airway pressure (EPAP), and the work of breathing can be supported by providing positive airway assistance during inspiration for type 2 ARF. Furthermore, the application of EPAP in airways obstruction may decrease the work of breathing by reducing the threshold for inspiratory airflow when significant auto-PEEP exists. In heart failure patients, EPAP can also improve cardiac output by decreasing the afterload.

PAEDIATRIC NON-INVASIVE VENTILATION

Adrian Y Goh
Paediatric Intensive Care Unit, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Non-invasive ventilation was first used successfully in the treatment of obstructive sleep apnea in the 80's and subsequently extended to adults with hypercapnic respiratory failure (COPD). NIV which is the use of a mask interface to provide ventilatory support is now increasingly used in acute hypoxic respiratory failure. In adult as well as pediatric studies NIV has been shown to be able to reduce the risk of requiring intubation, improve respiratory distress, oxygenation, gas exchange as well as reduce risk of nosocomial infection. Indications in children have now extended to acute respiratory failure in addition to the classical indications which include hypercapnic respiratory failure (scoliosis, chest deformity, myopathies), hypoventilation syndromes and weaning failure. Relative contraindications include patients who have altered consciousness, poor airway reflexes, and multiple organ failure.

NON-INVASIVE VENTILATION IN PAEDIATRICS FOR THE NON-INTENSIVIST

Norrashidah Hj Abd Wahab
Hospital Serdang, Selangor, Malaysia

Mechanical ventilation is a method for using machines to help patients breathe when they are unable to breathe sufficiently on their own. Most often, mechanical ventilation is used for a few days to help patients during acute serious illness and usually done in an intensive care unit (ICU) and manage by the anaesthetists or the intensivists. Due to various reasons, including the cost of hospital care and patient's quality of life, there was a group of patients who still can't breathe on their own effectively but no longer need an ICU care or patients who may be stable but have chronic conditions that make them unable to breathe adequately, will need breathing assistance outside ICU either home or ward.

In recent years, there has been a rapid growth of interest in the use of non-invasive ventilation (NIV) in the management of patients with acute and chronic respiratory failure. NIV is labour intensive. Home NIV reduces hospital stay significantly and improves health indices. There are two major types of positive devices commonly used: nasal CPAP and Bilevel positive airway pressure, or BiPAP. NIV usually performed overnight, relieves the symptoms of hypoventilation and improves daytime blood gas tensions in patients with chronic respiratory failure. There are many practical issues relating to the management of children requiring chronic ventilatory support such as psychosocial impact on the family life, limited home care resources and financial burden. The patient's physician and the respiratory care team composed of paediatric pulmonologists, paediatric pulmonary nurse specialist and respiratory therapist will determine the need for long-term ventilatory assistance and the type of mechanical ventilation, both technique and equipment, best for patient before they go home. Safe and effective home care for NIV in children requires a thoroughly trained paediatric pulmonary team who is committed to the home ventilation program. Furthermore, the patient must be highly motivated to accept the responsibility to make long-term ventilation work and the family is able and willing to participate in long-term care.

EPIDEMIOLOGY AND SPECTRUM OF OCCUPATIONAL LUNG DISEASES IN MALAYSIA

Krishna Gopal Rampal
Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

It is estimated that 10 – 15% of asthma and 5% of lung cancer worldwide is related to work. However reports of occupational asthma and occupational lung cancer have been few and far between in Malaysia. In spite of this poor reporting, occupational lung diseases (OLD) have been considered by policy makers as an important occupational health problem since the 1980s. The Factories and Machinery (Asbestos Process) Regulations 1986 and the Factories and Machinery (Mineral Dust) Regulations 1989 were promulgated to prevent and control diseases related to asbestos, silica and other mineral dusts including coal, kaolin, mica and talc.

Asbestos has been used commercially in Malaysia since the 1950s and at its peak in the 1980s there were 10 companies engaged in manufacturing asbestos cement products including sheets and pipes. Those working in these factories as well as those engaged in construction work, brake repair, shipyard work and removal of lagging are exposed to asbestos. Only a few cases of asbestosis, lung cancer due to asbestos exposure and mesothelioma have been reported. Reports of silicosis among both government and privately owned granite quarry workers and grave stone workers in Selangor have been published and led to the FMA (Mineral Dust Regulations) 1989. Isolated cases of stannosis have been reported among tin smelters. A preliminary report on rice miller's syndrome, characterized by asthma, chest tightness accompanied by itching of the skin and kerato-conjunctivitis, with eosinophilia and radiological opacities in the lung, due to exposure to rice husk dust, among rice mill workers, has been published. Studies in other industries including ceramics and cement manufacture have shown exposed workers having higher rates of respiratory symptoms and lowered pulmonary function. Anecdotal reports of occupational asthma in those working in electronics industry are being seen.

The reporting of occupational diseases to the Department of Occupational Safety and Health required under the FMA 1967 and the Occupational Safety and Health Act 1994 has been poor. The Worker Environmental Health Unit (MOH), developed a reporting mechanism and guidelines with criteria for diagnosis of Occupational Lung Diseases to enhance reporting in 1997. A system of having doctors undertaking medical surveillance to be trained in occupational health under the OSH (USECHH) Regulations 2000 will help. Much awaited Reporting of Injury, Disease and Dangerous Occurrence Regulations (RIDDOR) with a simpler format of reporting were promulgated in April 2004.

Reporting has to improve for a better understanding of the epidemiology and spectrum of OLD in Malaysia. The question that begs to be answered is whether this will happen. The fear is that the same old reasons for not reporting – of not knowing of the need to notify, no good system of reporting and no available criteria – reasons no more valid may be given and poor reporting continue. Workers disabled as a result of OLD have a right to the correct diagnosis and due compensation.

THE TREATMENT OF OCCUPATIONAL LUNG DISEASE

Neil C Barnes
Medical and Emergency Medicine, The London Chest Hospital, United Kingdom

There are numerous occupational lung diseases. The treatment of many of these conditions is the same as the equivalent lung disease without an occupational component.

OCCUPATIONAL ASTHMA

Occupational asthma may completely resolve on cessation of allergen exposure. If it does not, then treatment should be as for the asthma guidelines.

PULMONARY FIBROSIS

Pulmonary fibrosis has undergone a reclassification. Diffuse interstitial pneumonia (DIP) responds well to steroids and immunosuppressants such as Azathioprine, the role of steroids and immunosuppressants in the management of usual interstitial pneumonia (UIP) remains controversial.

ASBESTOS RELATED LUNG DISEASE

Advances in the management of mesothelioma with the use of combination of chemotherapy and in limited numbers of patients pleuro-pneumonectomy is leading to some improvement in the management of what has previously been a very difficult to treat tumour.

PERSISTENT COUGH: ONE MECHANISM TO RULE THEM ALL?

Anne B Chang
Department of Respiratory Medicine, Royal Children's Hospitals, Brisbane, Australia

If the workings of the human body were not as elegant as we know it is, we probably would have a single mechanism for cough. Cough is a key element of the pulmonary muco-ciliary apparatus especially in diseased states, and hence, not surprisingly there are various cough players at the cellular and receptor levels. Persistent cough can be associated with neutrophilic inflammation (such as in chronic obstructive airways disease and bronchiectasis), eosinophilic (eosinophilic bronchitis and asthma), lymphocytic (some viruses and autoimmune diseases) or neurogenic inflammation (gastro-oesophageal reflux disease and ACE inhibitor associated cough). Plasticity of the cough reflexes has been shown in animal models and there is possibly also a neuro-developmental element as recently shown by Joad. Current data from animal models suggest that changes at the neural (and ganglion) level are more important than those at the periphery or pulmonary interface.

On a clinical level, increased cough sensitivity is present in some persistent cough associated states (such as post viral and gastro-oesophageal reflux disease). Amelioration of the hypersensitive cough reflex is associated with improved cough in clinical studies. However as hypersensitive cough reflex is not a universal finding in all disease states associated with chronic cough, other mechanisms and/or involvement of other cough receptors must also be present. Biologically this would be sensible given the reasons for existence of the cough reflex in the human body. However, although there are various mechanisms of cough, we have but one final pathway that is subjected to cognitive influence.

APPROACH TO THE TODDLER WITH PERSISTENT COUGH

Mazidah Abd Rasid
Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia

Persistent cough is a common symptom in childhood. In diagnosis, the history must establish the fact that the cough is continuous and has been present for weeks at least. However, not infrequently parents will state that their child has persistent cough when in fact there are significant periods of time when the cough is absent. It is important that this point is clearly established as the diagnosis, management and prognosis of recurrent cough is quite different from persistent cough.

Particular attention must be made to the growth of the child as failure of growth in chronic chest disease is related to chronic suppuration or anoxia. Chest deformity if present will suggest a long-standing lesion. Presence of wheeze certainly implies airway obstruction. Stridor is much suggestive of obstruction to the upper airways, usually by a mass lesion. Establishing the presence of atopy is important as a cause of persistent cough.

Toddlers with persistent cough but otherwise healthy could be due to either are current viral bronchiolitis, post infectious cough, pertussis like illness, cough variant asthma, postnasal drip or gastroesophageal reflux. Toddlers with persistent cough in which there is a serious underlying lung condition includes cystic fibrosis, immune deficiencies, recurrent pulmonary aspiration secondary to swallowing in coordination or gastroesophageal reflux, retained inhaled foreign body, airway compressions or malacia often with viral infections.

The treatment of persistent cough should always be preceded by systemic effort to exclude serious underlying illness and establish the cause of the cough.

TREATMENT OF COUGH: CHOICES, FALLACIES AND WHAT ACTUALLY WORKS?

Anne B Chang
Department of Respiratory Medicine, Royal Children's Hospitals, Brisbane, Australia

Cough remedies are used widely in most countries and costs millions of dollars a year. If pharmaceutical costs, doctor visit bills and human costs were added, the figure would effectively be several folds higher. Over the counter cough medications include CNS depressants (opiates), decongestants (pseudoephedrine), demulcents (sugar and lemon elements), bronchodilators (oral beta-2 agonists), expectorants (bromhexine), mucolytics (guaifenesin) and anti-histamines (promethazine) amongst others. In addition, pharmaceutical agents used for the management of troublesome cough include oral and inhaled corticosteroids, cromones, anti-cholinergics, and some advocate for trials of medications for gastroesophageal reflux disease and nasal corticosteroids. With the addition of herbal therapies for cough (at least 100 listed), the huge number of choices of cough medications suggest that none are truly efficacious despite the large market for such medications. Furthermore the use of expectorants combined with suppressants make little biological sense.

Clinicians have to be cognisant that the placebo effect of medications for cough is as high as 80 – 85%. It has been shown that parents who request for medications for their child's cough were more likely to indicate a positive response to the intervention even when the intervention is placebo. Thus non randomised non placebo controlled trials have be viewed with a healthy sense of scepticism. Randomised controlled trials and Cochrane reviews have shown that none of the non-specific medications for cough are efficacious in children but data on adolescents and adults are different (slightly).

Management of cough should be directed at specific cough; there is little role for symptomatic relief of cough especially in children. Indeed symptomatic relief of cough may be harmful especially in the young child. Can a panacea for the troublesome cough exist if there are different mechanisms for persistent cough? Currently no, but we await future developments.

EPIDEMIOLOGY OF COMMUNITY ACQUIRED PNEUMONIA IN MALAYSIA

Liam Chong Kin
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Community acquired pneumonia (CAP) is a common illness and is potentially life threatening especially in older adults and those with co-morbid disease. Although many microorganisms have been associated with CAP, it is a small range of key pathogens that cause most cases. Apart from *Streptococcus pneumoniae* which is the most frequently identified pathogen, a great deal of literature from the West has reported *Haemophilus influenzae*, atypical pathogens – *Chlamydia pneumoniae, Mycoplasma pneumoniae, Legionella pneumophila* and viruses as the common pathogens of CAP. Other causative agents include *Haemophilus influenzae, Staphylococcus aureus,* anaerobes (aspiration pneumonia), and respiratory viruses (influenza virus, adenovirus, respiratory syncytial virus, parainfluenza virus, coronavirus). Gram-negative bacilli (*Enterobacteriaceae* and pseudomonadas) are the cause of CAP in patients who have had previous antimicrobial treatment or who have pulmonary comorbidities.

Even when carefully sought for in large prospective studies, the putative causative organism remains unknown in about half of all patients with CAP. In an observational study that assessed the 'real-world' practice from several centres in the USA, only 6% of outpatients and a quarter of inpatients with CAP had the cause of their disease defined. Reasons for failure to identify the aetiological agent include prior antibiotic treatment, unusual pathogens that go unrecognized, viral infections, non-infectious mimic of CAP, and pathogens that are currently not identified or recognized. Knowledge of the local epidemiology is particularly helpful when instituting empirical antibiotic therapy for CAP. In the AsiACAP study, infection rates based on a > 4-fold rise in antibody titre between acute and convalescent sera were found to be 9.4% for *Mycoplasma pneumoniae*, 4.3% for *Chlamydia pneumoniae* and 6.2% for *Legionella pneumophila*. A number of studies in Asia where the prevalence of tuberculosis is high have shown that infection due to *Mycobacterium tuberculosis* may commonly present as CAP. The microbiology of CAP in adult patients requiring hospitalisation in studies performed in Malaysia appears to be different from that reported in the West. Gram-negative bacilli other than *H. influenzae* such as *Klebsiella pneumoniae* are more frequently isolated. This difference has also been shown by other studies performed in the region. These differences in the microbiology of CAP as compared to what is reported in the West have important implications in the selection the appropriate antibiotics for initial empirical therapy of CAP in this region.

TUBERCULOSIS IN SABAH, MALAYSIA: FACTS AND CHALLENGES

Jiloris F Dony*, Jamalul Azizi**

**Sabah Health Department, Ministry of Health, **Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia*

BACKGROUND

WHO (Western Pacific region) stipulates in their special project that about 70% case detection from the estimated incidence (50 in every 100,000 population) among TB direct smear positive, 85% will be cured once enrolled in 100% Directly Observed Short Course Chemotherapy (DOTS). A revised surveillance system called Tuberculosis Information System (TBIS) was introduced since April 2002 with aims to strengthen case-findings, patients registration and treatment outcomes. TBIS surveillance system was applied to review TB control program in their case analysis findings, notification and treatment outcomes.

METHODS

Suspected cases were detected through passive case detection and review concentrates on patients at all out-patient unit and admitted in all the state's hospitals. Direct smear sputum and chest x-ray are tools to confirm diagnosis and to declare patient is cured. Confirmed new smear-positive TB are patient who has never received treatment for TB or has taken anti-tuberculosis drugs for less than four weeks and who has one of the following; two or more initial smear examinations positive for acid fast bacilli (AFB); one sputum examination positive for AFB with radiographic abnormalities consistent with active pulmonary tuberculosis as determined by a treating medical officer; or one sputum specimen positive for AFB and at least one sputum that is culture positive. Cured patient are declared as a patient who is smear-negative in the last month of treatment and on at least one previous occasion.

RESULTS

1,816 new cases of TB smear positive were notified in 2002. The 70% detection of new smear positive TB was achieved, however cure rate only achieved 75% and DOTS coverage of 94%. Further analysis was found that; 174 patients were treatment after interruption, 170 of transfer out and lost, whereas 70 cases reported as dead.

CONCLUSIONS

Cured among TB smear positive were insufficient, with a high detection of cases amongst population in Sabah Malaysia. Therefore, DOTS implementation needs to be strengthened and focus on capacity and capability building.

LUNG TRANSPLANT RECIPIENT SELECTION

Ashari Yunus
Institute of Respiratory Medicine, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Lung transplantation is now generally accepted as a useful modality of care and it is indicated for patients with end stage lung diseases who demonstrate declining function despite optimal therapy.Candidates should have a chronic disease that is refractory to other medical or surgical therapies and for which survival is limited.

The evaluation of a potential candidate for lung transplantation should include a complete assessment of cardiopulmonary function and of the patient's general health, in addition to a thorough evaluation of psychosocial status. The responsible body making the decisions regarding suitability for listing was the multidisciplinary transplant team including lung transplant physicians, heart transplant physicians, cardio-thoracic surgeons, psychiatrists, anaesthesiologists and social workers.

Absolute contraindication to lung transplantation include serious dysfunction of the kidney, liver and bone marrow, active extra-pulmonary infection, current tobacco use or other substance abuse, progressive neuromuscular disease and active malignancy within past 2 years (1). Relative contraindications include medical conditions of the recipients that are felt to potentially impact on the long term outcome and should be optimally treated and well controlled prior to surgery (1) e.g. recipients have not end organ damage, diabetes mellitus, hypertension and peptic ulcer diseases are generally acceptable candidates for lung transplant.

It is generally recommended to consider transplantation when the patient is symptomatic during daily living activities and survival is expected to be limited to 2 – 3 year. The difficulty of prognosticating survival is a major factor confounding the issues of timing of referral. The recommendations regarding timing of referral is that the primary goal of lung transplantation is to provide a survival benefit, i.e. post-transplant survival should exceed the expected survival without the procedure. Several studies in adults (2,3) and children (4) have assessed survival benefit by comparing survival on the waiting list to survival after lung transplantation and they found a significant survival benefit after lung transplantation.

In practice, the majority of lung transplant procedures are performed for emphysema, cystic fibrosis, idiopathic pulmonary fibrosis, primary pulmonary hypertension, sarcoidosis, bronchiectasis and congenital heart disease (5).

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ORGAN PROCUREMENT AND LUNG TRANSPLANTATION

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Thoracic organ procurement is a complex process that requires good coordination between clinicians and paramedical staff. It's the first set of donor organs that leaves the human body and is also the most susceptible to ischemic damage. Proper evaluation of the organ is mandatory and routine assessment includes clinical measurement of the donor thoracic cavity together with a radiological comparison, a swan gantz catheter insertion and a fiber optic bronchoscopic evaluation.

Lung transplantation was first preformed by Dr Hardy in 1963 but due to poor immunosuppressive therapy plus the donor organs susceptibility to infection, lung transplantation didn't enjoy much popularity; In a landmark trial by the Dr Cooper from Toronto, Canada in the 80's showed that outcome of lung transplant patients can be greatly improved with reducing the steroids dosage since steroids had a major impact on bronchial healing.

Now lung transplant is an accepted therapy for a multitude of end stage lung disease problems. Its outcome and survival trends are becoming increasing better although the side effect of immunosuppression and the development of bronchiolitis obliterans is a serious problems for these patients.

In Malaysia, the lung transplant programme has already been activated since 2003 and the team is hopeful that its will be able to perform Malaysia's first lung transplantation soon.

ADVANCES IN THE MANAGEMENT OF SEVERE SEPSIS

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Severe sepsis has a high mortality and significant cost expenditure for the health-care sector (NEJM 2003;348:1546-54). Many patients in the ICU have severe sepsis, and a recent review, supported by the major critical care societies, have been published to summarize the start of the art for managing this entity under the title of "Surviving Sepsis Campaign" (Crit Care Med. 2004; 32:858-73). This document discusses the issues of antibiotics, resuscitation, mechanical ventilation, steroids, glucose control, renal replacement therapy, and activated protein C replacement amongst other supportive measures. It is an important step to highlight the complex management of a complex entity.

The definition of sepsis has now also moved another step with the introduction of the PIRO system that was proposed last year (Crit Care Med 2003; 31:1250 –1256). This is modeled after the TNM cancer classification, and aims to show the complexity of sepsis by considering 4 factors: predisposition, infection, response, and organ function. Of note is the recognition that the host responses may be governed by variations in different genotypes, and that the host responses are myriad rather than just the simple 4 SIRS criteria of fever, tachycardia, tachypnoea, and leucocytosis. This highlights the possibility of using biomarkers like procalcitonin as a marker of severe sepsis.

Much is now known about optimal ways of managing severe sepsis, and the aim of the "Surviving Sepsis Campaign" is to try to educate health care professionals of these changes which would hopefully lead to improved patient outcome. The challenge to implement this new knowledge is ahead of us.

ADVANCES IN THE MANAGEMENT OF PULMONARY EMBOLI

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Thrombi-embolic disorders including pulmonary emboli are a common clinical problem. There have been advances in the last 10 years relating to the diagnosis of pulmonary emboli. d-Dimer tests are a value in excluding pulmonary emboli and imaging of pulmonary emboli has been improved with the advent of CT pulmonary angiography. The treatment of pulmonary emboli has been simplified with the introduction of once daily low molecular weight Heparins and in the future new oral anticoagulants which do not require monitoring will probably take over from the use of Warfarin. A variety of genetic and acquired risk factors for thrombo-embolic disease have been identified, although the effect they have on clinical decisions is still unclear. Advances in technology have led to the introduction of venacaval filters. Although there are some clear indications of the use of these devices, their precise place in the clinical management of pulmonary emboli is not fully established.

NEW TOOLS IN PAEDIATRIC VENTILATORY SUPPORT: HIGH-FREQUENCY OSCILLATORY VENTILATION (HFOV) AND NON-INVASIVE VENTILATION

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Conventional mechanical ventilation (CMV) has been a key tool in providing support to critically ill children. It is increasingly recognized however that alveolar overdistension in CMV rather than peak inspiratory airway pressure is the primary determinant of lung injury. HFOV provides a mode of ventilation that can achieve oxygenation and ventilation while maintaining maximal lung recruitment on the deflation limb of its pressure-volume curve thus allowing adequate alveolar ventilation with minimal peak-trough pressure changes, provides lung recruitment, and avoids end-inspiratory overdistension of the relatively compliant nondependent lung. Taken together, the results of studies in animals, preterm and term neonates, and older pediatric patients reveal that an "open-lung" strategy, with the goal of a high end-expiratory lung volume, is safe and superior to CMV in both the short-term (rapidly improved oxygenation and/or ventilation) and longer-term (lower incidence of chronic lung disease). The improved longer-term clinical outcomes on HFOV are presumably because of less ventilator-induced lung injury. As experience with HFOV in older patients grows, it is likely that HFOV will find widespread use for the management of respiratory failure caused by acute lung injury in patients from preterm neonates to older children. Addition of adjunctive treatment like surfactant and nitric oxide as well as liquid ventilation to HFOV in specific lung pathologies to facilitate ventilation/gas exchange and to reduce inspired oxygen concentration has opened up additional possibilities. In a subset of patients with acute non-hypercapnic respiratory failure the institution of MV might be avoided (or non-desirable e.g. immunocompromised) if non-invasive modes of ventilation are used. NIV has the theoretical advantage of being able to be introduced earlier in the course of illness, reduce need for MV, reduces risk of infection, facilitates oral toilet and earlier extubation in patients with weaning failure.

THE CHILD THAT CANNOT BE EXTUBATED: WHERE DO WE GO FROM HERE?

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Most children who are ventilated in the intensive care unit may require respiratory support for a short period of time. However there is an increasing number of patients who fail extubations after many attempts or they continue to require prolong ventilation. These will result in an increase utilization in intensive care resources which is in high demand.

When attempts to extubate fail, it is important to identify the underlying aetiology in order to facilitate extubation. Certain condition such subglottic stenosis are treatable while conditions such as spinal cord injury will require long term ventilation. A systematic approach to identify the causes is important. The underlying causes may be divided into i) abnormal central ventilatory control such as central alveolar hypoventilation, ii) upper airway obstruction such as subglottic stenosis, iii) lower airway abnormality such as tracheomalacia, iv) intrinsic lung pathology, such as interstitial lung disease, v) spinal cord injury and vi) neuromuscular disease such as congenital myopathy.

Investigations in these children will depend on the underlying aetiology. Bronchoscopy may be performed if an airway abnormality is suspected or performing a HRCT to rule out an underlying intrinsic lung disease.

Once diagnosis is made and the patient is ascertained to require long-term ventilatory support, the clinician must now plan for the long term care of this patient. The main aim will be for home ventilation. Organising home ventilation is not an easy task and will require a multidisplinary approach. Many issues need to be dealt with such as ethical issues, budget for ventilatory equipments, family willingness to care and not forgetting our primary concern, the CHILD.

ORAL PRESENTATIONS

PULMONARY ALVEOLAR PROTEINOSIS ASSOCIATED WITH PSORIASIS AND COMPLICATED BY MYCOBACTERIAL INFECTION: SUCCESSFUL TREATMENT WITH GM-CSF AFTER A PARTIAL RESPONSE TO WHOLE LUNG LAVAGE

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Pulmonary alveolar proteinosis (PAP) is a rare lung disease. Whole lung lavage is considered the most effective treatment but not every patient shows a complete response.

A 44 year-old man with psoriasis presented with breathlessness. CXR showed bilateral perihilar pulmonary infiltrates. Transbronchial biopsy revealed PAS positive intra-alveolar amorphous infiltrate.

Whole lung lavage was performed and his symptoms improved for several weeks but thereafter he became breathless again. A second lung lavage was performed. Cavitating lesions were noted on CXR. A thoracic CT scan showed ground glass abnormality. Mycobacterium kansasii was isolated from the lavage fluid.

He received Isoniazid, Rifampicin and Ethambutol but these were subsequently changed to Rifabutin, Clarithromycin and Ethambutol. After one month of treatment, the cavities resolved.

He underwent a third lung lavage as he was breathless again. CXR showed recurrent pulmonary infiltrates and he was coughing up milky fluid. After a fourth lung lavage, he was commenced on GM-CSF. Pre-treatment anti-GM-CSF antibodies were not measured as the test was not available. After 3 months of GM-CSF treatment, he had no further dyspnoea. A thoracic CT scan showed resolution.

Although most case reports suggest that GM-CSF is effective in treating PAP patients who have anti-GM-CSF antibodies, one case report showed that GM-CSF was effective in treating PAP even in the absence of anti-GM-CSF antibodies. Although we do not know his anti-GM-CSF antibody status, this case illustrates the effectiveness of GM-CSF for treatment of secondary PAP with or without the presence of anti-GM-CSF antibodies.

GASTROESOPHAGEAL REFLUX DISEASE IN ASTHMA: EFFICACY OF PROTON PUMP INHIBITOR TREATMENT IN PATIENTS WITH MODERATE TO SEVERE ASTHMA

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BACKGROUND AND OBJECTIVE

Gastroesophageal reflux disease (GERD) is thought to cause or exacerbate pre-existing asthma. Treating GERD in asthma patients with potent acid suppression may therefore result in improvement in asthma control. The aim of this study is to determine the effect of proton-pump inhibitor (PPI) therapy on the severity of asthma.

METHODS

Patients with moderate to severe asthma with or without GERD were prescribed an 8-week course of lansoprazole 30mg daily. A baseline and an "end-of-treatment", one-week pulmonary symptom severity score (PSS), one-week reflux symptom severity score (RSS), peak expiratory flow rate (PEFR) and forced expiratory volume in one second (FEV1) were recorded. Symptoms were assessed by an investigator who was blind to the GERD status of the patient. Efficacy of treatment was assessed by comparison of the pre and post treatment mean scores of the above variables.

RESULTS

Thirty patients were recruited. 27 patients completed the treatment and were analyzed (16 – GERD, 11 – non-GERD). 12 (75%) patients reported improvement in asthma symptoms with a significant reduction in mean PSS ($p = 0.002$). There was no significant change in the mean PEFR and FEV1 ($p = 0.075$, $p = 0.147$). Amongst the non-GERD patients, the mean PSS did not show significant improvement ($p = 0.317$). There was also no improvement in the PEFR and FEV1. The change in the mean PSS, PEFR and FEV1 pre and post treatment was significantly higher in GERD vs non-GERD patients ($p = 0.010$, $p = 0.040$, $p = 0.017$).

CONCLUSION

PPI therapy was effective in improving asthma symptoms only in patients with GERD. The difference in the change in severity of asthma and lung function tests pre and post treatment was highly significant in GERD compared to non-GERD patients underlining the critical role of GERD in a subset of patients with moderate to severe asthma.

THE PREVALENCE OF GASTROESOPHAGEAL REFLUX DISEASE IN MODERATE TO SEVERE ASTHMA

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BACKGROUND

Gastroesophageal reflux disease (GERD) and asthma are closely related conditions. GERD is thought to cause asthma or worsen pre-existing asthma. On the other hand asthma medications have been implicated in causing GERD.

OBJECTIVE

To determine the prevalence of GERD in patents with moderate to severe asthma.

METHODS

Patients with moderate to severe persistent asthma as defined by the GINA guidelines were recruited from University Malaya Medical Center asthma clinic. All patients were administered a detailed questionnaire, underwent EGD and a 24-hour esophageal pH monitoring. Patients were defined as having GERD when they had predominant symptoms of heartburn or acid regurgitation occurring at least once per month for the past 6 months or when there was reflux esophagitis (Los Angeles classification) at endoscopy, or the 24-hr esophageal pH test was positive using the DeMeester score.

RESULTS

Thirty patients were recruited for the study: The mean age was 51.9 ± 12.3 years, male: female ratio- 6: 24. 17 patients (56.7%) were found to have GERD: 10 patients had reflux esophagitis, the majority, 8 (80%) had grade A changes and 2 of had grade B changes. Only 3 had a positive 24-hour esophageal pH test. 6 (20%) patients were diagnosed to have non-erosive reflux disease, 3 had a positive 24-hour esophageal pH test. 1 patient was asymptomatic clinically but had a positive 24-hour esophageal pH test.

CONCLUSION

The prevalence of GERD in asthmatic patients was high. The majority of patients had NERD or mild grades of reflux esophagitis.

PULMONARY EMBOLECTOMY FOR THE TREATMENT OF MAJOR PULMONARY EMBOLISM

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INTRODUCTION

Acute major pulmonary embolism (PE) is associated with a high mortality rate. Despite the availability of several treatment modalities, optimal management remains controversial.

OBJECTIVES

Our objective was to analyze our experience with pulmonary embolectomy using strict criteria.

METHODOLOGY

A retrospective review of case notes of all patients who underwent pulmonary embolectomy by a single surgeon at our institution over the last three years was performed. The indications for pulmonary embolectomy were failed thrombolysis, contraindications to thrombolysis, saddle pulmonary embolus or massive pulmonary embolus load.

RESULTS

There were 4 patients (3 female and 1 male) with an average age of 51 years (range, 14 to 69). The diagnoses of PE were made mainly by helical computed tomographic scan in all patients. The aetiology for PE was thrombo-embolism in 3 patients and osteosarcoma tumour emboli in 1 patient. All patients underwent pulmonary embolectomy using cardiopulmonary bypass. There was no mortality. One patient who required external cardiac massage preoperatively developed a post-operative stroke.

CONCLUSION

Pulmonary embolectomy should be considered in certain patients using strict criteria and not merely as a last resort for desperate situations.

THE ROLE OF PLEURAL FLUID ANALYSIS, PLEURAL BIOPSY AND BRONCHOSCOPY IN NEOPLASTIC AND TUBERCULOUSPLEURAL EFFUSIONS

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INTRODUCTION

Previous studies have reported high rates of undetermined causes of pleural effusions.

OBJECTIVE

To evaluate the role of pleural fluid analysis, pleural biopsy and bronchoscopy in the diagnosis of neoplastic and tuberculous pleural effusions.

METHODS

A prospective study was carried out in the University Malaya Medical Centre from May 2001 to January 2002. All patients with pleural effusion admitted to the medical wards and non-medical wards during that period were included in the study.

RESULTS

Of 111 patients with pleural effusions, malignancy was the commonest cause of pleural effusion (34.2%) followed by tuberculosis (22.5%) and parapneumonic effusions (18.9%). There were only 2 patients (1.8%) with undetermined cause despite extensive investigations. Carcinoma of the lung was the commonest cause of malignant effusions and bronchoscopic biopsy gave the highest yield of histological diagnosis (66%), followed by pleural fluid cytology (59%) and pleural biopsy (50%). The combination of these three procedures increased the diagnostic yield to 96%. In tuberculous pleural effusion, pleural fluid staining for acid-fast bacilli staining was negative in all cases but mycobacterial culture was positive in 23.1% of cases while pleural biopsy gave a better yield of 68.8%. Examination of sputum and bronchoalveolar lavage specimens confirmed the diagnosis of tuberculosis in 38.4% of cases. A combination of these investigations yielded the diagnosis in 92% of patients with tuberculous effusion.

CONCLUSIONS

Pleural fluid analysis, pleural biopsy and fibreoptic bronchoscopy are helpful in diagnosing tuberculous and neoplastic effusions due to carcinoma of the lung.

POSTER PRESENTATIONS

FACTORS INFLUENCING THE SINGLE BREATH CARBON MONOXIDE TRANSFER COEFFICIENT IN ASTHMA AND BRONCHIECTASIS

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Inflammation of the airways is an important feature of both asthma and bronchiectasis. Single breath carbon monoxide transfer factor ($D_L$co) and transfer coefficient (Kco = $D_L$co/alveolar volume) measure transfer of inspired gas to the pulmonary vasculature. Although some evidence suggests that Kco is elevated in asthma, it is not known whether there are differences in the factors influencing Kco in asthma compared with bronchiectasis.

AIMS

To compare Kco in asthma and bronchiectasis and to investigate the influence on Kco of lung function, duration of disease, atopy, BMI and smoking status in both diseases.

METHODS

A retrospective review was performed of detailed respiratory function tests and other relevant data for outpatients with stable asthma (n = 131) or bronchiectasis (n = 30). Results: Mean Kco was significantly elevated both in asthma (108.8 ± 1.5% of predicted, $p < .001$) and in bronchiectasis (108.5 ± 3.08, $p = .01$). However, % predicted $D_L$co was lower in bronchiectasis (93.5 ± 2.5) than in asthma (104.8 ± 1.5, $p = .001$). Kco was not correlated with airway obstruction (FEV_1/FVC) in asthma or bronchiectasis. Similarly, smoking and duration of disease did not influence Kco. In asthma, but not bronchiectasis, Kco was higher in atopic subjects ($p = 0.038$) and was also correlated with BMI ($r = 0.31$, $p < .001$).

CONCLUSIONS

In bronchiectasis Kco may be elevated due to reduced alveolar volumes, whereas in asthma other factors including airway inflammation and increased BMI may contribute to an increase in pulmonary capillary volume and thereby an increase in Kco above predicted values.

COMPARISON OF RESPIRATORY FUNCTION IN PATIENTS WITH BRONCHIECTASIS OR ALLERGIC BRONCHOPULMONARY ASPERGILLOSIS

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Bronchiectasis is a rare disease involving infection, inflammation and permanent thickening and dilatation of the bronchi and bronchioles. Numerous causative factors have been implicated in the development of bronchiectasis and allergic bronchopulmonary aspergillosis (ABPA) is a specific form of bronchiectasis caused by an immune reaction to *Aspergillus fumigatus* in patients with asthma.

AIMS

To compare the detailed respiratory function data, including carbon monoxide transfer factor ($D_L$co) and transfer coefficient (Kco = $D_L$co/alveolar volume) in patients with bronchiectasis due to ABPA or other non-cystic fibrosis causes.

METHODS

A retrospective review was performed of the initial respiratory function data for stable outpatients with bronchiectasis (n = 30) or ABPA (n = 7), who were managed by a single respiratory physician.

RESULTS

The degree of airway obstruction (%predicted FEV_1/FVC) was not significantly different between bronchiectasis (89.5 ± 1.9) and ABPA patients (82.1 ± 7.7) and % predicted $D_L$co was reduced in both bronchiectasis (93.5 ± 2.5) and ABPA (87.3 ± 9.0). However, Kco was significantly elevated in bronchiectasis (108.5% of predicted, p = .01) but not in ABPA (99.1% of predicted). In ABPA, but not in bronchiectasis, Kco was strongly correlated with % predicted FEV_1/FVC (r = 0.88, p = .008) and negatively correlated with % predicted residual volume (r = -0.84, p = .02).

CONCLUSIONS

Airway obstruction appears to be the major factor influencing gas transfer in ABPA, whereas in bronchiectasis reduction in alveolar volumes may contribute to increases in Kco above predicted values.

PRIMARY LUNG ADENOCARCINOMA IN SMOKERS AND NEVER SMOKERS

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OBJECTIVE

To study the clinical features of primary lung adenocarcinoma in smokers and never smokers.

PATIENTS AND METHODS

Consecutive patients who had primary adenocarcinoma of the lung confirmed by histology and/or cytology in the Division of Respiratory Medicine, University of Malaya Medical Centre, Kuala Lumpur, Malaysia.

RESULTS

Of 501 consecutive patients with lung cancer confirmed by histology and/or cytology, 252 (50.3%) had adenocarcinoma, 165 (32.9%) had squamous cell carcinoma (SCC), 68 (13.6%) had small cell carcinoma (SCLC), 11 (2.2%) had large cell carcinoma (LCC), 4 (0.8%) had adenosquamous carcinoma and one (0.2%) had mucoepidermoid carcinoma. Adenocarcinoma was the most common cell type in both males and females, 159 of 365 (43.6%) and 93 of 136 (68.4%), respectively. Adenocarcinoma was also the most common cell type in smokers and never smokers, 164 of 396 (41.4%) and 88 of 105 (83.8%), respectively.

Of the 88 never smokers with adenocarcinoma, 67 (76.1%) were female while only 26 (15.9%) of the 164 smokers with adenocarcinoma were female (OR, 16.93; 95% CI, 8.89 - 32.27; $p < 0.001$). The proportion of never smokers who were Indian (17.2%) was significantly higher than the proportion of smokers who were Indian (9.3%) ($p = 0.043$). Adenocarcinoma patients who were never smokers were slightly younger [mean age, 55.9 (+ 15.3); range, 24 – 87 years] compared to those who were smokers [mean, 59.4 (+ 11.8); range, 27-90 years] ($p = 0.043$). 18.2% and 4.3% of never smokers and smokers with adenocarcinoma, respectively were younger than 40 years (OR, 4.98; 95% CI, 1.97 – 12.64; $p = 0.001$). Digital clubbing was observed in 5.7% of never smokers and 18.3% of smokers (OR, 3.72; 95% CI, 1.39 – 9.96; $p = 0.009$). The incidence of upper lobe adenocarcinoma in smokers (42.1%) was not significantly different from that in never smokers (44.3%) ($p = 0.731$). Of patients who underwent fibreoptic bronchoscopy examination, never smokers were less likely to have endobronchially visible tumours [30 of 78 patients (38.5%)] compared to smokers [77 of 142 patients (54.2%) (OR 1.90; 95% CI, 1.08 – 3.33; $p = 0.026$). 12.8% of smokers and 10.2% of never smokers had Stage 1 or 2 adenocarcinoma ($p = 0.547$).

CONCLUSIONS

Compared to smokers, never smokers who have adenocarcinoma are more likely to be female and slightly younger, but are less likely to have digital clubbing and less likely to have endobronchially visible tumours.

PULMONARY TUBERCULOSIS PRESENTING AS COMMUNITY ACQUIRED PNEUMONIA REQUIRING HOSPITALISATION

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OBJECTIVE

This study aimed to study the frequency of pulmonary tuberculosis (PTB) presenting as community acquired pneumonia (CAP) requiring hospitalisation and to define the clinical features of PTB which distinguish it from non-TB CAP.

SETTING

University Malaya Medical Centre, Kuala Lumpur, Malaysia.

PATIENTS AND METHODS

This prospective study was conducted from August 2000 to December 2002 on consecutive non-immunocompromised patients aged 12 years and above admitted with a diagnosis of CAP to the medical wards.

RESULTS

Of a total of 352 patients hospitalised for CAP, the aetiological agent was identified in 144 patients (40.9%). Klebsiella pneumoniae was the commonest microorganism identified (11.4%), followed by *Mycoplasma pneumoniae* (6.3%), *Mycobacterium tuberculosis* (4.8%), *Staphylococcus aureus* (3.7%), *Streptococcus pneumoniae* (3.4%), *Haemophilus influenzae* (3.1%) and *Pseudomonas aeruginosa* (3.1%).

Patients with PTB had a longer duration of symptoms before hospital admission (median, 10 days; range, 1 to 31 days) than the rest (median, 6.2; range, 0 to 36 days) ($p = 0.002$). 11 of 17 (64.7%) TB patients had night sweat compared to 106 of 335 (31.6%) of patients not having TB (OR 3.96; 95% CI, 1.43 – 10.00; $p = 0.005$). Although a higher proportion of TB patients had a history of weight loss [10 of 17 patients (58.8%)] than the other patients [124 of 335 patients (37.0%)], the difference was not statistically significant (OR 2.43; 95% CI, 0.90 – 6.55; $p = 0.071$). A positive history of TB contact was elicited in only 2 of the 17 patients (11.8%) diagnosed to have TB and 33 (9.9%) of the rest of the patients (OR 1.22; 95% CI, 0.27 – 5.57; $p = 0.681$). Chest radiograph showing upper lobe involvement was more frequently seen in patients with TB [5 of 17 patients (29.4%)] than non-TB patients [19 of 335 patients (5.7%)] (OR 6.93; 95% CI, 2.21 – 21.70; $p < 0.001$).

In a multivariate analysis, patients with duration of symptoms longer than 7 days before hospital admission (OR 4.33; 95% CI, 1.41 – 13.32; $p = 0.011$), chest radiograph showing upper lobe involvement (OR 8.12; 95% CI, 2.24 – 29.45; $p = 0.001$) and total white blood cell count of 12 x 10^9/L or less on admission (OR 3.41; 95% CI, 1.05 – 11.08; $p = 0.041$) were more likely to have pulmonary tuberculosis.

CONCLUSIONS

PTB commonly presents as CAP requiring hospitalization in Malaysia. Compared to patients with CAP due to other organisms, patients with PTB have a longer duration of symptoms, more frequent upper lobe involvement and lower total white blood cell count.

PREDICTORS OF MORTALITY IN PATIENTS HOSPITALISED FOR COMMUNITY ACQUIRED PNEUMONIA

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OBJECTIVE

To define the clinical features associated with mortality in patients hospitalised for community acquired pneumonia (CAP).

SETTING

University Malaya Medical Centre, Kuala Lumpur.

PATIENTS AND METHODS

This prospective study was conducted from August 2000 to December 2002 on consecutive non-immunocompromised patients aged 12 years and above admitted to the medical wards with CAP.

RESULTS

Of a total of 352 patients hospitalised for CAP, the aetiological agent was identified in 144 patients (40.9%). Klebsiella pneumoniae was the commonest microorganism identified (11.4%), followed by *Mycoplasma pneumoniae* (6.3%), *Mycobacterium tuberculosis* (4.8%), *Staphylococcus aureus* (3.7%), *Streptococcus pneumoniae* (3.4%), *Haemophilus influenzae* (3.1%) and *Pseudomonas aeruginosa* (3.1%). 239 patients (67.9%) had underlying comorbid illnesses, the commoner ones being diabetes mellitus (82 patients) and chronic obstructive pulmonary disease (COPD) (42 patients).

39 patients (11.1%) died in hospital as a result of CAP. In a multivariate analysis, the independent predictors of mortality were age above 50 years (odds ratio, 15.43; 95% confidence interval, 2.32 to 102.84, P = 0.005), underlying congestive cardiac failure (OR, 36.02; 95% CI, 3.24 to 400.92; P = 0.004), multilobar involvement (OR, 3.69; 95% CI, 1.02 to 13.36; P = 0.047), admission heart rate of 125/min or more (OR, 4.82; 95% CI, 1.18 to 19.69; P = 0.029), admission serum creatinine greater than 130 µmol/L (OR, 7.00; 95% CI, 1.87 to 26.28; P = 0.004), and acute respiratory failure (OR, 77.40; 95% CI, 20.21 to 296.53; P < 0.001).

CONCLUSIONS

The clinical features associated with an increased risk of dying in patients hospitalised for CAP include age older than 50 years, underlying congestive cardiac failure, multilobar pneumonia, tachycardia of 125/min or more on admission, serum creatinine greater than 130 µmol/L on admission, and acute respiratory failure.

PUBLIC AWARENESS OF COPD: RESULTS OF A GROUND LEVEL SURVEY IN THE KLANG VALLEY

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OBJECTIVE

To determine the level of awareness of COPD among the Malaysian public.

SETTING

In high-traffic areas in major shopping centres in the Klang Valley.

SUBJECTS AND METHODS

A survey was carried out over 2 weeks in May 2004 in high-traffic areas in major shopping centres in the Klang Valley where randomly selected individuals were interviewed and answered a survey questionnaire in English.

RESULTS

Of a total of 500 individuals who responded, 332 (66.4%) were male. 68.2% of the respondents were aged 26 to 45 years. Two-thirds (333) of the respondents were either regular (39%), occasional (17.6%) or ex-smokers (10%). The highest percentage (70%) of respondents who were current smokers (regular or occasional smokers) was in the 36 – 45 year age group. 261 (78.6%) of the male respondents and 72 (42.9%) of the female respondents were current or ex-smokers ($P < 0.001$).

Only 99 (19.8%) respondents had heard of COPD. The sources from which they had heard of COPD included word of mouth (59 respondents), newspaper (39), health forums (31), health materials (21), radio (4) and television (2). A significantly higher percentage (21.6%) of respondents older than 25 years had heard of COPD compared to those aged 25 years and below (10.1%) ($P = 0.019$).

Of the 99 respondents who had heard of COPD, 98% correctly said that it was a lung disease. 38 (38.4%) and 17 (17.2%) of these respondents were aware that smokers and adults aged above 40 years, respectively were at risk of developing COPD. Only 3% were aware that COPD symptoms include cough with phlegm and breathlessness, while 9.1% were aware of only cough with phlegm and 11.1% only breathlessness as a symptom.

Only 57 (20.1%) of the 283 respondents who were current smokers had heard of COPD. Only 12 (4.2%) of 283 current smokers were aware that they were at risk of COPD.

CONCLUSION

The level of awareness of COPD is low among the Malaysian public and among smokers in particular in the Klang Valley.

PUBLIC AWARENESS OF COPD: RESULTS OF AN ONLINE SURVEY

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OBJECTIVE

To determine the level of awareness of COPD among the public.

SETTING

The online survey was a tie-up with the Star Online.

Subjects and methods: The survey was on for a period of two weeks in May 2004. Respondents were required to answer the online questionnaire in English and submit to Star Online.

RESULTS

The online respondents totaled 575. 372 (64.8%) were male. 69% of the respondents were aged 35 years and below. 172 (30%) of the respondents were either regular (10.8%), occasional (8.9%) or ex-smokers (10.3%). The highest percentage (26%) of respondents who were current smokers (regular or occasional smokers) was in the 36 – 45 year age group. 143 (38.4%) of the 372 male respondents and 28 (13.9%) of the 201 female respondents were current or ex-smokers ($P < 0.001$). (One respondent each did not state his/her gender and smoking status.)

231 (40.2%) respondents had heard of COPD. A significantly higher percentage (58%) of respondents older than 45 years had heard of COPD compared to those aged 45 years and below (37.4%) ($P < 0.001$). Of the 231 respondents who had heard of COPD, 87.9% correctly said that it was a lung disease. 157 (68%) and 84 (36.4%) of these respondents were aware that smokers and adults aged above 40 years, respectively were at risk of developing COPD. However, only 22.5% of them were aware that COPD symptoms include cough with phlegm and breathlessness on daily activities, while 5.6% were aware of only cough with phlegm and 13.4% only breathlessness on activities as symptoms.

Only 38 (33.6%) of the 113 respondents who were current smokers had heard of COPD while 30 (50.8%) of 59 ex-smokers and 163 (40.6%) of 401 never smokers had heard of COPD. 42 (37.2%) of 113 current smokers were aware that they were at risk of COPD compared to 65 (14.1%) of 461 ex-smokers or never smokers who thought they were at risk of COPD ($P < 0.001$).

CONCLUSIONS

The public in general and smokers in particular have a low level of awareness of COPD. However, the COPD awareness among these online respondents is better than that of respondents in a similar survey conducted at the same time at the ground level.

TRACHEOBRONCHIAL AIRWAY STENTING FOR RELIEVING MALIGNANT AIRWAY OBSTRUCTION

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OBJECTIVES

Obstruction of the airways due to malignant disease is a frightening condition that portends a poor prognosis. Emergency airway stenting can quickly palliate and relieved the obstruction. We restrospectively analysed our data on the management of these patients.

METHODS

From 1999 – 2004, records of 11 patients with urgent tracheobronchial stenting for palliative relief of airway obstruction, by a single surgeon at 2 separate hospitals, were reviewed.

RESULTS

The median age of these 11 patients (6 males and 5 females) were 43 yrs (range 18 – 69 yrs). The diagnosis were as follows: NSCLC (6), adenoid cystic carcinoma of right main bronchus (1), adenoid cystic adenoma of trachea (1), mucoid epidermal carcinoma (1), Hodgkin's lymphoma (1) and malignant thymoma (1). A total of 15 airway stents were inserted consisting of 2 tracheal stents, 7 left bronchial stents and 6 right bronchial stents (6 covered/5 uncovered ultraflex stents and 4 polyflex stents). All patients had immediate symptomatic relief. Follow up is as follows: 6 patients died within a year of stent insertion from their underlying malignancy, 2 were transferred back to their respective countries and were lost to follow up, the 3 remaining patients are still being follow up by the oncologist. The patient with Hodgkin's lymphoma had regression of her disease with chemotherapy and is well.

CONCLUSION

Malignant airway obstruction from extrinsic or intrinsic causes can be managed by urgent palliative airway stenting, which provide instant relief in an otherwise fatal condition. Their outcome however is still poor and is determined by their underlying malignant disease.

PREVALENCE OF SMOKING AND RESPIRATORY SYMPTOMS AMONG ADULTS IN THE RURAL AREAS

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OBJECTIVE

To determine the prevalence of smoking and respiratory symptoms among adults aged 30 years and above in rural Malaysia.

SETTING

In villages of 3 districts in Peninsula Malaysia.

SUBJECTS AND METHODS

A cross-sectional survey was carried out over 2 weeks in June 2003 in villages in Kuala Kangsar, Alor Gajah and Kuala Pilah where one randomly selected adult aged 30 years and above from each of the houses was interviewed.

RESULTS

A total of 363 adults with a mean (+S.D.) age of 53.5 (+13.3) years (range, 30 – 90 years) were interviewed. 239 (65.8%) were female, 320 (88.2%) were Malay, 33 (9.1%) were Chinese and 10 (2.8%) were Indian. 54 (14.9%) were current smokers while 33 (9.1%) were ex-smokers. The prevalence of ever smokers was 60.5% (75 of 124) in males and 5% (12 of 239) in females ($P < 0.001$). 50 of 124 (40.3%) of males and 4 of 239 (1.7%) of females were current smokers ($P < 0.001$). The mean age (+S.D.) at which all smokers started to smoke was 20.2 (+7.0) years; the earliest age was 6 years. Smokers who were still smoking (current smokers) started to smoke at a younger age [mean (+S.D.), 18.8 (+4.6) years] compared to those who had quitted smoking [mean (+S.D.), 22.4 (+9.4)] ($P = 0.019$). The mean (+S.D.) pack-year of smoking was 23.7 (+19.2).

18 individuals had physician-diagnosed asthma and one had physician-diagnosed chronic bronchitis. 36 (9.9%) had shortness of breath during physical activities, 19 (5.2%) experienced wheezing during the last 12 months, and seven (1.9%) had cough while six (1.7%) had phlegm on most days for 3 or more consecutive months in the last one year. Four of 87 (4.6%) ever smokers compared to three of 273 (1.1%) never smokers had cough on most days for 3 or more consecutive months in the last one year ($P = 0.06$). Five of 82 (5.7%) ever smokers compared to one of 275 (0.4%) never smokers coughed out phlegm on most days for 3 or more consecutive months in the last one year ($P = 0.004$).

CONCLUSION

The prevalence of smoking is high among males in these rural areas. Cough and sputum expectoration are more common among smokers.

A RETROSPECTIVE REVIEW OF TRACHEOBRONCHIAL STENTING IN UNIVERSITY MALAYA MEDICAL CENTRE

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BACKGROUND

Obstruction of the tracheobronchial airway due to unresectable malignant disease is a frightening condition that may lead to severe respiratory distress and portends a poor prognosis. Stenting is one of the treatment modalities that has been used widely recently to relieve the airway obstruction. Experience of using expandable metallic stent in our centre is reviewed to determine the efficacy of this treatment modality.

METHOD

A 4-year retrospective review of patients who undergone tracheobronchial stenting from August 2000 to April 2004. All these patients were previously diagnosed to have inoperable and severe malignant airway obstruction (either secondary to lung cancer or oesophagus cancer). A single self-expandable metallic tracheal or bronchial covered stent employing either Hanarostent or Ultraflex were used. Insertion were done via fibreoptic bronchoscope with the assistance of fluoroscope to locate precisely the site of obstruction. All patients were given nasal oxygen, local anaesthetic spray to the throat and light sedation with intravenous midazolam prior to the procedure.

RESULTS

Twelve tracheobronchial stents, one in each patient, were inserted during this period. However, only 8 patient folders were available for review. The other 4 patient folders could not be traced and hence will not be included in this review. Within these 8 patients, there were 2 female and 6 male. Their age ranged from 48 to 78. Five patients had primary lung cancer and 3 patients had primary oesophageal cancer. All patients experienced immediate relief of respiratory distress after the procedure. There was no intraprocedure death seen. One patient developed recurrent shortness of breath about 12 hours after the procedure. All other patients were able to be discharged from hospital subsequently.

Most common complication after the procedure was retention of bronchial secretion resulting in desaturation (4 patients). Other complication include stent migration (1 patient), recurrent bronchopneumonia (1 patient) and restenosis (1 patient).

There was no trachea/bronchial wall perforation or haemorrhage seen after the procedure.

Survival for most patients cannot be ascertained accurately because many of the patients loss to follow up after being discharged. One patient still survived till today after 161-day post stenting.

CONCLUSION

Tracheobronchial stenting via flexible fibreoptic bronchoscopy is a feasible and safe procedure to be performed. It is efficient in relieving respiratory distress due upper airway obstruction in majority of patients. Complications seemed to be relatively few and could be managed conservatively most of the time. Patients with obstruction secondary to squamous cell carcinoma of lungs seemed to survive longer than those with adenocarcinoma of lung or carcinoma of oesophagus. It is possible that by the time adenocarcinoma causes obstruction, they would have grown to considerable size compare to that of squamous cell carcinoma which tends to present early due to their tendency to have endobronchial growth and causing obstruction relatively early. Furthermore, the tumour doubling time for adenocarcinoma tends to be faster than squamous cell.

A DESCRIPTIVE STUDY ON SYMPTOMATOLOGY AND HEALTH OUTCOMES IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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BACKGROUND

Chronic Obstructive Pulmonary Disease (COPD) is a growing health problem worldwide and in Malaysia. Not until recently, research on COPD has been slow and difficult, partly due to the huge heterogeneity of this disease, and its variable and imprecise definitions.

OBJECTIVE

To perform a descriptive study on a convenient sample of local patients with COPD treated in a state hospital in Malaysia.

PATIENTS AND METHODS

Fifty-two patients [mean (95% CI) age: 67 (63 – 70) yrs; 86% male; mean (95% CI) PEFR: 45% (40 – 51) predicted normal] were interviewed. Clinico-demographic data was collected using a structured questionnaire and health-related quality of life was scored using St Georges' Respiratory Questionnaire (SGRQ). For analysis, patients were also divided into mild (n = 17) [PEFR ≥ 50%] and moderate-to-severe (n = 35) [PEFR < 50%] groups.

RESULTS

Except for education and total family income, demographic and comorbidity variables were comparable between the two groups of COPD severity. All except 9% of patients currently or ever smoked cigarettes. Breathlessness, not chronic bronchitis (i.e. cough and sputum), was the first ranking respiratory symptom in over 70% of the patients, whether currently or at early disease manifestation. Between 5 and 15% of the patients denied any symptom of chronic bronchitis as current or early stage symptoms. Duration of symptoms prior to the diagnosis varied considerably with about 9% having symptoms for over 10 years. Over 80% of the patients smoked for over 15 yrs before the onset of symptoms. Quality of life in patients with COPD was generally poor and similar between both COPD severity groups. About one fifth of the patients had exacerbations more than 12 times a year.

CONCLUSIONS

While many features described in our local patients are well recognized in COPD, the finding that 'chronic bronchitis' is not a prominent symptom in current or past history may have important implication in the diagnosis of at risk individuals and patients with early disease requiring attention. More research is required to confirm and to understand this.

TB CONTROL PROGRAMME IN MALAYSIA

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The National TB Control Programme in Malaysia was launched in 1961. At that time it functioned as a vertical programme and the National TB Centre at Jalan Pahang was the headquarters of the programme. In 1995, the programme was integrated with the basic health services. The headquarters was shifted to the Ministry of Health. Over the years from 1961, the prevalence of TB declined until 1995 when it began to show an upward trend. Several factors were responsible for this increasing trend. In the year 2000, the total number of cases reached a peak at 15,000 cases. Subsequently we emphasized the use of DOTS strategy, introduced revised TB management guidelines and introduced the new TB Information System. Over the last three years the trend appears to be reversed. However mortality data for the 30 – 50 year age group continues to show an increase. The HIV epidemic is probably responsible for this. A well coordinated effort between the TB Control Programme, HIV Programme and the NGO (MAPTB) is necessary if we are to reduce the TB problem much more.