MALAYSIAN THORACIC SOCIETY

LUNG FOUNDATION OF MALAYSIA

MALAYSIAN THORACIC SOCIETY
ANNUAL CONGRESS 2014

12th – 15th June 2014

Holiday Inn
Melaka, Malaysia

SOUVENIR PROGRAMME & ABSTRACT BOOK

Be Prepared with Symbicort®

Symbicort is indicated for treatment of Asthma & COPD with

- Fast onset-of-action[1]
- Unique SMART indication and flexible SMART dosing for Asthma[2,6]
- Significant and sustained improvement in lung function and exacerbation reduction[2-5]

FOR ASTHMA **160/4.5 mcg**

1-2 inhalation BID + prn

For Adults dosage only.

*SMART therapy is indicated for Adults 18 years and older

**Not more than 6 inhalations should be taken on a single occasion and 12 inhalations daily for a limited period of time

FOR COPD **320/9 mcg**

1 inhalation BID

References:
1. Balanag et al., Pulm Pharm Ther 2006 ; 19:139-147. 2. O'Byrne et al. Am J Respi Crit Care Med 2005; 171:129-136. 3. Vogelmeier et al. Eur Respir J. 2005; 26:819-828. 4. Szafranski et al. Eur Respir J. 2003; 21:74-81. 5. Calverley et al. Eur Respir J. 2003; 22:912-919. 6. Symbicort® Prescribing Information.

SYMBICORT Turbuhaler Abbreviated Prescribing Information:

Indications: Asthma- Symbicort is indicated in the regular treatment of asthma where use of a combination (inhaled corticosteroid and long-acting beta2-agonist) is appropriate:- patients not adequately controlled with inhaled corticosteroids and "as needed" inhaled short-acting beta2-agonists or patients already adequately controlled on both inhaled corticosteroids and long-acting beta2-agonists. **COPD**- Symptomatic treatment of patients with severe COPD (FEV1< 50% predicted normal) and a history of repeated exacerbations, who have significant symptoms despite regular therapy with long-acting bronchodilators. **SYMBICORT Turbuhaler 320/9 mcg/inhalation Recommended doses: Asthma - Symbicort maintenance therapy. Adults (18 years and older):** 1-2 inhalations BD. **Adolescents (12-17 years):** 1 inhalation twice daily. **COPD - Adults (18 years and older):** 1 inhalations BD. Symbicort 320/9 micrograms/inhalation is not recommended for children under 12 years of age. **SYMBICORT Turbuhaler 160/4.5 mcg/inhalation Recommended doses: Asthma- (A) Symbicort maintenance therapy. Adults (18 years and older):** 1-2 inhalations BD. **Adolescents (12-17 years):** 1-2 inhalations BD. **(B) Symbicort maintenance and reliever therapy (SMART). Adults (18 years and older):** 2 inhalations per day, given either as 1 or 2 inhalations in either the morning or evening. Patients should take 1 additional inhalation as needed in response to symptoms. If symptoms persist after a few minutes, an additional inhalation should be taken. Not more than 6 inhalations should be taken on any single occasion. **COPD - Adults (18 years and older):** 2 inhalations BD. **SYMBICORT Turbuhaler 80/4.5 mcg/inhalation Recommended doses: Asthma - Symbicort maintenance therapy.** Children (6 years and older): 2 inhalations BD. **Contraindications:** Hypersensitivity (allergy) to budesonide, formoterol or inhaled lactose. **Special precautions:** Dose should be tapered when the treatment is discontinued and should not be stopped abruptly. Sudden and progressive deterioration in control of asthma or COPD is potentially life threatening and the patient should undergo urgent medical assessment. Concomitant treatment with intraconazole, ritonavir or other potent CYP3A4 inhibitors should be avoided. Symbicort should be administered with caution in patients with thyrotoxicosis, phaeochromocytoma, diabetes mellitus, untreated hypokalaemia, hypertrophic obstructive cardiomyopathy, idiopathic subvalvular aortic stenosis, severe hypertension, aneurysm or other severe cardiovascular disorders, such as ischaemic heart disease, tachyarrhythmias or severe heart failure. Formoterol itself may induce prolongation of the QTc-interval. Potentially serious hypokalaemia may result from high doses of beta2-agonists. Possible systemic effects particularly at high doses prescribed for long periods eg. adrenal suppression, growth retardation in children and adolescents, decrease in bone mineral density, cataract and glaucoma. **Undesirable Effects:** Common- palpitations, candida infections in the oropharynx, headache, tremor, mild irritation in the throat, hoarseness, coughing. **Pregnancy and lactation:** No clinical data on exposed pregnancies are available. Data on approximately 2000 exposed pregnancies indicate no increased teratogenic risk associated with the use of inhaled budesonide. Budesonide is excreted in breast milk. However, at therapeutic doses no effects on the suckling child are anticipated. It is not known whether formoterol passes into human breast milk.

Further information available on request
Please consult local full prescribing information before prescribing
For Healthcare Professional Only

AstraZeneca Sdn Bhd (69730-X)
Level 12, Surian Tower
1 Jalan PJU 7/3, Mutiara Damansara
47810 Petaling Jaya, Malaysia
Tel: 603 7723 8000
Fax: 603 7723 8001

AstraZeneca

Symbicort®
budesonide/formoterol

MY_Symbicort_100,315.022_23/04/2014

ONCE DAILY
SINGULAIR®
(montelukast sodium, MSD)
Take Control.

Let Kids Be Kids

#1-selling pediatric asthma controller brand for kids worldwide[a,2]

- **Effective asthma control[2]**
- **Easy once-daily dosing[2]**
- **Nonsteroidal[2]**
- **Generally well tolerated[2]**

PRACTALL Pediatric Consensus Report January 2008

Evidence supports use of montelukast as an initial controller therapy for mild asthma in children.[1]

Before prescribing SINGULAIR, please consult the full Prescribing Information.

[a] IMS Health, MIDAS Prescribing Insights, MAT March 2011, IMS Health Incorporated. All rights reserved.

The PRACTALL programme on asthma in childhood was supported by an unrestricted educational grant from MSD.

SELECTED SAFETY INFORMATION

SINGULAIR is indicated for the prophylaxis and chronic treatment of asthma in adults and pediatric patients 12 months of age and older. SINGULAIR is indicated in adults and pediatric patients 2 years of age and older for the relief of daytime and nighttime symptoms of seasonal allergic rhinitis. SINGULAIR is contraindicated in patients with hypersensitivity to any component of this product. Patients should be advised to continue taking SINGULAIR even if their asthma is under control, as well as during periods of worsening asthma. In clinical studies, the only adverse experiences reported as drug related in > 1 % of patients treated with SINGULAIR and at a greater incidence than in patients treated with placebo were: Patients aged 15 years and older with asthma: abdominal pain and headache; Patients aged 6 to 14 years with asthma: headache; Patients aged 2 to 5 years with asthma: thirst; Patients aged 6 months to 2 years with asthma: diarrhea, hyperkinesia, asthma, eczematous dermatitis, and rash; Patients aged 15 years and older with seasonal or perennial allergic rhinitis: none; Patients aged 2 to 14 years with seasonal allergic rhinitis: none. The incidence of these adverse experiences was not significantly different in the 2 treatment groups. The dosage for adults aged 15 years and older is one 10-mg tablet daily. The dosage for pediatric patients with Asthma and/or Seasonal Allergic Rhinitis aged 6 to 14 years is one 5-mg chewable tablet daily. The dosage for pediatric patients with Asthma and/or Seasonal Allergic Rhinitis aged 2 to 5 years is one 4-mg chewable tablet daily or 1 packet of 4-mg oral granules daily. The dosage for pediatric patients 12 months to 2 years of age is one packet of 4-mg oral granules daily.

References: 1. Bacharier LB, Boner A, Carlsen K-H, et al. Diagnosis and treatment of asthma in childhood: a PRACTALL consensus report. Allergy. 2008;63:5–34. **2.** Data on file, MSD Malaysia.

T2-9, Jaya 33, No.3 (Lot 33), Jalan Semangat, Seksyen 13, 46100 Petaling Jaya, Selangor Darul Ehsan, Malaysia. **T:** (603) 7718 1600 **F:** (603) 7718 1700 www.msd-malaysia.com

RESP-1085397-0000 05/13

MSD

Toward maximizing bronchodilation with once-daily

Onbrez® Breezhaler®[1]

With Onbrez® Breezhaler® 150 µg, COPD patients experiencing breathlessness can benefit from:

- *Improvement in lung function (FEV_1) as effective as tiotropium*[1]
- *Rapid onset of action within 5 minutes from the first dose*[2]
- *Significantly greater improvements in breathlessness and health-related quality of life compared with tiotropium*[1]
- *Significant reduction in the use of and need for rescue medication compared with tiotropium*[1]
- *A device that allows patients to **hear, feel, and see** that they have taken the full dose correctly*[3]

Once Daily
onbrez®
breezhaler®
indacaterol inhalation powder

Prescribe once-daily Onbrez® Breezhaler® for your COPD patients and see the benefits of moving toward maximizing bronchodilation[1]

Basic Succinct Statement

ONBREZ® BREEZHALER®: Important note: Before prescribing, consult full prescribing information. **Presentation:** Inhalation powder hard capsules containing indacaterol maleate equivalent to 150 microgram (mcg) indacaterol; inhalation powder hard capsules containing indacaterol maleate equivalent to 300 mcg indacaterol. **Indications:** ONBREZ® BREEZHALER® is a long-acting β_2-agonist indicated for maintenance bronchodilator treatment of airflow obstruction in adult patients with chronic obstructive pulmonary disease (COPD). **Dosage:** Adults: recommended dosage is the once-daily inhalation of the content of one 150 mcg capsule using the ONBREZ® BREEZHALER® inhaler. The dosage should only be increased on medical advice. Once-daily inhalation of the content of one 300 mcg capsule using the ONBREZ® BREEZHALER® inhaler, has been shown to provide additional clinical benefit to some patients, e.g. with regard to breathlessness, particularly for patients with severe COPD. The maximum dose is 300 mcg once-daily. Children (<18 years): should not be used in patients under 18 years of age. Special patients population: no dosage adjustment is required for geriatric patients, patients with mild and moderate hepatic impairment, or renally impaired patients; no data is available for subjects with severe hepatic impairment. Method of administration. ONBREZ® BREEZHALER® capsules must be administered only by the oral inhalation route and only using the ONBREZ® BREEZHALER® inhaler. Capsules must not be swallowed. ONBREZ® BREEZHALER® should be administered at the same time of the day each day. If a dose is missed, the next dose should be taken at the usual time the next day. Capsules must always be stored in the blister, and only removed immediately before use. **Contraindications:** none. **Warnings/Precautions:** • asthma: should not be used in asthma • paradoxical bronchospasm: as with other inhalation therapy, administration may result in paradoxical bronchospasm that may be life-threatening. If paradoxical bronchospasm occurs, ONBREZ® BREEZHALER® should be discontinued immediately and alternative therapy instituted • deterioration of disease: in case of deterioration of COPD whilst on treatment, a re-evaluation of the patient and COPD treatment regimen should be undertaken • systemic effects: as with other β_2-adrenergic agonists, should be used with caution in patients with cardiovascular disorders (coronary artery disease, acute myocardial infarction, cardiac arrhythmias, hypertension); in patients with convulsive disorders or thyrotoxicosis; in patients who are unusually responsive to β_2-adrenergic agonists • cardiovascular effects: like other β_2-adrenergic agonists, may produce a clinically significant cardiovascular effect in some patients as measured by increases in pulse rate, blood pressure, and/or symptoms, ECG changes • hypokalaemia: β_2-adrenergic agonists may produce significant hypokalemia in some patients, which has the potential to produce adverse cardiovascular effects. In patients with severe COPD, hypokalemia may be potentiated by hypoxia and concomitant treatment which may increase the susceptibility to cardiac arrhythmias • hyperglycaemia: clinically notable changes in blood glucose and/or serum potassium were generally more frequent by 1 to 2% during clinical studies at the recommended doses than on placebo • should not be used in conjunction with other long-acting β_2-adrenergic agonists or medications containing long-acting β_2-adrenergic agonists. **Pregnancy:** should be used during pregnancy only if the expected benefit justifies the potential risk to the foetus. **Breast-feeding:** should only be considered if the expected benefit to the woman is greater than any possible risk to the infant. **Fertility:** reproduction studies or other data in animals did not reveal a problem or potential problem concerning fertility in either males of females. **Interactions:** • should be administered with caution to patients being treated with monoamine oxidase inhibitors, tricyclic antidepressants, or drugs known to prolong the QT interval • concomitant administration of other sympathomimetic agents may potentiate the undesirable effects • concomitant treatment with methylxanthine derivatives, steroids, or non-potassium sparing diuretics may potentiate the possible hypokalaemic effect of β_2-adrenergic agonists • should not be given together with beta-adrenergic blockers (including eye drops) unless there are compelling reasons for their use • inhibition of the key contributors of indacaterol clearance, CYP3A4 and P-gp, has no impact on safety of therapeutic doses. **Adverse reactions:** • Common (1 to 10%): nasopharyngitis, upper respiratory tract infection, cough, muscle spasm, oropharyngeal pain, sinusitis, myalgia, peripheral oedema, ischaemic heart disease, diabetes mellitus and hyperglycaemia, dry mouth, rhinorrhoea, musculoskeletal pain, chest pain • Uncommon (0.1 to 1%): atrial fibrillation, chest discomfort, vertigo, paresthesia. **Packs:** Pack of 30 capsules and 1 inhaler. **Note:** Before prescribing, please read full prescribing information. BSS RD 27 JAN 2012; APPR 29 DEC 2012.

For full prescribing information, please contact:

NOVARTIS

Novartis Corporation (Malaysia) Sdn Bhd (10920H)
Level 22, Tower B, Plaza 33, No.1, Jalan Kemajuan, Seksyen 13,
46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia.
Tel: 03-7948 1888 Fax: 03-7948 1818 www.novartis.com

References:

1. Buhl R, Dunn LJ, Disdier C, Lassen C, Amos C, Henley M, Kramer B, on behalf of the INTENSITY study investigators. Blinded 12-week comparison of once-daily indacaterol and tiotropium in COPD. [In press].
2. Balint B, Watz H, Amos C, Owen R, Higgins M, Kramer B, on behalf of the INSURE study investigators. Onset of action of indacaterol in patients with COPD: comparison with salbutamol and salmeterol-fluticasone. *Int J COPD.* 2010;5:311-318.
3. Onbrez® Breezhaler® Malaysia Prescribing Information dated 16 Dec 2010.

OBZ-ADV/0614/Mal

START SPIRIVA® when COPD symptoms impact everyday life

LIFE CAN'T WAIT.

SPIRIVA®* once-daily COPD maintenance treatment provides...

- Prompt† and sustained reduction of breathlessness [1,2*]
- Reduced risk of COPD exacerbations [3,5*‡]
- Improved quality of life [4,5,6*‡]

References: 1. O'Donnell DE, Flüge T, Gerken F, et al. Effects of tiotropium on lung hyperinflation, dyspnoea and exercise tolerance in COPD. Eur Respir J. 2004;23(6):832-840. **2.** Casaburi R, Mahler DA, Jones PW, et al. A long-term evaluation of once-daily inhaled tiotropium in chronic obstructive pulmonary disease. Eur Respir J. 2002;19(2):217-224. **3.** Vogelmeier C, Hederer B, Glaab T, et al; for the POET-COPD Investigators. Tiotropium versus salmeterol for the prevention of exacerbations of COPD. N Engl J Med. 2011;364(12):1093-1103. **4.** Troosters T, Celli B, Lystig T, et al; for the UPLIFT® Investigators. Tiotropium as a first maintenance drug in COPD: secondary analysis of the UPLIFT® trial. Eur Respir J. 2010;36(1):65-73. **5.** Tashkin DP, Celli B, Senn S, et al; for the UPLIFT® Study Investigators. A 4-year trial of tiotropium in chronic obstructive pulmonary disease. N Engl J Med. 2008;359(15):1543-1554. **6.** Tonnel AB, Perez T, Grosbois JM, Verkindre C, Bravo M-L, Brun M; for the TIPHON study group. Effect of tiotropium on health-related quality of life as a primary efficacy endpoint in COPD. Int J Chron Obstruct Pulmon Dis. 2008;3(2):301-310. * Clinical data presented refer to treatment with once-daily SPIRIVA® 18 µg via HandiHaler®. † Improved breathlessness during exercise after the first dose. ‡ While SPIRIVA® 18 µg via HandiHaler® did not alter the rate of decline in lung function, a coprimary study endpoint in the UPLIFT® study, it sustained greater improvements in lung function vs placebo.

Further scientific information available upon request

Boehringer Ingelheim

Boehringer Ingelheim (Malaysia) Sdn. Bhd. (Co. 149591-H)
Suite 15-5, Level 15 Wisma UOA Damansara II,
No 6 Jalan Changkat Semantan, Damansara Heights, 50490 Kuala Lumpur.
P O Box No 12385, 50776 Kuala Lumpur

SPIRIVA® (tiotropium) Respimat® Soft Mist™ Inhaler

For healthcare professionals only

ONCE DAILY

Avelox®

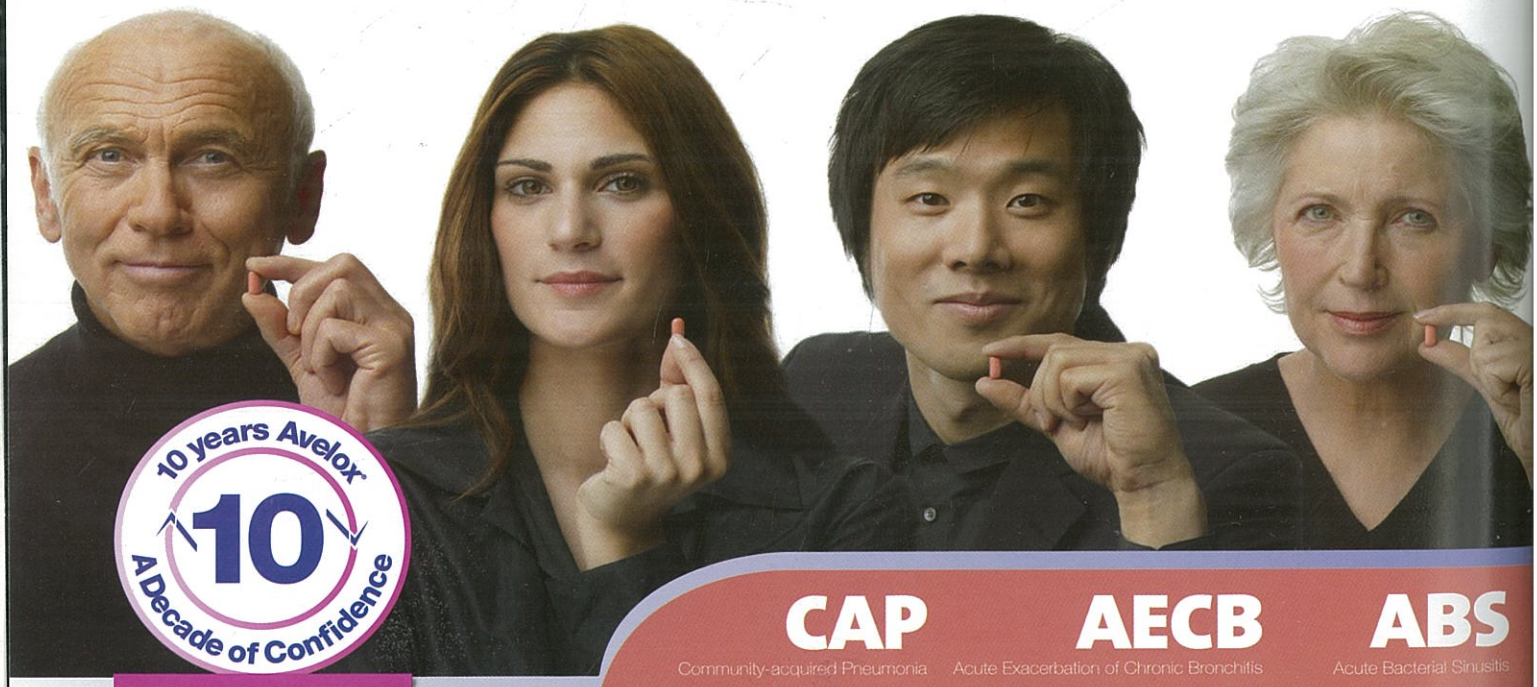
oral / iv moxifloxacin 400 mg

Rapid Recovery[1] **and Targeted Coverage**[2]

Think about:

Trust.

Trust is based on experience.
Again and again.



10 years Avelox
10
A Decade of Confidence

once daily

CAP Community-acquired Pneumonia

AECB Acute Exacerbation of Chronic Bronchitis

ABS Acute Bacterial Sinusitis

cSSSI Complicated skin and skin structure infections

cIAI Complicated intra-abdominal infections

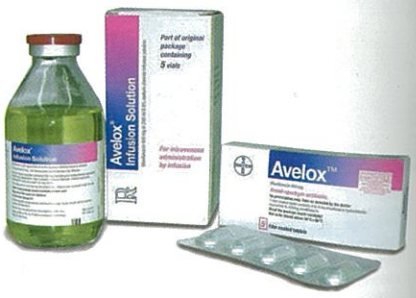
PID Pelvic Inflammatory Infections

For Healthcare Professionals only.

References: 1. Ariza H et al. BMC ENT Disorders 2006;6:8-14. **2.** Avelox Product Info.

ABBREVIATED PRESCRIBING INFORMATION.

Brand name: Avelox **Active ingredient:** Moxifloxacin Indications: Avelox tablets are indicated for the treatment of adults (> 18 years of age) with the following bacterial infections caused by susceptible strains: Acute sinusitis; Acute exacerbations of chronic bronchitis; Community acquired pneumonia; Mild to moderately severe inflammatory pelvic diseases (i.e. Infections of the upper female genital tract, including salpingitis and endometritis), without an associated tubo-ovarian or pelvic abscess. Avelox 400 mg film-coated tablets are not recommended for monotherapy of mild to moderately severe inflammatory pelvic diseases. Preferably, they should be administered in combination with another suited antibiotic (such as cephalosporin), due to the increasing resistance of Neisseria gonorrhoeae to moxifloxacin; that is, unless moxifloxacin-resistant Neisseria gonorrhoeae can be ruled out; Complicated skin and skin structure infections; Complicated intra-abdominal infections including polymicrobial infections such as abscesses. Avelox solution for infusion is indicated for the treatment of adults (> 18 years of age) with the following bacterial infections caused by susceptible strains: Community acquired pneumonia; Complicated skin and skin structure infections; Complicated intraabdominal infections including polymicrobial infections such as abscesses. Consideration should be given to official guidance on the appropriate use of antibacterial agents. **Dosage and method of administration:** The recommended dose for moxifloxacin is 400 mg once daily (1 film-coated tablet or 250 ml solution for infusion, respectively) for the above mentioned indications and should not be exceeded. The film-coated tablet should be swallowed whole with sufficient liquid and may be taken independent of meals. The solution for infusion should be infused intravenously over 60 minutes. For more details, please refer to full prescribing information. **Contraindications:** Known hypersensitivity to any component of Moxifloxacin or other quinolones or any of the excipients; **Pregnancy and lactation;** Patients below 18 years of age. **Special warnings and special precautions for use:** In some instances, the hypersensitivity and allergic reactions already occurred after the first administration and the doctor should be informed immediately. Anaphylactic reactions in very rare instances can progress to a life threatening shock, in some instances after the first administration. Moxifloxacin has been shown to prolong the QT interval of the electrocardiogram in some patients. Cases of fulminant hepatitis potentially leading to liver failure (including fatal cases) have been reported with moxifloxacin. Cases of bullous skin reactions like Stevens-Johnson syndrome or toxic epidermal necrolysis have been reported with moxifloxacin. Seizures may occur with quinolone therapy. Antibiotic associated colitis has been reported with the use of broad-spectrum antibiotics including moxifloxacin. Moxifloxacin should be used with caution in patients with myasthenia gravis because the symptoms can be exacerbated. Fluoroquinolones have neuromuscular blocking activity and may exacerbate weakness in person with myasthenia gravis. Post marketing serious adverse events, including deaths and requirement for ventilator support have been associated with fluoroquinolones use in persons with myasthenia gravis.The risk of developing fluoroquinolone-associated tendonitis and tendon rupture is further increased in people older than 60, in those taking corticosteroid drugs, and in kidney, heart, and lung transplant recipients. For patients with complicated pelvic inflammatory disease, treatment with intravenous, rather than oral Moxifloxacin is recommended. In patients for whom sodium intake is of medical concern the additional sodium load of the solution for infusion should be taken into account. **Undesirable effects:** Common adverse drug reactions reported include: Infections and infestations:- Mycotic superinfections; Nervous system disorders: Headache, Dizziness; Cardiovascular system disorders: QT prolongation in patients with hypokalaemia; Gastrointestinal disorders: Nausea, Vomiting, Gastrointestinal and abdominal pains, Diarrhea; Hepatobiliary disorders: Increase in transaminases; General disorders and administration site conditions: Injection and infusion site reactions For further prescribing information, please contact: Bayer HealthCare, T1-14 Jaya 33, No. 3 Jalan Semangat, Seksyen 13, 46200 Petaling Jaya, Selangor. Subject to medical prescription. **Date of text revision:** 23.10.2013.



Thank you for your trust in us. For more information, please contact :

Bayer HealthCare

Unit T1-14, Tower 1, Jaya 33, No 3, Jalan Semangat,
Seksyen 13, 46200 Petaling Jaya, Selangor, Malaysia.
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Contents

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MTS Annual Congress 2014
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Message from the President of the Malaysian Thoracic Society

Dear Colleagues and Friends

Welcome to the Annual Scientific Congress of the Malaysian Thoracic Society 2014, held in the historical city of Malacca. As in previous years, we invite you to participate eagerly in the scientific symposia, grand rounds, meet-the-expert sessions, scientific paper presentations and various workshops that the Organising and Scientific Committees have put together with you in mind.

The past year has been a busy one for the Society with workshops, lectures and CME seminars being held throughout the year. One notable effort has been the move to train and certify the performance of spirometry testing by local lung function test providers. In an attempt to standardize the local practice of spirometry to conform to internationally-recognized best practice standards, the Society sent two Members to become Certified Trainers under the European Respiratory Society Spirometry Driving Licence Project. It is intended to enhance high-quality spirometric testing for accurate diagnosis of patients with respiratory disease.

Several challenges lie ahead in the landscape for the Society. Recent developments in the pharmaceutical and medical equipment industry will mean that corporate participation in future CME/CPD events will be more regulated and limited in scope and nature. The Society will seek ways to continue to work in partnership with industry in the best interests of the profession. On a brighter note, the field of respiratory medicine in Malaysia continues to grow rapidly, with interventional pulmonology and sleep medicine meetings attracting good attendance under the auspices of the Sleep Disorders Society Malaysia and the newly-formed Malaysian Association of Bronchology and Interventional Pulmonology. The Society also has formed several dedicated interest groups to spearhead education in certain areas. I am also pleased to announce that the Malaysian Thoracic Society has been chosen to host the IASLC Asia Pacific Lung Cancer Conference, 6th – 8th November 2014 with the Malaysian Oncological Society, and also the Congress of the Asian-Pacific Society of Respirology, 3rd – 6th December 2015 in Kuala Lumpur, so do block your dates.

Lastly, I wish to extend my deepest appreciation to the members of the Organising and Scientific Committees under the leadership of Dr Kauthaman Mahendran, Organising Chairman, for their tireless efforts in making this Congress a reality. This meeting would also not be possible without the support of our industry partners, the Lung Foundation of Malaysia and the Secretariat to whom I wish to extend my heartfelt thanks.

Have a wonderful meeting.

Roslina Abdul Manap

Prof Dr Roslina Abdul Manap

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 Malaysian Thoracic Society Annual Congress 2014 which is held in this historical city of Melaka. As in the past, this year's Congress will feature a comprehensive range of topics in lung diseases, covering basic sciences to state-of-the-art technology for caring of patients; from common infection to rare interstitial lung diseases; from preventive care to the most advance curative and palliative therapies. I trust you will find the Congress to be highly educational and interesting. I also hope you will be able to find time to explore the city of Melaka which was among the earliest trade centre and port city in Malaya, where Arab, Indian, Chinese, Portugese, Dutch and English's presence can still be felt.

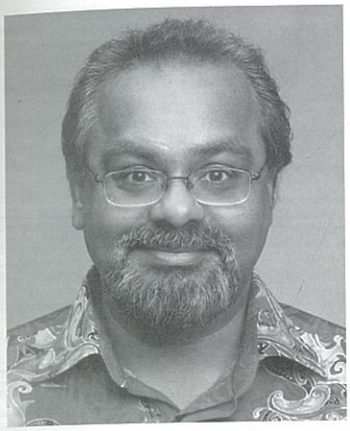
In line with our objective of promoting research in lung diseases, I am pleased to inform that the Foundation had, early this year, approved a research grant worth RM 60,000 for a research entitled "Enhancing public-private partnership in the implementation of TB control programme in Malaysia"; the project had just rolled out. The LFM will again provide awards for winners of oral and poster presentations, at this Congress. It is gratifying to note that over the years, more and more papers with improved quality are presented at the Congress. I trust the quality of research can just be better and better.

The Annual Congress is not only a place to learn new knowledge or exchange ideas, but I believe also a place to meet up with old friends and make new ones. Do not miss the opportunity to widen your network especially with people who share the same interest with you.

I hope you will have an enjoyable and fruitful meeting.

Dato' Dr Zainudin bin Md Zin

Message from the Organising Chairman of the MTS Annual Congress 2014



Make every breath count.

Breathing is arguably the most recognised action we perform every day to keep ourselves alive. The heart pumps but we don't feel it. Our kidneys and liver clean our blood, our gut absorbs nutrients and our brain sends and receives signals. But it's still our breathing that we readily identify with every moment.

How much care do we give to this wonderful organ called our "lungs"? It appears we may be more concerned with our blood pressure, blood sugar and blood cholesterol. How many of us know our Forced Vital Capacity or our Forced Expiratory Volume in the first second of our Peak Flow rates?

Maybe it's time to pay a little more attention. I invite you all to revisit the health and ailments of our lungs at the MTS Annual Congress 2014 in the UNESCO Heritage City of Melaka.

We promise something for everyone; workshops on basic lung X-rays and CT-scans, smoking cessation, use of inhalers, thoracic ultrasound, and a Gala Dinner where we want you to don the most "heritage baju' you have. Not to forget the two and a half days of scientific updates on asthma, COPD, TB, pneumonia, sleep medicine and more.

Dr Kauthaman Mahendran

Programme Summary

Date / Time	12th June 2014 Thursday		13th June 2014 Friday
0700 – 0800			Registration
0800 – 0900	**CONGRESS WORKSHOP 1** [0800 – 1700] at Melaka Manipal Medical College		Welcome Address **Plenary 1**
0900 – 1000			**Symposium 1**
1000 – 1100			Tea
1100 – 1200			**Symposium 2**
1200 – 1300			Sponsored Symposium 2 *AstraZeneca*
1300 – 1400			Lunch and Friday Prayers
1400 – 1500		**CONGRESS WORKSHOPS 2, 3, 4, 5** [1400 – 1700] at Holiday Inn Melaka	**Symposium 3**
1500 – 1600			Sponsored Symposium 3 *Novartis*
1600 – 1700			Tea & **MTS Annual General Meeting**
1700 – 1800			
1800 – 1900	Sponsored Symposium 1A *AFT Orphan Ltd*	Sponsored Symposium 1B *EP Plus Group Sdn Bhd*	Sponsored Symposium 4 *Bayer*
1900 – 2030	Dinner		Dinner

Programme Summary

Time \ Date	14th June 2014 Saturday	15th June 2014 Sunday
0700 – 0800	**Meet-The-Expert Session**	
0800 – 0900	**Plenary 2**	**Plenary 3**
0900 – 1000	**Symposium 4**	**Symposium 6**
1000 – 1100	Tea	Tea
1100 – 1200	**Symposium 5**	Sponsored Symposium 8 *Pfizer* **Debate**
1200 – 1300	Sponsored Symposium 5 *GlaxoSmithKline Pharmaceutical*	Closing Ceremony
1300 – 1400	Lunch	Lunch
1400 – 1500	**Concurrent Grand Rounds**	
1500 – 1600	**Concurrent Oral and Poster Presentations**	
1600 – 1700	Sponsored Symposium 6A *Boehringer-Ingelheim* / Sponsored Symposium 6B *Cipla Malaysia* Tea	
1700 – 1800	Meeting of Trainers and Trainees	
1800 – 1900		
1900 – 1940	Sponsored Symposium 7 *Merck Sharp & Dohme (Malaysia)*	
1940 – 2200	**MTS Gala Dinner**	

[0830 – 1230] **Public Forum And Exhibition On Lung Health**

WORKSHOP 1
Emergency Thoracic And Lung Ultrasonography (E-TLUS)

Date : 12th June 2014 (Thursday) *Time :* 0830 hrs to 1700 hrs

Venue : **Melaka Manipal Medical College, Sports Complex Auditorium, Bukit Baru, Melaka**

Workshop coordinator : **Dr Punit Bedi**

Programme

0830 – 0900	Registration
0900 – 0915	Inauguration & welcome address *Prof Datuk Dr Abdul Razzak* *Prof Dr Jaspal Singh* *Dr Kauthaman Mahendran*
0915 – 0935	Role of ultrasound in thoracic emergencies – An overview *Dr Farina Mohd Salleh*
0935 – 0955	Know the machine & knobology *Dr Lim Teng Cheow*
0955 – 1045	Lung ultrasound *Dr Adi Osman*
1045 – 1100	Tea / Coffee
1100 – 1130	Approach to basic echocardiography – 1 *Dr Punit Bedi*
1130 – 1200	Approach to basic echo – 2 & volume assessment *Dr Lim Teng Cheow*
1200 – 1225	The BLUE protocol *Dr Farina Mohd Salleh*
1225 – 1245	The RUSH protocol *Dr Punit Bedi*
1245 – 1320	Clinical approach to E-TLUS in emergency *Dr Adi Osman*
1320 – 1420	Q & A and distribution into groups A, B & C; followed by Lunch
1420 – 1650	Hands-on workshop
1540 – 1600	Tea / Coffee
1650 – 1700	Valediction and certification

WORKSHOP 2
Respiratory Imaging

Date : 12th June 2014 (Thursday) *Time :* 1400 to 1700 hrs

Venue : **Holiday Inn, Melaka**

Workshop coordinator : **Dr Adelyn Nisha**

Programme

1400 – 1430	The basics and approach to the plain chest X-ray ***Dr Aminul Khairiah Abdul Majid***
1430 – 1500	Quiz on interesting CXR ***Dr Aminul Khairiah Abdul Majid***
1500 – 1530	The basics and approach to the CT Thorax ***Dr Marlina Tanty Ramli Hamid***
1530 – 1600	Quiz on interesting CT Thorax ***Dr Marlina Tanty Ramli Hamid***
1600 – 1615	Tea
1615 – 1700	CT and ultrasound guided thoracic procedures ***Dr Marlina Tanty Ramli Hamid***

WORKSHOP 3
Inhalers: How to Choose, How to Use?

Date : 12th June 2014 (Thursday) *Time :* 1400 to 1700 hrs

Venue : **Holiday Inn, Melaka**

Workshop coordinators : **Dr Jalil Ishak, Puan Suhadah Ahad**

Programme

1400 – 1410	Introduction and pre-test ***Puan Suhadah Ahad***
1410 – 1430	Airway anatomy, mechanisms of particle deposition, benefits and risks of inhalation therapy ***Dr Jalil Ishak***
1430 – 1450	Inhaler devices – Metered dose inhaler, dry powder inhaler and spacers ***Dato' Dr Zainudin Md Zin***
1450 – 1510	Nebuliser and inhalation therapy for infants and children and in special situation ***Dr Norzila Mohamed Zainudin***
1510 – 1530	The role of patient's educator in optimising inhalation therapy ***Puan Suhadah Ahad***
1530 – 1550	Q & A
1550 – 1600	Tea
1600 – 1650	Hands-on session
1650 – 1700	Post test and closing ***Dr Jalil Ishak***

WORKSHOP 4
Smoking Cessation

Date : 12th June 2014 (Thursday) *Time :* 1400 to 1700 hrs

Venue : **Holiday Inn, Melaka**

Workshop coordinator : **Dr Ruhaiza Mohamad**

Programme

1400 – 1415	Introduction to workshop and ice breaking ***Dr Ruhaiza Mohamad***
1415 – 1500	Evidence-based treatment for smoking cessation *[page 23]* ***Datuk Dr Aziah Ahmad Mahayiddin***
1500 – 1550	Behavioural and pharmacological approaches to smoking cessation ***Assoc Prof Dr Mohamad Haniki Nik Mohamed***
1550 – 1600	Tea
1600 – 1700	**Forum** Tips on how to start your own quit smoking service at your place of work

WORKSHOP 5
Pulmonary Rehabilitation

Date : 12th June 2014 (Thursday) *Time :* 1400 to 1700 hrs

Venue : **Holiday Inn, Melaka**

Workshop coordinator : **Dr Ng Khai Lip**

Programme

1400 – 1415	Registration
1415 – 1445	Introduction to pulmonary rehabilitation ***Dr Fauzi Md Anshar***
1445 – 1515	Physiotherapist's role in a pulmonary rehabilitation programme ***Mr Riza Sharom Abdul Razak***
1515 – 1545	Case discussion / Q & A
1545 – 1600	Tea
1600 – 1700	Practical sessions – Breathing exercises – Manual techniques – Adjunct therapy ***Mr Riza Sharom Abdul Razak and Facilitators***

Daily Programme
12th June 2014 | Thursday

1800 – 1900 **Sponsored Symposium 1A – *AFT Orphan Ltd*** >> FUNCTION ROOM 2

Chairperson: Dr Wong Jyi Lin

Idiopathic pulmonary fibrosis: Overview of a deadly disease [page 23]

Dr Felix Chua

1800 – 1900 **Sponsored Symposium 1B – *EP Plus Group Sdn Bhd*** >> FUNCTION ROOM 1

Chairperson: Prof Dr Liam Chong Kin

High dose of N-acetylcysteine in the prevention of COPD exacerbations (PANTHEON study)

Prof Dr Zheng Jin Peng

1900 Dinner

Daily Programme
13th June 2014 | Friday

0700 – 0800 Registration

0800 – 0810 Welcome address by >> STRAITS EAST BALLROOM

- Prof Dr Roslina Abdul Manap, *President, Malaysian Thoracic Society*
- Dr Kauthaman Mahendran, *Organising Chairman, MTS Annual Congress 2014*

0810 – 0850 **PLENARY 1** >> STRAITS EAST BALLROOM

Chairperson: Prof Dr Liam Chong Kin

Respiratory medicine in Malaysia: The past, the present and the future [page 24]

Dato' Dr Abdul Razak Abdul Muttalif / Dr Norzila Mohamed Zainudin

0850 – 1020 **SYMPOSIUM 1** >> STRAITS EAST BALLROOM

S1A – Chronic Obstructive Pulmonary Disease

Chairpersons: Dr Nurhayati Mohd Marzuki
Dr Irfhan Ali Hyder Ali

Managing the difficult COPD patient [page 24]

Prof Dr David Halpin

Systemic effects of COPD – Looking beyond FEV1 [page 25]

Dr Sundari Ampikaipakan

Non-invasive ventilation in acute exacerbation of COPD [page 25]

Dr Norhaya Mohd Razali

0850 – 1020 ***S1B – Infection*** >> FUNCTION ROOM 3

Chairpersons: Dr Goon Ai Khiang
Dr Goh Kee San

Pleural space infections [page 26]

Dr K Kannan

The use of biomarkers in the management of pneumonia and sepsis [page 26]

Prof Dr John Abisheganaden

Pulmonary *aspergillosis* [page 27]

Dr Sanjay H Chotirmall

Daily Programme
13th June 2014 | Friday

0850 – 1020 **_S1C (Paediatric) – Year In Review_** >> FUNCTION ROOM 2

Chairpersons: Dato' Dr Azizi bin Hj Omar
Dr Ahmad Fadzil Abdullah

Management of ARDS [page 28]
Assoc Prof Dr Tang Swee Fong

Ventilation and IRDS in premature infant [page 28]
Dr Farah Inaz Syed Abdullah

Paediatric asthma: Year in review [page 29]
Dr Norzila Mohamed Zainudin

1020 – 1050 Tea

1050 – 1150 **SYMPOSIUM 2** >> STRAITS EAST BALLROOM

S2A – Pulmonary Hypertension

Chairpersons: Dr Sunita Devi Hukam Gopal Chand
Dr Mat Zuki Mat Jaeb

Detection and diagnosis of pulmonary arterial hypertension [page 29]
Prof Dr Roslina Abdul Manap

Treatment option in pulmonary hypertension [page 30]
Dr Ashari Yunus

1050 – 1150 ***S2B – Tissue Sampling And Pathology*** >> FUNCTION ROOM 3

Chairpersons: Dr Hooi Lai Ngoh
Dr Mangayakarasi a/p Ramanathan

Optimising diagnostic yield in respiratory endoscopic procedures [page 31]
Dr Hilmi Lockman

Optimising diagnostic yield in respiratory pathological specimens [page 32]
Prof Dr Pathmanathan Rajadurai

1050 – 1150 ***S2C (Paediatric) – Respiratory Complications In Cardiac Diseases*** >> FUNCTION ROOM 2

Chairpersons: Assoc Prof Dr Jessie de Bruyne
Dr Mariana Daud

Cardiac failure or "hyperactive airway disease"
Prof Dato' Dr Azizi bin Hj Omar

Optimising respiratory status prior to cardiac surgery [page 33]
Dr Dayang Zuraini Sahadan

1150 – 1230 **Sponsored Symposium 2 – *AstraZeneca*** >> STRAITS EAST BALLROOM

Chairperson: Datuk Dr Zainudin Md Zin

COPD exacerbations and pneumonia: Can treatment options influence risk
Prof Dr David Halpin

1230 – 1415 Lunch >> ESSENCE KITCHEN

Friday Prayers

1415 – 1545 **SYMPOSIUM 3** >> STRAITS EAST BALLROOM

S3A – Interstitial Lung Disease

Chairpersons: Dr Sundari Ampikaipakan
Dr Razul Md Nazri Md Kassim

Approach to interstitial lung disease [page 33]
Dr Tengku Saifudin Tengku Ismail

Idiopathic pulmonary fibrosis: What is effective? [page 34]
Dr Felix Chua

Lung transplantation – Can we do better in Malaysia?
Prof Datuk Dr Mohamed Ezani Mohd Taib

Daily Programme
13th June 2014 | Friday

1415 – 1545 **S3B – *Interventional Pulmonology*** >> FUNCTION ROOM 3

Chairpersons: Dr Liza Ahmad Fisal
Dr Tie Siew Teck

COPD moving beyond drugs [page 34]
Dr Jamalul Azizi Abdul Rahaman

Lung cancer – What can chest physicians offer other than chemotherapy and surgery [page 35]
Assoc Prof Dr Alan Ng

Role of VATS in thoracic diseases
Dr Soon Sing Yang

1415 – 1545 **S3C (Paediatric) – *Respiratory Therapy In Children*** >> FUNCTION ROOM 2

Chairpersons: Assoc Prof Dr Surendran Thavagnanam
Dr Tam Pui Ying

Aerosol therapy: Facts and myths [page 36]
Dr Mariana Daud

ICS and LABA, between indication and safety [page 37]
Assoc Prof Dr Jessie de Bruyne

Oxygen therapy: Between good and bad [page 37]
Assoc Prof Dr Hasniah Abdul Latif

1545 – 1625 **Sponsored Symposium 3 – *Novartis*** >> STRAITS EAST BALLROOM

START EARLY: Bronchodilation in the management of COPD patients for improved symptoms and outcome
Prof Dr Liam Chong Kin

1625 – 1815 Tea

MTS Annual General Meeting >> FUNCTION ROOM 2

1845 – 1925 **Sponsored Symposium 4 – *Bayer*** >> STRAITS EAST BALLROOM

Chairperson: Prof Dr Roslina Abdul Manap

The simplified approach to PE treatment – Insights from the EINSTEIN studies
Dr Anthonie W A Lensing

1925 – 2200 Dinner >> STRAITS EAST BALLROOM

Daily Programme
14th June 2014 | Saturday

0700 – 0800 **MEET-THE-EXPERT SESSION** >> FUNCTION ROOM 4

Chairperson: Dr Lalitha Pereirasamy

Air pollution and asthma [page 38]
Prof Dr John Abisheganaden

0800 – 0840 **PLENARY 2** >> STRAITS EAST BALLROOM

Chairperson: Prof Dr Roslina Abdul Manap

Non-smoking COPD
Dr Sundeep Salvi

0840 – 1010 **SYMPOSIUM 4** >> STRAITS EAST BALLROOM

S4A – Lung Cancer

Chairpersons: Dr Ong Choo Khoon
Assoc Prof Dr How Soon Hin

Role of PET-CT scanning in managing lung cancer
Dr Dharmendra Harichandra

Solitary pulmonary nodules: Approach using navigational bronchoscopy system [page 38]
Dr Devanand Anantham

Common symptoms in patient with advanced lung cancer [page 39]
Dr Hayati Yaakup

0840 – 1010 ***S4B – Non-Invasive Ventilation*** >> FUNCTION ROOM 3

Chairpersons: Dr Ahmad Izuanuddin Ismail
Dr Michael Stephen Joseph

Home NIV for restrictive lung disorders and neuromuscular disease [page 39]
Prof Dr Anita Simonds

Sending patient home on non-invasive ventilation [page 40]
Dr Asiah Kassim

The dark side of the moon: When, why and where should I not use NIV [page 40]
Prof Dr Anita Simonds

0840 – 1010 ***S4C (Paediatric) – Respiratory Disease In Other Conditions*** >> FUNCTION ROOM 2

Chairpersons: Assoc Prof Hasniah Abdul Latif
Dr Norzila Mohamed Zainudin

Respiratory complications in Down's Syndrome
Dr Ahmad Fadzil Abdullah

Prader Willi Syndrome: The respiratory disease evolves from infant to a child
Assoc Prof Dr Anna Marie Nathan

Cerebral palsy and pneumonia [page 41]
Dr Rus Anida Awang

1010 – 1040 Tea

1040 – 1210 **SYMPOSIUM 5** >> FUNCTION ROOM 3

S5A – Sleep Disordered Breathing

Chairpersons: Dato' Dr Zainudin Md Zin
Dr Fauzi Mohd Anshar

Assessing sleep disordered breathing – From questionnaires to portable studies [page 41]
Dr Ahmad Izuanuddin Ismail

Cardiovascular complications in sleep disordered breathing
Assoc Prof Dr Imran Zainal Abidin

Neurocognitive effects of obstructive sleep apnoea [page 42]
Prof Dr Anita Simonds

Daily Programme
14th June 2014 | Saturday

1040 – 1210 **S5B – Asthma** >> STRAITS EAST BALLROOM

Chairpersons: Dr Wan Haniza Wan Mohamad
Dr Kauthaman Mahendran

Persistent airflow obstruction in asthma [page 42]
Prof Dr David Halpin

Occupational asthma [page 43]
Prof Dr Krishna Gopal Rampal

Overlap syndromes in asthma (Obesity, GERD, COPD) [page 44]
Dr Andrea Ban

1040 – 1210 **S5C (Paediatric) – Aspiration Pneumonia** >> FUNCTION ROOM 2

Chairpersons: Assoc Prof Dr Anna Marie Nathan
Dr Neoh Siew Hong

Risks and complications of aspiration pneumonia [page 44]
Dr Asiah Kassim

Assessment and investigation of aspiration pneumonia [page 45]
Dr Dayang Zuraini Sahadan

Practical management
Assoc Prof Dr Surendran Thavagnanam

1210 – 1250 **Sponsored Symposium 5** >> STRAITS EAST BALLROOM
– *GlaxoSmithKline Pharmaceutical*

Chairperson: Dato' Dr Abdul Razak Abdul Muttalif

The changing landscape of COPD: Optimising diagnosis and management
Dr Lorcan McGarvey

1250 – 1400 Lunch >> ESSENCE KITCHEN

1400 – 1500 **CONCURRENT GRAND ROUNDS** >> STRAITS EAST BALLROOM

1. Clinical

Chairpersons: Dr Chua Keong Tiong
Dr Megat Razeem

A breathless young lady
Dr Andrea Ban

Dots and spots in the lung
Dr Tan Eng Liang

1400 – 1500 ***2. Paediatric*** >> FUNCTION ROOM 2

Interactive Case Discussion For General Paediatricians

Chairpersons: Dr Rus Anida Awang
Dr Dayang Zuraini Sahadan

Hospital Melaka, Melaka
Hospital Sultan Ismail, Johor Bahru
Universiti Malaya Medical Centre, Kuala Lumpur

1400 – 1500 ***3. Radiology*** >> FUNCTION ROOM 3

Chairpersons: Dr Saravanan Kannan
Dr Kow Ken Siong

Transbronchial – Bronchial artery embolisation
Assoc Prof Dr Ahmad Sobri Muda

SVC stent for SVC obstruction
Prof Dr Basri Johan Jeet Abdullah

Daily Programme
14th June 2014 | Saturday

1500 – 1600	**ORAL PRESENTATIONS** *Chairpersons: Dr Tengku Saifudin Tengku Ismail* *Dr Wong Jyi Lin*	>> FUNCTION ROOM 3
	POSTER PRESENTATIONS *Facilitators: Dr Termizy Hassan Mashat, Dr Azza Omar, Dr Fauzi Mohd Anshar* *Assistants: Dr Ng Khai Lip, Dr Koh Kee Leong, Dr Adelyn Nisha a/p Nevinhenry*	>> FOYER, LEVEL 2
1600 – 1640	Sponsored Symposium 6A ***– Boehringer-Ingelheim Spiriva Tea Symposium*** 2 devices, 1 consistent finding – What can we learn from TIOSPIR and UPLIFT ***Datuk Dr Aziah binti Ahmad Mahayiddin***	>> STRAITS EAST BALLROOM
1600 – 1640	Sponsored Symposium 6B – ***Cipla Malaysia*** *Chairperson: Prof Dr Roslina Abdul Manap* Recent updates on management of COPD ***Dr Sundeep Salvi***	>> FUNCTION ROOM 3
1640 – 1710	Tea	
1710 – 1900	**Meeting of Trainers and Trainees**	
1900 – 1940	Sponsored Symposium 7 ***– Merck Sharp & Dohme (Malaysia)*** *Chairperson: Prof Dr Roslina Abdul Manap* The zen power of air to asthmatic lungs ***Dr Ronald Grossman***	>> STRAITS EAST BALLROOM
1940 – 2200	**MTS GALA DINNER** ***Theme: Historical Melaka***	>> STRAITS EAST BALLROOM
1940 – 2000	*Arrival of Guests*	
2000 – 2010	*Speech by Professor Dr Roslina Abdul Manap, President, Malaysian Thoracic Society*	
2010 – 2020	*Launch of paediatric asthma guidelines*	
2020 – 2200	*Dinner is served* *Entertainment:* • *Games* • *Heritage boy and girl contest* *Presentation of the Oral and Poster Awards* *Speech by Datuk Dr Zainudin bin Md Zin, President, Lung Foundation of Malaysia*	
2200	*Closing*	
2200 – 2330	*Song and dance for late nighters*	

Daily Programme
15th June 2014 | Sunday

0800 – 0840 **PLENARY 3** >> STRAITS EAST BALLROOM

Chairperson: Dr Norhaya Mohd Razali

Non-invasive ventilation: The first few millennia and beyond [page 45]

Prof Dr Anita Simonds

0840 – 1010 **SYMPOSIUM 6** >> FUNCTION ROOM 3

Tuberculosis

Chairpersons: Datuk Dr Aziah Ahmad Mahayiddin
Dr I Kuppusamy

Speeding up detection and treatment in MDR TB

Dato' Dr Abdul Razak Abdul Muttalif

Programmatic management of drug resistant TB (PMDT) [page 46]

Dr Puvaneswari Subramaniam

TB screening and surveillance in health-care workers [page 46]

Assoc Prof Dr Pang Yong Kek

1010 – 1040 Tea

1040 – 1120 Sponsored Symposium 8 – *Pfizer* >> STRAITS EAST BALLROOM

Chairperson: Dato' Dr Abdul Razak Abdul Muttalif

Burden of pneumococcal disease in Malaysia and the need for PCV vaccination in frequent or elderly travelers

Dato' Dr Abdul Razak Abdul Muttalif

Role/Need of PCV vaccination in adult. A risk based approach and co-morbid conditions

Dr Ricardo Zotomayor

1120 – 1220 **DEBATE** >> STRAITS EAST BALLROOM

The National TB Control Programme Should Be A Vertical Programme

Chairpersons: Dr Mohd Fauzi Abdul Rani
Dr Hooi Lai Ngoh

For: Dr Lalitha Pereirasamy

Against: Dr Jiloris Frederick Dony

1220 – 1230 Closing Ceremony >> STRAITS EAST BALLROOM

1230 – 1400 Lunch >> ESSENCE KITCHEN

Public Forum And Exhibition On Lung Health 15th June 2014 | Sunday

Time : 0830 to 1230 hrs

Venue : **In front of Memorial Kemerdekaan Melaka**

Objectives:

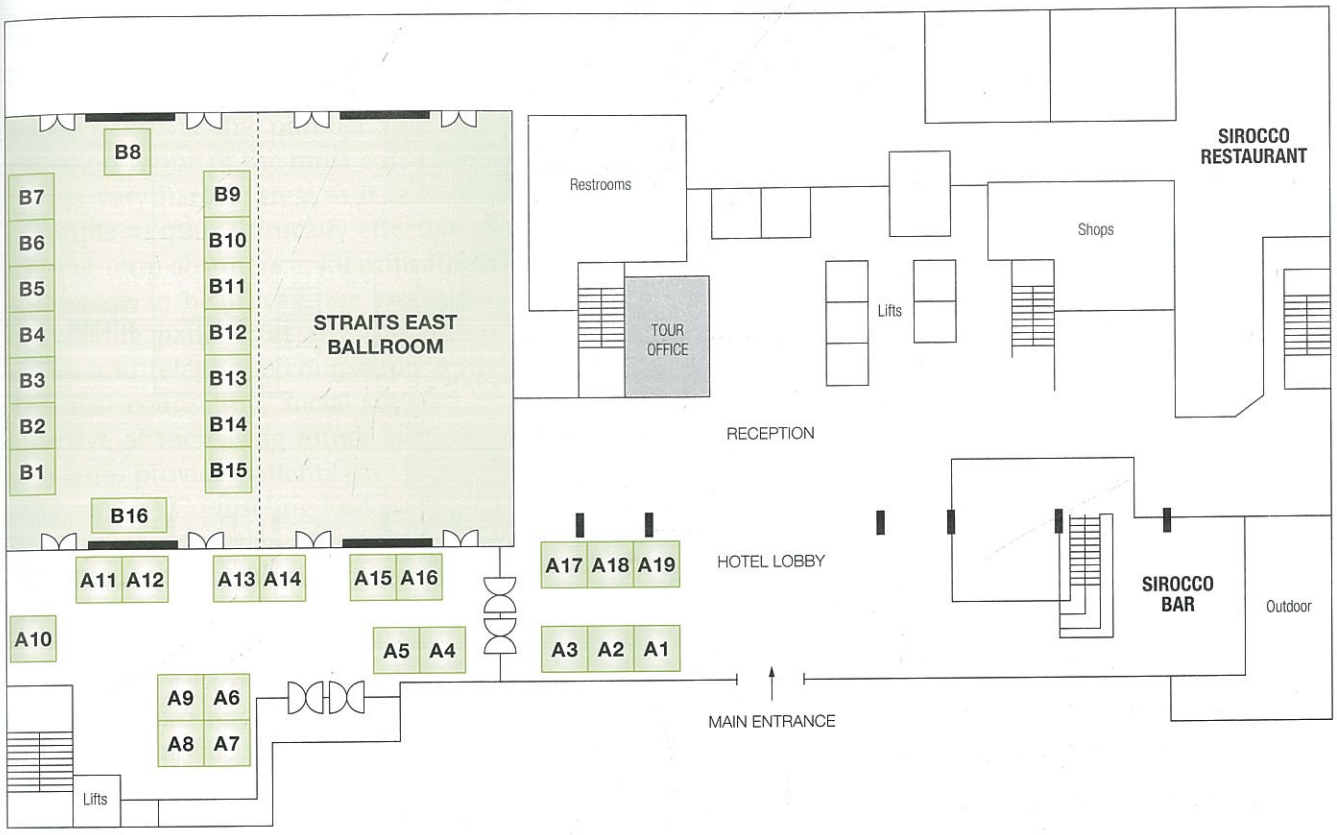
1. To increase public health awareness on lung health
2. To motivate public to make positive health behaviour changes
3. To promote early diagnosis and early treatment for tuberculosis
4. To promote tobacco control and smoke cessation programme

Activities:

1. Health exhibition on tuberculosis by MAPTB (Melaka)
2. Health exhibition on tobacco control and smoke cessation by Klinik Kesihatan Tengkera Melaka
3. Talk on tobacco control and smoke cessation by Dr Azman bin Othman, Family Medicine Specialist Klinik Masjid Tanah, Melaka
4. Spirometer test for the public

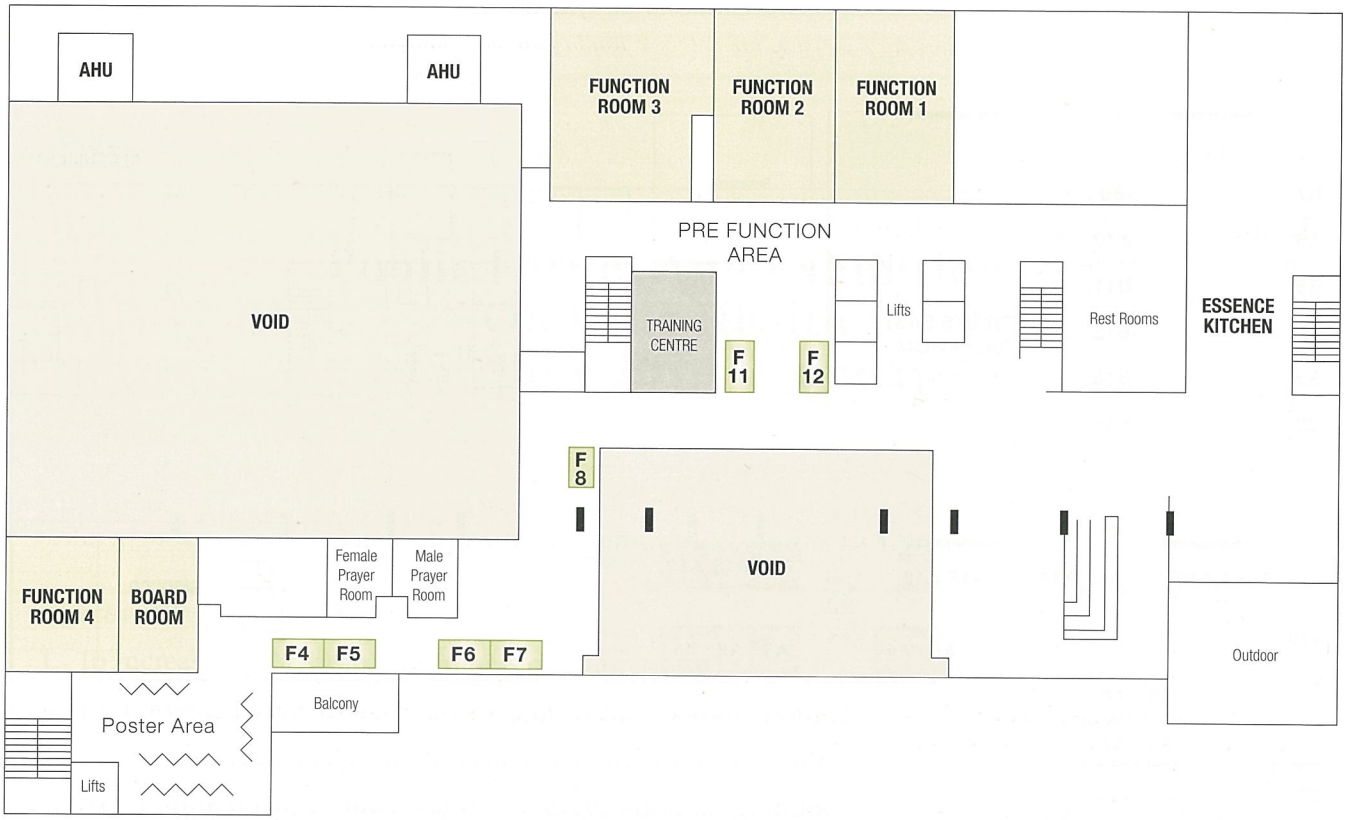
Floor Plan And Trade Exhibition

Lobby Level



Booth No	Company
A1	Philips Respironics – HHS
A2	Eli Lilly (Malaysia) Sdn Bhd
A3	Pfizer (Malaysia) Sdn Bhd
A4, A5, A15 & A16	GlaxoSmithKline Pharmaceutical Sdn Bhd
A6, A7, A8 & A9	Merck Sharp & Dohme (Malaysia) Sdn Bhd
A10 & B16	Boehringer-Ingelheim (Malaysia) Sdn Bhd
A11, A12, A13 & A14	AstraZeneca Sdn Bhd
A17 & A18	Takeda Malaysia Sdn Bhd
A19	Endodynamics (M) Sdn Bhd
B1	Cipla Malaysia Sdn Bhd
B2	Bayer Co (Malaysia) Sdn Bhd
B3	Pahang Pharmacy Sdn Bhd
B4	Pharmaniaga Marketing Sdn Bhd
B5	Insan Bakti Sdn Bhd
B6	Respimedic Sdn Bhd
B7	Biocare Pharmaceutical (M) Sdn Bhd
B8	Somnotec (M) Sdn Bhd
B9	Daya Cergas (M) Sdn Bhd
B10	Compass Medical Sdn Bhd
B11	All Eights (M) Sdn Bhd
B12, B13, B14 & B15	Novartis Corporation (M) Sdn Bhd

Level 2



Booth No	Company
F4	Formedic Technologies Sdn Bhd
F5	DanMedik Sdn Bhd
F6	Orient EuroPharma (M) Sdn Bhd
F7	Edaran Bio-Medik & BKS Medik Sdn Bhd
F8	Lung Foundation of Malaysia
F11	Symbiomed Sdn Bhd
F12	Acucare Systems (M) Sdn Bhd

EVIDENCE-BASED TREATMENT FOR SMOKING CESSATION

Aziah Ahmad Mahayiddin
Columbia Asia Hospital, Setapak, Kuala Lumpur, Malaysia

Tobacco use is the number one cause of preventable morbidity and mortality worldwide. Smoking cessation is one of the most cost-effective preventive care services but tobacco dependence is an addiction that is very hard to treat as it is a chronic disease that often requires repeated intervention and multiple attempts to quit. Clinically effective evidence-based treatments exist that can significantly increase rates of long-term abstinence. Identification and documentation of smoking status and treatment of all tobacco users seen in healthcare are essential. Three minutes brief intervention is important starting points for counseling patients at any the clinical encounter and had proven to increase abstinence. Individual, group and telephone counseling are effective and their effectiveness increases with treatment intensity. Practical counseling, social support, and motivational enhancement based approaches are primarily effective at increasing future quit attempts in smokers currently unwilling to quit Proactive telephone quit lines provide patients easy access to support and can effectively augment clinic -based treatment and counseling. Counseling and medications are each effective as monotherapy; however, the combination is more effective than either treatment alone. Several medications are effective for tobacco dependence and should be considered. Hookah or syisya smoking has many of the same health risks as cigarette smoking. Using a hookah to smoke tobacco poses serious health risks to smokers and others exposed to the smoke from the pipe. The charcoal used to heat the tobacco can raise health risks by producing high levels of carbon monoxide, metals, and cancer-causing chemicals even after it has passed through water. Tobacco juices from hookahs irritate the mouth and increase the risk of developing oral cancers. Infections may be passed to other smokers by sharing a hookah as normally hookah is smoked in group and the pipe is passed around. Studies of tobacco-based shisha and "herbal" shisha showed that smoke from both preparations are known to increase the risks for smoking-related cancers, heart disease, and lung disease. Electronic cigarettes are now being widely smoke. Millions have started to use the device as an alternative for traditional cigarettes. This are battery operated nicotine inhalers with rechargeable lithium battery, and a cartridge filled with an e-liquid that contains the chemical propylene glycol along with nicotine, flavoring and other additives.E-cigarettes have not been fully studied especially the potential risks when used as intended. Early data in E-cigarette study raise some safety concerns. Many researchers have expressed the belief that e-cigarettes pose a far lower cancer risk than conventional cigarettes because they do not burn tobacco, however, how little is known about long-term effects of e-cigarette use or the specific effects of ingredients within the devices. Two factors could increase health risks to users: nicotine solvent and battery output voltage. Additionally, it is not known whether e-cigarettes may lead young people to try other tobacco products, including conventional cigarettes, which are known to cause disease and lead to premature death. On the 24th May this year, FDA proposes to extend its tobacco authority to additional tobacco products, including e-cigarettes.

SPONSORED SYMPOSIUM 1A
(AFT Orphan Ltd)

IDIOPATHIC PULMONARY FIBROSIS: OVERVIEW OF A DEADLY DISEASE

Felix Chua
St George's Hospital NHS Trust, London, United Kingdom

This talk will outline the key aspects of the disease including clinical presentation, the fundamental importance of HRCT as a diagnostic tool, predictors of poor prognosis, the value of decline in FVC as a surrogate for mortality and current treatment options. Non-classical phenotypes of the disease will also be discussed including so-called 'slow progressors' who are encountered in clinical practice but are typically excluded from drug trials.

PAEDIATRIC RESPIRATORY SERVICE IN MALAYSIA

Norzila Mohamed Zainudin

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

The Pediatric Respiratory service started In Universiti Kebangsaan Malaysia in 1985 by Dato Dr Azizi Hj Omar. Following that the service was started in Ministry of Health in Paediatric Institute, Hospital Kuala Lumpur in 1997. After 17 years, the services are available in Hospital Pulau Pinang, Hospital Serdang, Hospital Raja Perempuan Zainab II, Kota Bharu, Hospital Tuanku Ampuan Afzan, Kuantan, and Sultan Ahmad Shah. The services provided are general respiratory paediatrics, Sleep diagnostics, ambulatory respiratory which include home oxygen therapy and chronic ventilation, respiratory diagnostics such as lung function test, flexible bronchoscopy, pH study ,16 hours oxygen monitoring, and six minute walk tests. Currently, there are six paediatric respiratory physicians in the Ministry of Health, two in private and four in the universities. The subspeciality training is a three year programme. With the exception of Paediatric Institute all the centres in the Ministry of Health are gazetted for one year. The numbers of Paediatric Respiratory Physicians projected is 33 by 2020. This is a projection based on 1: 300,000 based on 10 million children age below 18 years old. Areas that need further consolidation are sleep diagnostics, interventional bronchoscopy and paediatric airway to meet the demands of the changing epidemiology of respiratory disease currently and in the future. Consolidation of the ambulatory team with better staffing and budget for delivery of care at home in children who are chronically ventilated or on home oxygen therapy as well as patients who require end of life care. The other area is bridging the care with the adult respiratory medicine for children who have grown to adulthood. There are many challenges which require more concentrated efforts from the team and the management. Efforts to produce the number of specialist as planned are behind time due to few trainees. Management of chronic illness requires a multidisciplinary approach. Better sub-specialized services from other allied health such as nutrition, pulmonary rehabilitation, physiotherapist and psychologist are needed.

SYMPOSIUM 1

S1A – Chronic Obstructive Pulmonary Disease

MANAGING THE DIFFICULT COPD PATIENT

David MG Halpin

Royal Devon & Exeter Hospital and University of Exeter Medical School, Exeter, United Kingdom

Patients with difficult COPD can be divided into those with persistent severe symptoms and those who continue to have exacerbations. A number of factors may contribute to the occurrence of frequent exacerbations and some of these are treatable. These include under diagnosis, severe disease, poor coping, poor organisation of care, wrong diagnosis, sub-optimal therapy both pharmacological and non-pharmacological. Risk stratifying patients can help ensure those at greatest risk of exacerbations receive optimal management to reduce that risk.

Newer treatment options may help reduce symptoms in those people with persistent severe symptoms; however, the benefits of improved lung function produced by combination bronchodilators do not appear to fully translate into improvements in patient centered outcomes.

Smoking cessation should also be considered treatment in people with persistent severe symptoms or frequent exacerbations.

SYSTEMIC EFFECTS OF COPD – LOOKING BEYOND FEV1

Sundari Ampikaipakan
Pantai Hospital, Kuala Lumpur, Malaysia

Chronic onstructive pulmonary disease(COPD) has primarily been known to be a disease of the lungs secondary to cigarette smoking and characterized by airflow obstruction. By 2020, COPD will be the third cause of mortality in the world.

In recent years COPD has been recognized to have extra-pulmonary effects on distal organs. These systemic effects include skeletal muscle dysfunction, muscle wasting, nutritional abnormalities, cachexia, cardiovascular complications, metabolic complications and osteoporosis among others. It remains unclear as to whether they represent consequences of COPD itself or are secondary to chronic systemic inflammation.

In this lecture, we will review the evidence for the systemic effects of COPD and the need to treat these co-morbidities in order to reduce the risk of exacerbations and prevent significant morbidity.

NON-INVASIVE VENTILATION IN ACUTE EXACERBATION OF COPD

Norhaya Mohd Razali
Respiratory Physician, Hospital Sultanah Nur Zahirah, Kuala Terengganu, Terengganu, Malaysia

Hospitalization due to acute exacerbation of chronic obstructive pulmonary disease (COPD) is an indicator of severe disease. Patients with severe disease are prone to respiratory failure. Despite mechanical ventilation, a third of patients admitted with hypercapnic respiratory failure dies. Treatment for stable COPD includes bronchodilators, inhaled corticosteroids pulmonary rehabilitation and regular vaccination. During acute exacerbation, it is imperative that adequate oxygenation is achieved. The traditional method to ensure this is by invasive mechanical ventilation, however the procedure of tracheal intubation and assisted ventilation is associated with high morbidity and it may be difficult to wean these patients from ventilation. Intubation may cause damage to local tissues and during the course of ventilation pneumonia may ensue which will result in prolonged hospital stay. An alternative to intubation is non-invasive positive pressure ventilation (NPPV). Non-invasive positive pressure ventilation provides the patient air or a mixture of air and oxygen from a flow generator through an interface which comes in the form of a full facial or a nasal mask. This results in unloading of fatigued ventilator muscles. Over the last decade, NPPV has been increasingly used as an adjunct treatment in the management of acute exacerbation of COPD. This talk shall discuss the usage of NPPV in acute exacerbation of COPD.

PLEURAL SPACE INFECTIONS

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Pleural infections are a common problem encountered by doctors in multiple specialties and not just Respiratory Medicine. This presentation would cover an evidence as well as experience based approach towards managing pleural infections. We will cover historical, patho-physiological, investigative as well as management strategies for this condition.

THE USE OF BIOMARKERS IN THE MANAGEMENT OF PNEUMONIA AND SEPSIS

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The incidence of sepsis is higher than that for heart failure, breast cancer, colon cancer and AIDS. The surviving sepsis campaign has provided several evidence-based recommendations for management strategies for resuscitation to improve sepsis survival rates, and early identification is the common thread. The use of inflammatory biomarkers to predict the need for intensive care in patients with community-acquired pneumonia was associated with a 10% reduction in absolute mortality rate, and the number needed to treat (NNT) was 10.

In the realm of sepsis, there is a whole array of biomarker candidates, ranging from acute phase proteins, to cytokines & chemokines, cell surface markers, receptor markers and markers of endothelial damage. An ideal sepsis biomarker should have high sensitivity, specificity and changes in accordance with the clinical evolution, adds independent information about the risk or prognosis, is reproducible, is easy to perform and is cheap.

Procalcitonin (PCT) and CRP have been most widely used, but have limited ability to distinguish sepsis from other inflammatory conditions or to consistently predict outcome. Numerous studies have established that lactate is a good marker of global hypoxia in circulatory shock, but has limited role in diagnosis. PCT is more specific than CRP, interleukin-6, and lactate for diagnosis of sepsis. CRP levels may not further increase during more severe stages of sepsis. PCT rises in proportion to the severity of sepsis and reaches its highest levels in septic shock. Newer sepsis markers include soluble CD14 subtype (presepsin), heparin-binding protein, TNF-a, interleukin-6 and others.

In summary, there is yet to be a perfect biomarker for sepsis. Some have been helpful in making the diagnosis of sepsis. They are tests that should be used with clinical correlation and in the context of predictive values. They can be used for early identification in patients when intervention is timely. Many new sepsis markers are currently under investigation.

PULMONARY *ASPERGILLOSIS*

Sanjay H Chotirmall

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Aspergillus moulds are ubiquitous and spores are inhaled in large numbers daily. Removed by intact anatomical barriers and an effective immune response, disease occurrence is dictated by the state of the host immune system and the virulence of the infecting fungal strain. Clinical consequences range from acute invasive disease in the immunocompromised to chronic cavitatory manifestations in those immunocompetent. An excessive immune response occurs in allergic manifestations such as ABPA following *Aspergillus* exposure (1). This talk will introduce the spectrum of disease observed in relation to *Aspergillus* illustrated by clinical cases and radiology. Appropriate diagnostic and treatment strategies will be discussed. Interactions between *Aspergillus* species and the host immune system are bi-directional. The fungus elicits an immune response resulting in clearance while concurrently producing immunoevasive virulence factors. *Aspergillus* virulence is multifactorial and under polygenetic control. Strategies used are multi-faceted including fungal structure, capacity for growth, adaptation to stressful conditions, the ability to damage host cells and evade immune-recognition. Emerging research from our group will be presented including the role of gliotoxin, a potent immune-evasive mycotoxin in *Aspergillus*-associated disease. Immunosuppressive roles of gliotoxin include the inhibition of phagocytosis, T-cell proliferation, mast cell activation and cytotoxicity. Additionally, it inhibits superoxide production and reduces epithelial ciliary movement leading to dysfunction. In the context of *Aspergillus* colonization in cystic fibrosis, our group has performed a significant body of work (1-4). We have shown that the Vitamin D receptor (VDR), a key component of an immune-modulating pathway is down-regulated by gliotoxin. Treatment with itraconazole decreases bronchoalveolar lavage (BAL) gliotoxin concentrations, restoring VDR expression, diminishing systemic Th2 cytokines IL-5 and IL-13 with concomitant improvement in clinical and radiological patient outcomes (5). Understanding *Aspergillus*-associated disease is critical to early diagnosis and subsequent initiation of therapy in instances of pulmonary aspergillosis where to date the morbidity and mortality burden remains high.

References

1. *Chotirmall SH, Al-Alawi M, Mirkovic B, Lavelle G, Logan PM, Greene CM, et al. Aspergillus-associated airway disease, inflammation, and the innate immune response. Biomed Res Int. 2013;2013:723129. PubMed PMID: 23971044. Pubmed Central PMCID: 3736487.*
2. *Chotirmall SH, McElvaney NG. Fungi in the cystic fibrosis lung: Bystanders or pathogens? The international journal of biochemistry & cell biology. 2014 Mar 10. PubMed PMID: 24625547.*
3. *McMahon MA, Chotirmall SH, McCullagh B, Branagan P, McElvaney NG, Logan PM. Radiological abnormalities associated with Aspergillus colonization in a cystic fibrosis population. Eur J Radiol. 2012 Mar;81(3):e197-202. PubMed PMID: 21349668.*
4. *Chotirmall SH, Branagan P, Gunaratnam C, McElvaney NG. Aspergillus/allergic bronchopulmonary aspergillosis in an Irish cystic fibrosis population: a diagnostically challenging entity. Respir Care. 2008 Aug;53(8):1035-41. PubMed PMID: 18655741. Epub 2008/07/29. eng.*
5. *Coughlan CA, Chotirmall SH, Renwick J, Hassan T, Low TB, Bergsson G, et al. The Effect of Aspergillus fumigatus Infection on Vitamin D Receptor Expression in Cystic Fibrosis. Am J Respir Crit Care Med. 2012 Nov 15;186(10):999-1007. PubMed PMID: 22904183. Epub 2012/08/21. eng.*

MANAGEMENT OF ARDS

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Acute respiratory distress syndrome (ARDS) remains a significant cause of morbidity and mortality in critically ill children. Since it was first described almost 50 years ago, there has been intense research activity with large numbers of studies addressing its pathogenesis and therapies. Despite this, there are only few effective therapies for ARDS other than the use of lung protective strategies and fluid conservative protocols. The lack of effective therapies is related to the complex pathogenesis of this syndrome as well as the lack of sensitive and specific diagnostic criteria. This presentation will summarise the key features in the new definition of ARDS and provide an overview of the evidence for the current therapeutic options. The key features of the new definition of ARDS include: removal of the term acute lung injury with ARDS now classified as mild, moderate and severe, according to the PaO2/FiO2 ratio; defining the timing of onset as exposure to a known risk factor or worsening of the respiratory symptoms within one week, bilateral opacities involving at least 3 quadrants in the chest radiograph; and objectively evaluating cardiac function with echocardiography to exclude a cardiogenic origin of oedema. The use of protective mechanical ventilation remains the mainstay of ventilator therapy that has been shown to have a mortality benefit. The PROSEVA trial published in 2013 adds to the bulk of data that prone positioning in severe ARDS offers an absolute survival advantage. In 2013, two large trials in adult patients with moderate to severe ARDS failed to show any improvement in survival when used as first line therapy. As there is no specific treatment, research is now focusing on prevention and early recognition of ARDS. Furthermore, there are ongoing trials on promising future pharmacological therapies to improve the survival in this condition.

VENTILATION AND IRDS IN PREMATURE INFANT

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Respiratory distress syndrome (RDS), is a major cause of respiratory failure in preterm infants. RDS is due to surfactant deficiency and the incidence of RDS increases with decreasing gestational age especially in infants < 30 weeks. Interventions such as antenatal steroids with intubation, exogenous surfactant and extubation to continuous positive airway pressure (INSurE) are currently the mainstay of management for RDS. Endotracheal surfactant has been the widely accepted method of surfactant administration but trials are currently evaluating other noninvasive methods. However currently many trials are also showing data that the early use of nasal continuous positive airway pressure (CPAP) is as effective in the treatment of RDS in premature infants as intubation and surfactant therapy. Optimization of the premature infant's general wellbeing and reducing other risk factors also help to improve outcome as well as reducing complications such as bronchopulmonary dysplasia (BPD) and mortality.

PAEDIATRIC ASTHMA: YEAR IN REVIEW

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Asthma is a childhood disease, which occurs through out life. Epidemiological studies had identified different phenotypes associated with variable disease. Should treatment be tailored according to phenotypes is debatable. Asthma Birth cohort has been published to identify, asthma persistence into adulthood, risks factors, inflammatory markers and lung function in adulthood. The Melbourne cohort studies evaluated at 50 years old, showed that asthmatics, children with severe asthma were at risks; than non asthmatic children to develop COPD . There were growing evidences of literature regarding the association of vitamin D and respiratory diseases. Many cross sectional studies were conducted in different populations examining levels of vitamin D in asthmatic children although the results are inconsistent. Results showed that low levels of vitamin D were found among the African- American adolescents with persistent asthma. The Spanish study showed that low levels of vitamin D were associated with reduced asthma control and one multi centre study concluded that vitamin D supplementation in children appears to prevent asthma exacerbations triggered by acute respiratory infection. Although at present there is no evidence to support screening of vitamin D for the purpose of asthma management. Increase in body mass index during the first 2 years of life has shown to increase the risk of asthma up to 6 years old. Possible mechanisms to explain the underlying relationship between the asthma obesity–link are inflammatory mediators, reduction in the lung volume, gastro-oesophageal reflux and Sleep disordered breathing were postulated. Inhaled corticosteroids reported to have minimal side effects compared to systemic steroids. Patients with well-controlled asthma who stop regular use of low-dose ICSs have an increased risk of an asthma exacerbation compared with those who continue ICSs. However, study findings showed that children with asthma receiving budesonide and beclometasone dipropionate have decreased linear growth and children who receive long-term inhaled corticosteroid therapy for asthma have height deficits 1—2 years after treatment initiation that persist into adulthood. Long-term therapy with inhaled corticosteroid therapy at is its lowest dose to achieve control is safer than frequent bursts of oral corticosteroids. The effects of corticosteroids on bone mineral density can be prevented by adequate nutrition and sufficient intake of calcium and vitamin D. Finally treatment of patients with severe asthma remains a challenge. There is now evidence that it is a heterogeneous groups with different sub phenotypes of which treatments should be targeted to specific pathogenic mechanisms

DETECTION AND DIAGNOSIS OF PULMONARY ARTERIAL HYPERTENSION

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The timely diagnosis of pulmonary arterial hypertension (PAH) is challenging. Initially, the symptoms of PAH are usually very mild. As the disease progresses, non-specific symptoms such as breathlessness or fatigue develop. Other conditions such as asthma, chronic heart failure, or even lack of fitness or depression are often considered before PAH. Increasing attention is also being paid to making a diagnosis of pulmonary hypertension, related to the fact that there are now therapies available. Screening tools currently available include Doppler echocardiography, assessment of dyspnoea, pulmonary function tests (PFTs) and serum biomarkers such as N-terminal pro-brain natriuretic peptide (NT-proBNP). Recent evidence suggests that WHO functional class I or II patients have significantly better long-term survival rates than patients in higher functional classes, thus providing a rationale for earlier diagnosis and treatment of PAH. A newer classification of clinical pulmonary hypertension has designated 5 categories that are distinctive because they differ in their clinical presentation, diagnostic findings, and response to treatment. As we now know, a treatment that is effective for one cause of pulmonary hypertension can worsen the prognosis for pulmonary hypertension due to a different cause. Approved treatments for pulmonary arterial hypertension have serious side effects, are exceedingly expensive, and have not been shown to be effective in patients with other forms of pulmonary hypertension. Despite advances in treatment options that have been made in the past few decades, the long-term prognosis for patients with pulmonary arterial hypertension remains poor.

TREATMENT OPTION IN PULMONARY HYPERTENSION

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Pulmonary hypertension (PH) has no cure. However, treatment may help relieve symptoms and slow the progress of the disease. PH can treated with drugs and medical and surgical procedures. Treatment will depend on what type of PH and its severity.

The 5th World Symposium Pulmonary Hypertension (5th WSPH) held in Nice, France in 2013 was classified PH into 5 categories and PAH (Pulmonary Arterial Hypertension) is subset of PH. PAH is a group of diseases characterised by a progressive increase of pulmonary vascular resistance (PVR) leading to right ventricular failure and premature death.

The initial approach after diagnosis of PAH is the adoption of the general measures, the initiation of the supportive therapy and referral to an expert centre for the right heart catheterization and vasoreactivity test. General measures include recommendations on physical activity, pregnancy and birth control, air travel, psychological support, infection prevention and elective surgery. Supportive therapies include diuretics, oral anticoagulant treatment, oxygen therapy, digoxin and other inotropic drugs. Despite on any available supportive treatment the median survival rate for PAH is poor after diagnosis and with the using modern drug therapy as treatment leads to a significant improvement in PAH patients' symptomatic status and a slower rate of clinical deterioration.

Therapy with the modern drugs (Specific Drugs Therapy) for PAH needs to be initiated in patients who are not vasoreactive or are vasoreactive but not responding appropriately to calcium channel blockers. The specific drugs therapy will targeted on 3 pathways include the endothelin pathway using endothelin receptor blocking agents, the NO pathway using PDE-5Is and the prostacyclin pathway using prostanoids. For the initial therapy, drugs are classified according to the grade of recommendation and the level of evidence on the basis of published RCTs. In addition, initial drug therapies are also stratified according to WHO-FC. After initial therapy the PAH patients will reassess based on clinical response and if the clinical response is considered not adequate, combination therapy is an option.

The long-term outcomes of medically treated patients remain uncertain even on combination therapy and for those who fail on medical therapy and remain in WHO-FC 111 or IV the next option is an interventional procedures such as atrial septostomy and lung transplantation.

OPTIMISING DIAGNOSTIC YIELD IN RESPIRATORY ENDOSCOPIC PROCEDURES

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Patient with respiratory disease occasionally requires further more invasive investigations in order to better manage their conditions and this might include bronchoscopy (right/ flexible), endobronchial ultrasound(EBUS)/ endoscopic ultrasound(EUS) or pleuroscopy. The diagnostic yield from such procedures can vary depending from the techniques used to obtain sampling, the experience of the operator and the pathologist. The types of sampling methods include endobronchial/ pleural biopsy, transbronchial needle aspiration, endobronchial brushing, bronchial washings, transbronchial biopsies and bronchoalveolar lavage.

A CT scan of the chest is recommended to plan what procedure if best to obtain a pathological diagnosis and anticipating possible complications. For visible endoluminal tumours, 4 endobronchial biopsies using standard biopsy forceps should give a yield of 70-90%. However to obtain a more detailed molecular diagnosis the number of biopsies could be increased to 6. In lateral wall tumours sampling using a spiked biopsy forceps may help to anchor and obtain a better yield. Bronchial washings should be done after bronchial brushings and biopsies1.

Transbronchial needle aspiration (TBNA) could be used to sample either tumours or lymph nodes based on the CT scan findings.The diagnostic yield is around 40%. This however is slowly being superseded by EBUS and EUS where direct visualization during sampling leads to better diagnostic rates as high as 90%.

Transbronchial biopsy is used for diagnosing parenchymal lung disease with the added risk of pneumothorax.

In patients undergoing medical thoracoscopy/ pleuroscopy, pleural fluid sampling is essential and pleural biopsy could be performed at the same time. In patients with significant calcified pleural thickening, biopsies provides a challenge. This could be done by identifying the area to be biopsied with the scope and using an Abrahm's biopsy needle to obtain the sample.

Autofluorescence bronchoscopy uses blue light can identify areas of dysplasia/ carcinoma in situ/ invasive microcarcinoma which may appear normal using white light bronchoscopy.

Other sampling method worthy of mention is cryobiopsy. This have been shown to be better than conventional endobronchial biopsy in preserving the molecular structure especially in cases of necrotic tumour.

References

1. *Chaudhary BA, Yoneda K, Burki NK. Fiberoptic bronchoscopy: comparison of procedures used in the diagnosis of lung cancer. J Thorac Cardiovasc Surg 1978;76:33–7.*
2. *Joos L, Patuto N, Chhajed PN, Tamm M. Diagnostic yield of flexible bronchoscopy in current clinical practice. Swiss Med Wkly. 2006 Mar 4;136(9-10):155-9.*

OPTIMISING DIAGNOSTIC YIELD IN RESPIRATORY PATHOLOGICAL SPECIMENS

R Pathmanathan

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With the advent of advanced and minimally invasive advanced diagnostic techniques, there are few sites in the body which cannot be sampled, especially with the assistance of sophisticated imaging modalities. This has posed new challenges to the diagnostic pathologist - samples are becoming smaller but more and more information is expected to be gleaned. While it is always preferable for as much biopsy tissue as possible to be obtained, this may not always be successful. It behoves the pathologist therefore to be judicious in the utilisation of whatever precious resource and confer with the clinician beforehand to decide on how the tissue should be utilised. If infection is suspected, appropriate samples should be secured for culture and molecular testing, before placing the tissue in formalin fixative. For neoplastic lung diseases, fresh tissue is vital if karyotyping or enzyme studies are to be undertaken. In the era of targeted therapy for non-small cell lung cancer, it is especially important to preserve tissue for molecular analysis. To this end, cytology samples, brushings, washings and effusions can be used to good measure for determination of mutational status or for FISH studies. Current detection technologies using real-time PCR have a sensitivity of 1 % and sensitivities of 0.1 % seem feasible soon. NGS (next generation sequencing) technologies promise simultaneous determination of multiple genetic aberrations, identifying ever more targets for personalised therapy. Analysis of circulating tumour cells is slowly becoming a reality, conceivably ushering in a time when invasive sampling procedures may be minimised considerably.

OPTIMISING RESPIRATORY STATUS PRIOR TO CARDIAC SURGERY

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In the presence of congenital heart disease, the relationship between the functions of the cardiovascular and respiratory systems will be disrupted. Direct pulmonary complications of congenital heart disease are either by structural impact on the airways, abnormal pathophysiological mechanisms leading to wet lung and/or significant pulmonary disease. They are at greater risk of respiratory tract infections, which can cause prolonged hospitalization and delay of definitive cardiac repair. A careful history and physical examination are the most important parts of preoperative pulmonary risk assessment. If significant pulmonary disease is suspected by history or physical examination, determination of functional capacity, response to bronchodilators and/or evaluation for the presence of carbon dioxide retention through arterial blood gas analysis may be justified. Imaging like chest x-ray will give us additional information on the pulmonary status of the patient. In certain circumstances further imaging like HRCT/CT angiogram as well as bronchoscopy examination might be needed. The role for preoperative pulmonary function testing remains uncertain. Spirometry may be useful when there is uncertainty about the presence of lung impairment if patients able to do it. Optimizing patient respiratory status preoperatively, will be depends on the patient's pulmonary disease. Generally, patient with frequent airway collapse and malacic airway due to structural impact on the airways, will benefit from regular chest physiotherapy and CPAP or BIPAP application while awaiting for the surgery date. Patient with cardiac asthma should have been optimized their anti failures. For patients with asthma and hyperactive airways, they should be under control. It is also prudent to diagnose OSA preoperatively so special treatments can be applied appropriately as they are prone to postoperative hypoxemia quickly after emergence from general anaesthesia.

SYMPOSIUM 3
S3A – Interstitial Lung Disease

APPROACH TO INTERSTITIAL LUNG DISEASE

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The diagnosis of Interstitial Lung Disease (ILD) requires a multidisciplinary approach between clinicians, radiologists and pathologists. A meticulous history including occupational and environmental exposures, documenting drug exposures, eliciting signs and symptoms of collagen vascular disease or other primary diseases may provide a clue towards the diagnosis. 40% of patients presenting with ILD will have no identifiable cause of ILD after careful clinical evaluation. These patients are considered to have idiopathic interstitial pneumonias. Abnormalities on the chest radiographs are usually the first clue to the presence of ILD. Parenchymal infiltrates or nodules are typical finding on chest radiographs. HRCT are superior to chest radiographs and the pattern on HRCT can narrow the differential diagnosis and in some cases the HRCT is pathognomonic, obviating the need for lung biopsy. Pulmonary function test should be performed routinely in suspected ILD to assess the extent of lung impairment. The pulmonary function test will show a restrictive pattern but will not establish a specific etiological diagnosis. Serological studies are rarely diagnostic but are indicated if connective tissue disease or hypersensitivity pneumonitis is suspected. Bronchoalveolar lavage (BAL) or transbronchial lung biopsy (TBLB) may be helpful to diagnose specific infections and may narrow the differential diagnosis. Surgical lung biopsy using the video assisted thoracoscopic surgical (VATS) technique should be performed in patients with ILD when radiological imaging, BAL or TBLB are not definitive. This will establish a definite diagnosis to guide the clinician to treat and manage the patient with ILD.

References

1. An Official ATS/ERS/JRS/ALAT Statement: Idiopathic Pulmonary Fibrosis: Evidence-based Guidelines for Diagnosis and Management. Am J Respir Crit Care Med 183;788–824, 2011.

2. Interstitial lung disease guideline: the British Thoracic Society in collaboration with the Thoracic Society of Australia and New Zealand and the Irish Thoracic Society. Thorax 2008;63(Suppl V):v1–v58.

IDIOPATHIC PULMONARY FIBROSIS: WHAT IS EFFECTIVE?

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This talk will cover promising as well as failed treatment options for IPF. The latest phase III trial data for drugs with anti-fibrotic properties will be discussed. Important differences in trial design, patient characteristics and outcome will be explored.

COPD MOVING BEYOND DRUGS

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Emphysaema is common, chronic, progressively disabling and eventually fatal. The disease is caused by cigarette smoking in 90% of the cases. The pathological process destroys the alveoli and causes hyperinflation, reduces lung elastic recoil and impairs gas exchange. The pathophysiology is compounded by compromised ventilation as the hyperinflated lungs are entrapped in a nonpliable chest cage and cannot expand adequately during inspiration. The most debilitating clinical manifestations of emphysaema are dyspnea and reduced exercise tolerance. In the advanced phases, the patient is breathless during ordinary activities and eventually at rest. Pharmacological treatment offers modest symptomatic relief but does not halt disease progression. Many of these patients are out of options. Overall, the NETT trial showed that lung volume reduction surgery (LVRS) increases the chance of improved exercise capacity but does not confer a survival advantage over medical therapy. LVRS does yield a survival advantage for patients with both predominantly upper lobe emphysaema and low exercise capacity. However, LVRS is associated with 5.5% mortality and 50% morbidity. Furthermore, only a minority of patients with emphysaema would be suitable for surgery. Options for lung transplant for end-stage emphysaema in Malaysia are limited due to donor shortage. Therefore, the emergence of minimally invasive interventional bronchoscopic strategies represents a significant advance in treatment options for patients with advanced emphysaema. Bronchoscopic lung volume reduction (BLVR) is now available in Malaysia. BLVR strategies include one-way valve, lung volume reduction coil and bronchoscopic thermal vapour ablation therapy. To my knowledge, only one-way valve technique is available in Malaysia. BLVR using one-way valve should preferably be performed under general anaesthesia for patient comfort and safety. Rigid bronchoscopy is important when handling valve complications.

LUNG CANCER – WHAT CAN CHEST PHYSICIANS OFFER OTHER THAN CHEMOTHERAPY AND SURGERY

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Patients with lung cancer may present with central airway obstruction posing a major challenge to clinical management. Symptoms can be dramatic with stridor, respiratory distress and hemoptysis. Because of advanced disease, surgical resection is often precluded; neither will chemotherapy or radiation therapy result in rapid resolution of symptoms. Left alone, progression of the obstruction inevitably results in respiratory failure and asphyxiation.

Bronchoscopic intervention has been shown to be an effective modality in achieving rapid relief of obstruction and symptoms. Intraluminal tumours can be resected simply by mechanical debulking, or using thermal ablation techniques such as endobronchial Nd:YAG laser therapy, or bronchoscopic electrocautery. When the obstruction is caused by extraluminal compression of the airway, the placement of a variety of stents can help to splint the airway open.

For best results, patients should be carefully selected to fulfil indications and minimise risks. One should also be aware that although these procedures are capable of delivering rapid and effective symptom relief, they are essentially palliative in nature, the main benefit being preventing death from respiratory failure, improving quality of life and also providing the opportunity to receive other treatment modalities (chemotherapy/radiotherapy) when stabilised.

Physicians should consider the possibility of central airway obstruction when attending to a lung cancer patient with breathlessness, so that evaluation and appropriate intervention can be carried out without delay.

AEROSOL THERAPY: FACTS AND MYTHS

Mariana Daud

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Inhaled therapies have been used since ancient times and may have had their origins with the smoking of datura preparations in India 4,000 years ago. Atomizers and nebulizers were developed in the mid-1800s in France and around the 20th century, combustible powders and cigarettes containing stramonium were popular for asthma and other lung diseases. The marketing of the first pressurized metered-dose inhaler for epinephrine and isoproterenol, by Riker Laboratories in 1956, was a milestone in the development of inhaled drugs. There have been remarkable advances in the technology of devices and formulations for inhaled drugs in the past 50 years.

Aerosol therapy is considered to be one of the cornerstones of respiratory medicine of 21st century. Aerosol is defined as a suspension of liquid and solid particles produced by an aerosol generator such as the small-volume nebulizer (SVN), the pressurized metered-dose inhaler (pMDI), or the dry-powder inhaler (DPI). Metered dose inhalers (MDIs) and dry powder inhalers (DPIs) are popular drug delivery devices used in the treatment of respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD). The measured deposition efficiencies of MDI and DPI aerosols were different, therefore they have important implications to inhalation therapy protocols.

There have been great scientific developments in theoretical modeling and indirect measures of lung deposition, particle sizing techniques and in vitro deposition studies, scintigraphic deposition studies, pharmacokinetics and pharmacodynamics. Aerosol particles generated by inhalers for respiratory drug delivery acquire electrostatic charge during the dispersion process. The electrostatic charge distribution of the particles can affect the efficiency of drug delivery by influencing both the transport and deposition of inhaled particles in the human lung.

The combination of the right medication and the most optimal delivery device with the patient's cognitive and physical abilities is critical. For aerosol therapy to be effective,the appropriate delivery system for the medication must be matched to the patient's ability to use it correctly. This lecture will highlighted the factors affecting aerosol deposition in the lower airways by different types of respiratory gadgets as well as their advantages and disadvantages.

Lastly, the rapid technologic progress in inhaled drug delivery and applications of aerosol science has led the use of the aerosolized route for drugs for systemic therapy, use of aerosolized antimicrobials and immunosuppressants, and use for gene replacement therapy.

ICS AND LABA, BETWEEN INDICATION AND SAFETY

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Inhaled corticosteroids (ICS) have developed into a cornerstone in the treatment of children with asthma since the inflammatory nature of the disease was recognized. Its enhanced safety profile compared to oral corticosteroids made it an attractive option. However there are still concerns regarding their effects on the child in particular on growth and the hypothalamic-pituitatary –adrenal axis.

The advent of long acting bronchodilators (LABAs) opened up a whole new treatment area in asthma and although they did not have anti-inflammatory effects studies suggested that the dose of inhaled corticosteroids could be reduced without worsening asthma control.

Unfortunately, in some cases, these LABAs were associated with increased mortality especially in certain ethnic groups. Warnings This led to a reassessment of their role in asthma control and it is now recommended that LABAs should not be used in isolation but together with ICS. A black box warning was inititated. However, as the combination was very beneficial in asthma control, the safety and efficacy of ICS/LABA combinations is now the subject of a multicenter trial under the unprecedented collaboration of 4 separate companies .

The quest for a magic bullet for asthma remains a distant dream, not least because of the heterogeneity of the disease.

OXYGEN THERAPY: BETWEEN GOOD AND BAD

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Oxygen therapy is widely utilized in pulmonary and non-pulmonary conditions such as in acute and chronic hypoxaemia or hypoxia, respiratory failure, peri and post cardiac and respiratory arrest, low cardiac output and shock. It is used to decrease work of breathing by increasing alveolar oxygen tension.

Long term oxygen therapy (LTOT) is recommended for patients with chronic hypoxaemia, principally aims to improve symptoms and prevent effect from chronic hypoxaemia e.g. pulmonary hypertension. Other benefits include decrease in hospitalizations, optimization of physical growth and neurological development, improvement of exercise tolerance and quality of sleep. Patient groups potentially affected by chronic hypoxaemia include 1) chronic neonatal lung disease 2) congenital heart disease with pulmonary hypertension, 3)pulmonary hypertension secondary to respiratory disease, 4) interstitial lung disease, 5) obliterative bronchiolitis, 6) cystic fibrosis and other causes of severe bronchiectasis, 7)obstructive sleep apnoea and other sleep related disorders and 8) palliative care for symptom relief.

Oxygen therapy must be documented, monitored and managed appropriately. Several precautions and complications warrant consideration include 1) oxygen toxicity, 2) depression of ventilation in patient with chronic respiratory insufficiency 3) retinopathy of prematurity 4) patient with reduced minute ventilation, where supplemental oxygen may mask signs and symptoms of hypercapnea and 5) fire hazards.

Strategies to achieve optimal oxygen therapy will be discussed.

AIR POLLUTION AND ASTHMA

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Epidemiological studies have found consistent and coherent associations between air pollution and various health outcomes. These include respiratory symptoms, reduced lung function, flare of cardio-respiratory illness, hospital admissions, and mortality. Asthma is a chronic inflammatory inflammatory disease of the airways. It is well understood that air pollutants often act as a trigger for asthma symptoms. There are two key air pollutants that can affect asthma. One is ozone (found in smog) and the other is particle pollution (found in haze, smoke and dust). The question of whether air pollution causes asthma is still open for debate.

It is unlikely that exposure to outdoor air pollutants causes asthma in the general population. However, it is possible that in a small group of asthmatics, who also live near busy roads, exposure to traffic-related air pollutants may have played a small part in causing their disease. The development of asthma may occur by a number of processes or interacting pathways. Air pollution is thought to cause oxidative stress in the lungs, leading to tissue damage and inflammation. Chronic inflammation might lead to lungs with an abnormal structure, and alterations to the structure of the airways could increase their sensitivity, leading to bronchial hyper-responsiveness. One an individual suffers from asthma, there is good evidence that exposure to air pollution can increase the frequency and severity of asthma attacks. As such, people with asthma are advised to check their national air pollution warnings, as they are at risk from the effects of short-term exposure to air pollution.

SYMPOSIUM 4

S4A – Lung Cancer

SOLITARY PULMONARY NODULES: APPROACH USING NAVIGATIONAL BRONCHOSCOPY SYSTEM

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The pre-test probability of malignancy of a solitary pulmonary nodule detected on radiology is dependent on: (1) Patient's clinical risk factors (2) CT characteristics and (3) Radiological stability. The nodules that have a risk probability between the radiological surveillance and the surgical resection thresholds are targeted for tissue biopsy. Other indications include discordance between the clinical probability and imaging findings, benign diagnoses that require specific treatment and patient choice.

Conventional bronchoscopic lung biopsy has a limited diagnostic yield (<60%) and is dependent on lesion size. Although, trans-thoracic needle aspiration has a diagnostic yield (>90%), the limitation is the pneumothorax complication rate that can exceed 20%. Considerable expertise is also needed to perform these needle aspirations depending on the size and location of the lesions. Improvements in bronchoscopic diagnosis have targeted every step of the biopsy process: (1) Pre-procedure planning, (2) Endoscopic navigation, (3) Real-time localization and (4) Rapid On-site Evaluation for adequacy of specimens. Navigational Bronchoscopy is not a single technological advance, but refers to heterogeneous group of procedures such as Virtual Bronchoscopy Navigation, Electromagnetic Navigation, Guide-sheath techniques, Ultrathin Bronchoscopy and Radial Endobronchial Ultrasound. These procedures have been proven to increase the diagnostic yield to > 70%. Further advances in yield using the currently available technology are likely to involve combining procedures. Examples of such combinations include Virtual Bronchoscopy Navigation with Endobronchial Ultrasound; or Electromagnetic Navigation with Endobronchial Ultrasound.

COMMON SYMPTOMS IN PATIENT WITH ADVANCED LUNG CANCER

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In this lecture the speaker will talk on:

1. Epidemiology of common symptoms among patients with advanced cancer

2. Discussion on two common symptoms and their pathophysiology, presentation and management.
    a. Breathlessness:
    b. Cough
    c. Excessive secretion at terminal phase

3. Brief Case discussion and Conclusion

HOME NIV FOR RESTRICTIVE LUNG DISORDERS AND NEUROMUSCULAR DISEASE

Anita K Simonds

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Long term non-invasive ventilation in neuromuscular disorders dates back many decades. Negative pressure ventilation was originally used to support patients with respiratory muscles weakness secondary to poliomyelitis, and in the 1960s positive pressure ventilation via mask was pioneered in Duchenne muscular dystrophy patients. In those with stable neuromuscular disorders NIV is associated with extended survival, and in those with progressive conditions NIV can considerably lengthen survival. Even in rapidly progressive diseases such as motor neurone disease (ALS), NIV in those with moderate or mild bulbar involvement can increase survival and is associated with improved quality of life, especially if symptoms are sleep-related. NIV can also produce good outcomes in those with chest wall disorders eg scoliosis, thoracoplasty. The combination of NIV with cough assist devices may be very helpful in avoiding the need for intubation. Growing data suggests that children with neuromuscular diseases previously thought to be lethal in childhood, may be able to transition to adulthood with the help of strategic ventilatory support and appropriate multidisciplinary care. These advances will be discussed.

SENDING PATIENT HOME ON NON-INVASIVE VENTILATION

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There are many indications for patients to go home on Non-invasive ventilation (NIV). In children, the commonest indication for NIV used at home is airway obstruction. Airway obstruction in children is due to upper airway disease e.g. obstructive sleep apnea, severe laryngomalacia and Pierre Robin Sequence. Common condition causing lower airway obstruction is tracheomalacia or bronchomalacia. Other indications vary form restrictive lung disease, neuromuscular diseases, cardiac failure etc.

The preparation for patient to go home with NIV depends on medical diagnosis, home background, social and financial circumstances. Some patients went home to continue NIV for palliative care to relief their symptoms and some are send home with NIV while waiting for surgery like cardiac surgery. Type of house also varies in Malaysia as it affects the electrical supply and distance to the nearest health facilities. One of the major problem is financial issues which need to be address from the beginning.

Patient will be send home once they are stable to continue nursing care at home, parents and caregivers are well trained and prepared, all relevant medical equipments are available and they have appropriate house to go to. Most often medical equipments are funded by Malaysian government via Tabung Bantuan Perubatan Kesihatan Malaysia. Parents training include handling emergency situation at home. In summary, preparation of patient to go home on NIV involves whole patient approach including their family members and social circumstances.

THE DARK SIDE OF THE MOON: WHEN, WHY AND WHERE SHOULD I NOT USE NIV

Anita K Simonds
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While NIV has revolutionised the care of acute hypercapnic exacerbations of COPD and altered the natural history of long term neuromuscular and restrictive chest wall disorders, it is not a universal panacea. There are some situations where NIV will either fail or be unlikely to succeed. The sensible clinician should be able to recognise these scenarios in order to apply NIV intelligently and optimally in caring for patients.

I will Identify 4 situations where NIV can be used but may fail, and how to manage that failure:

a. Acute exacerbations of COPD. Here NIV may be successful in up to 80% of cases, but how do you identlify the cases where it is failing and take avoidance measures?

b. NIV in acute pandemic influenza, CoV infections: here NIV may be used in some subgroups of patients but in those with rapidly progressive acute lung injury (as in hypoxaemic respiratory failure of any cause) it has a low chance of success and should not delay intubation and invasive ventilation. Furthermore infection control precautions are vital and will be discussed.

c. NIV in chronic fibrotic lung disease: here NIV cannot address the underlying pathophysiology, and may not control symptoms

d. NIV as a palliative strategy in malignant disease. In fact NIV can reduce breathlessness in some endstage solid tumour patients, but is not successful in all. The evidence underlying these conclusions will be shown.

CEREBRAL PALSY AND PNEUMONIA

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Cerebral palsy is characterised by motor impairment and can present with global physical and mental dysfunction. It is a static neurologic condition resulting from brain injury that occurs before cerebral development is complete. Complications of cerebral palsy include spasticity and contractures; feeding difficulties; drooling; communication difficulties; osteopenia; osteoporosis; fractures; pain; and functional gastrointestinal abnormalities contributing to bowel obstruction, vomiting, and constipation.

Children with cerebral palsy are susceptible to varying degrees of morbidity and mortality from respiratory complications. Pneumonia is the commonest reason for hospital admission for cerebral palsy. Among severely disabled children in three US institutions 77% of deaths were a result of pneumonia.

Predisposing factors for the development of pneumonia are inability to breath properly, inability to cough correctly, deconditioning of breathing muscles, feeding or swallowing difficulties (pseudobulbar palsy) leading to aspiration of saliva or food/fluid, aspiration from reflux, structural deformity (e.g, curvature of the spine, muscle tone, gravity), malnourish/under-nourish, muscle atrophy/weakness which predispose to reduce lung function and pneumonia.

Management of the underlying predisposing factors and pneumonia are being discussed.

ASSESSING SLEEP DISORDERED BREATHING – FROM QUESTIONNAIRES TO PORTABLE STUDIES

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Obstructive Sleep Apnoea Syndrome (OSAS) is a highly prevalent condition but significantly under-diagnosed. Clinical details obtained from the patients often susceptible to reporter and observer bias and may not produce objective and reproducible findings. Accurate risk assessment and triage of sleep referrals is highly desirable due to limited availabilities of diagnostic laboratories, not just in Malaysia but all over the world. Consequently, efforts have been made to standardize clinical history using questionnaires potentially allowing both for the identification of subjects with high likelihood of SDB, and for triage according to their symptomatology. Those with a high pre-test probability of OSAS subsequently can be subjected to portable monitoring to shift the workload from lab Polysomnogram. This review will focus on all the questionnaires available and recommendations pertaining to portable studies in diagnosing SDB.

NEUROCOGNITIVE EFFECTS OF OBSTRUCTIVE SLEEP APNOEA

Anita K Simonds

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OSA is known to affect neurocognitive function including impacts on executive function, reasoning, learning, verbal memory, vigilance and attention. Interpretation of the relationship between these impacts and the degree of hypoaxemia and sleep fragmentation are confounded age, lack of knowledge of duration of OSA, educational experience, co-morbidity and wide inter person performance in test assessments. Neuro-imaging techniques have shown loss of hippocampal volume and grey matter changes in the cerebellum, parietal and frontal lobes in OSA cohorts. The interplay of these factors and the extent to which CPAP can reverse cognitive changes will be explored.

PERSISTENT AIRFLOW OBSTRUCTION IN ASTHMA

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Approximately 10-15% of people with asthma have a degree of fixed airflow obstruction. The phenotype of asthma with associated with apparent airflow limitation is defined by FEV1/FVC ratio below the lower limit of normal for age and FEV1 < 90% predicted in a patient taking corticosteroids, after acute administration of a rapid onset bronchodilator. It is important to ensure that are complaint with therapy before diagnosing persistent airflow obstruction (PAO). It is also important to exclude other diagnoses such as vocal cord dysfunction, obliterative bronchiolitis and COPD.

PAO is more common in people with late onset asthma, those with a longer duration of asthma, in men and current smokers. Despite similar fixed airflow obstruction, subjects patients with PAO have distinct characteristics compared with subjects with COPD. PAO is associated with a more rapid decline in FEV1 over time.

There is little evidence about the most effective add-on treatment for people with PAO but tiotropium has been shown to improve lung function, decrease reliever use and reduce exacerbation rates when added to LABA/ICS in people with PAO.

OCCUPATIONAL ASTHMA

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Work related asthma is the commonest occupational lung disease in most developed countries. The population attributable risk for adult asthma due to occupational exposures is 10% to 25%. Its diagnosis is however often overlooked. Work related asthma can either occur as a result of an aggravation of pre-existing asthma or occupational asthma. Aggravation of pre-existing asthma occurs due to exposures to potential irritants e.g. cold, dry air, dusts, smoke and fumes in the workplace and is more common in patients with moderate or severe asthma not receiving optimal treatment. Occupational asthma occurs due to causes that are attributable to a particular occupational environment among those with no previous history of asthma. Occupational asthma is either sensitizer-induced or irritant-induced. Sensitizer-induced occupational asthma is responsible for more than 90% of the cases. It is due to exposure to high- molecular-weight sensitizers (such as animal proteins, flour or natural rubber latex) and low-molecular-weight chemicals (such as diisocyanates, colophony [a pine resin product] or epoxy compounds). Irritant-induced occupational asthma is also known as reactive airways dysfunction. Occupational groups at high risk of developing occupational asthma include health care workers, wood workers, automotive workers, electronic workers and animal handlers. Diagnosis of occupational asthma is made based on a history of chest tightness, wheezing and shortness of breath, exposure to sensitizers or irritants, pulmonary function tests including serial peak expiratory flow readings, non-specific bronchial challenge (methacholine and histamine inhalation tests) and specific inhalation provocation tests, skin prick tests and blood tests for IgE to assess allergy to various occupational allergens. Impairment assessment for asthma is usually based on a total asthma score derived from scores given for airflow limitation (post-bronchodilator FEV1% predicted), reversibility of FEV(1) or degree of airway hyper-responsiveness and minimum medication needed.

OVERLAP SYNDROMES IN ASTHMA (OBESITY, GERD, COPD)

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Asthma is a common disease encountered in our daily clinical practice. The diagnosis using the current practice guidelines enables us to form treatment plans for our patients. There is however a subset of asthma patients who do not respond well to treatment. This group is often overlooked and excluded from clinical trials, which make evidence on treatment limited. We tend to fall back on experience rather than evidence-base for this group.

Cluster analysis has proven that asthma is a heterogenous disease. Typically asthma patients have intermittent airway obstruction with reversible airways but in about 10-20% of patients, there is an overlap of features of both asthma and chronic obstructive airway disease. This is seen more commonly in the elderly asthmatics. Airway inflammation and obstruction still occur but the predominant cell type is may no longer be CD4 cells and the airway may not longer be reversible.

Obesity is a risk factor for developing asthma and it may worsen preexisting asthma. This group of obese-asthmatics have been shown to have a more difficult to control asthma. It may be due to the mechanics of breathing which is affected. They tend to have less eosinophilic type of inflammation and less response to conventional asthma treatment.

GERD occurs in more than 75% of asthmatics. It is associated with a more difficult to control asthma. The exact link is not well understood. Postulations include; heightened reactivity, microaspiratio and an immune system modulation.

The interventions for each of the overlap syndrome may vary, but the common goal better if not total symptoms control and to prevent further exacerbations.

RISKS AND COMPLICATIONS OF ASPIRATION PNEUMONIA

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Aspiration pneumonia is an inflammation in the lung and airways following inhalation of any food or stomach or oropharyngeal content either fluid, semi-solid or solid. It may also known as "anaerobic pneumonia". It is commonly found in subjects who are unconscious, semi-conscious, mechanically ventilated, during and post anaesthesia or neurologically deficit subjects. However, it can happen in a lucid subject following several medical conditions. They are swallowing incoordination, dysphagia, severe gastro-esophageal reflux disease, severe tachypnea, severe upper airway obstruction and any causes for recurrent vomiting. Mechanism for aspiration pneumonia varies according to material aspirated. Subject's reaction following aspirations are depending on type of aspirating materials, amount aspirated and subject response to the materials. Chemical aspiration and aspiration pneumonia may describe two different mechanisms i.e. non-infective and infective respectively. Following acute aspiration, a subject may develop acute respiratory distress but after recurrent aspirations it may lead to lung collapse, recurrent pneumonia and bronchiectasis.

ASSESSMENT AND INVESTIGATION OF ASPIRATION PNEUMONIA

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Aspiration pneumonia should be suspected when a patient presents with risk factors and radiographic evidence of an infiltrate suggestive of aspiration pneumonia. Chronic pulmonary aspiration represents the repeated passage of food material, gastric refluxate, and/or saliva into the subglottic airways in a manner sufficient to cause chronic or recurrent respiratory symptoms. It may occur in sporadic and intermittent or coincidentally with other stressors, such as an upper respiratory tract infection.

The assessment include history and clinical examination. Children may present with chronic cough, wheeze, recurrent pneumonia, failure to thrive, choking on feeds or secretions, and radiological signs of chronic lung injury. It often occurs in children with complicated underlying medical conditions and syndromes that produce similar respiratory symptoms. Anatomic abnormalities like tracheo-oesophageal fistulas are often apparent at birth while h-type fistulas or laryngo-oesophageal clefts may be more difficult to detect. Other craniofacial abnormalities may also disrupt the coordination between swallowing and respiration, and predispose to aspiration.

The laboratory studies obtained should be guided by the patient's clinical assessment. Chest radiograph is inexpensive, widely available and able to assess accumulation of lung injury over time. While HRCT is more sensitive in detecting the consequences of chronic aspiration. In evidence of lobar collapse or major atelectasis, a therapeutic bronchoscopy may be helpful. Furthermore, the quantitative bacteriology may be obtained from the BAL samples. There are various tests which can be done in determining the cause of chronic aspiration like 24H oesophageal pH study, barium study, videofluoroscopic swallow study and fibreoptic-endoscopic evaluation of swallowing.

PLENARY 3

NON-INVASIVE VENTILATION: THE FIRST FEW MILLENNIA AND BEYOND

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The history of non-invasive ventilation is long and eventful, and moves in fits and starts. The story from early versions of negative and positive pressure attempts to support ventilation through to current autotitrating ventilators and the management of cardiac failure as well as respiratory failure patients will be recounted.

PROGRAMMATIC MANAGEMENT OF DRUG RESISTANT TB (PMDT)

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In 2012 it was estimated that the global incidence of Tuberculosis(TB) was 125 cases per 100,000 population. Out of the 12 million (10-13 mil.) prevalent TB cases, around 630,000 were estimated to be multidrug-resistant(MDR). Drug resistance emerged with each new drug used and less drug resistance was observed when drugs were used in combination. Resistant strains from patients retained their ability to be transmitted to others. Even if most TB patients in the world are not drug-resistant (5% of total TB burden), the burden of MDR-TB in the world poses a formidable challenge to the prospect of controlling TB. Globally in 2012, about 3.6% of newly diagnosed TB cases and 20% of those previously treated for TB had MDR-TB. Swaziland, the country with the highest TB incidence rate in the world, has the highest level of primary MDR ever reported in Africa (7.7%).

Funding needs for TB are expected to continue to increase, with the largest relative increases being for the treatment of MDR-TB and for diagnostics & laboratory strengthening. In 2015, it is estimated that about 20% of the USD 8 billion that low- and middle-income countries require for TB care and control will be needed for the treatment of MDR-TB. In the year 2000 – the Green Light Committee(GLC) was established to support the 1st DOTS-Plus project for MDRTB. In 2002 the Global Fund decides that all proposals for MDR-TB treatment must be approved by the GLC. In 2012, the new MDR-TB support framework established the formation of Western Pacific Region- rGLC.

For 10 years (2000-2009), there were an estimated 5 million MDRTB cases of which only 0.5% were treated under GLC approved program and 1.5 million people died. This then lead to a transition from controlling to a supportive mode by country capacity building, rational ambitious scale-up plans, removing barriers, replicating success models and no GLC approval required for ordering drugs.

TB SCREENING AND SURVEILLANCE IN HEALTH-CARE WORKERS

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The risk of healthcare workers (HCWs) contracting tuberculosis (TB) in the healthcare settings has been shown to be higher than those in the general community. However, many of those who contracted the disease remain asymptomatic (latent TB) but are at risk of developing TB reactivation in future. When the latter occurs, it will not only endanger the HCWs but also posts a risk of spreading the infection to the patients under their care, their family members and other colleagues. Hence, screening and surveillance of latent TB infection (LTBI) has become a standard practice at centres in developed countries which are taking care of significant number of TB patients. Notwithstanding, screening of HCWs for LTBI entails challenging issues, which include allocating adequate resources, selection of appropriate tests and interpretation of test results. For screening tests, there are basically 2 different types of tests available: the tuberculin skin test and the interferon-gamma release assays. Comparisons will be made on the cost-effectiveness, sensitivities and specificities of these 2 tests. And finally, discussions will be focused on whether LTBI screening or surveillance should be practiced at healthcare settings in TB endemic countries.

Oral Presentations

ANXIETY AND DEPRESSION AMONG OLDER PATIENTS HOSPITALISED FOR ACUTE EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Introduction

Chronic obstructive pulmonary disease (COPD) is associated with exacerbation which is the main cause of hospitalisations especially among the elderly. Anxiety and depression are common co-morbidities, which are often under-diagnosed, and are associated with poor prognosis.

Objectives

To evaluate the characteristics and occurrence of probable anxiety and depression among older patients hospitalised for acute exacerbation of COPD (AECOPD).

Methodology

Prospective longitudinal study was conducted in four major hospitals in Malaysia. Older (≥ 60 years) patients hospitalised with the primary diagnosis of AECOPD were included. Demographic data, co-morbidities, severity of dyspnoea and COPD were recorded. The occurrence of probable anxiety and depression were assessed using Depression Scale (GDS-15) and Generalised Anxiety Disorder-7 (GAD-7).

Results

Eighty five patients were recruited during the one year study period. The median age was 72.1 (Inter Quartile Range (IQR) 66.4-78.3) years and 96.5% were male. Ethnicity distribution: Chinese (43.5%), Malay (42.4%) and Indian (10.6%). Almost a quarter (23.5%) was current smokers. Previous hospital admission due to COPD in the previous year was common (61.1%), of which, 41.2% with more than one admission. The most common co-morbidities were hypertension (49.4%), pneumonia (24.7%), and diabetes (24.7%). Majority of the patients had moderate to severe COPD based on the standardised GOLD criteria. The median score for dyspnoea severity among patients was 3 (IQR = 2-4). Probable depression was identified in 36.6% of patients. Anxiety symptoms were detected in 34.6% of the patients. Approximately quarter (25.9%) of the patients were detected to have both anxiety and depression. None of patients included in the study were taking anti-depressive or anxiolytic agents.

Conclusions

Anxiety and depression were found to be relatively common among older patients hospitalised with AECOPD. Regular screening for the detection of the symptoms and initiation of appropriate treatment should be encouraged.

EFFICACY OF AZITHROMYCIN IN THE TREATMENT OF BRONCHIECTASIS

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Background

We evaluated the efficacy of 12 weeks treatment with azithromycin in adult patients with pulmonary bronchiectasis.

Methods

A total of 78 patients with bronchiectasis confirmed by High Resolution Computed Tomography (HRCT) thorax were included in this study. Subjects received oral azithromycin or placebo in a randomised manner for 12 weeks followed by placebo for another 12 weeks to evaluate 'carryover' effect. 24 hour sputum volume, St. George's Respiratory Questionnaire (SGRQ) score and spirometry were recorded at baseline, 12 weeks and 24 weeks respectively. Endpoint measurements were compared from baseline to the end of each study phase.

Results

68 subjects were included in the analysis. Mean 24-hour sputum volume significantly decreased ($p < 0.01$) during the active treatment phase, and remained decreased during the control phase ($p < 0.01$). The mean SGRQ total score with azithromycin decreased (i.e. improved health status) from baseline by more than the four-point minimum clinically important difference at the end of 12 and 24 weeks. Lung function remained stable during oral azithromycin therapy and throughout the subsequent control phase.

Conclusion

12 weeks administration of azithromycin in bronchiectasis produces significant reductions in mean sputum volume, health status and stabilization of lung function values. The beneficial effects of oral azithromycin in reducing sputum volume and improving quality of life was sustained for another 12 weeks after cessation of azithromycin.

References

Anwar GA 2008, Cymbala AA 2005, Davies G 2004.

Abbreviations

High Resolution Computed Tomography, HRCT; St. George's Respiratory Questionnaire, SGRQ.

SQUAMOUS CELL CARCINOMA OF THE LUNG IN SMOKERS AND NEVER SMOKERS: CLINICAL CHARACTERISTICS AND EPIDERMAL GROWTH FACTOR RECEPTOR MUTATIONS

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Objectives

To define demographic and clinical characteristics of patients with squamous cell carcinoma (SCC) of the lung according to location of tumour and patients' smoking status and also to determine frequency and clinical predictors of EGFR mutation in SCC.

Methods

Demographic, clinical and CT scan images of patients with SCC treated at Universiti Malaya Medical Centre from 2009 to 2013 were studied. Somatic EGFR mutations in diagnostic biopsy specimens were detected by allele-specific polymerase chain reaction.

Results

Of 118 patients with SCC, central- SCC was more frequently (73.1%) located in right lung while 65% of peripheral- SCC were located in left lung [OR, 5.04; 95% CI, 2.22 - 11.45; p <0.001]. Among ever smokers, central SCC was significantly more common among heavy smokers (71.0%) than non-heavy smokers (29.0%) (p = 0.04).

97 patients underwent EGFR mutation testing. 12 patients (12.4%) were positive for EGFR mutations. Significantly more female [6 of 24 (25.0%)] than male patients [6 of 73 (8.2%)] (OR, 3.04; 95% CI, 1.08 – 8.55; p = 0.04) and significantly more never smokers [7 of 27 (25.9%)] than ever smokers [5 of 70 (7.1%)] (OR, 3.63; 95% CI, 1.26 – 10.26; p = 0.03) had EGFR mutation-positive tumours. Multivariate analysis with gender and smoking history (never versus ever smoker) as covariates showed that only never smokers were independent predictor of EGFR mutations (adjusted OR, 4.55; 95% CI, 1.30 – 15.92; p = 0.018).

Conclusions

SCC in 12.4% of our patients was positive for EGFR mutations. EGFR mutations should be tested in SCC of Asian patients, particularly in never smokers.

RETROSPECTIVE REVIEW OF PATIENTS DIAGNOSED WITH OBSTRUCTIVE SLEEP APNOEA IN RESPIRATORY CLINIC, PENANG GENERAL HOSPITAL IN 2012-2013

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Introduction

Obstructive sleep apnea (OSA) is a disease of increasing prevalence and demonstrates heterogeneity in its manifestation.

Objective

We aimed to characterise the various features of OSA in patients diagnosed in our clinic.

Method

We retrospectively reviewed our OSA population by tracing their Outpatient Chest Clinic records using our CPAP Therapy Prescription book list. Upon acquiring the records, data will be captured using a prepared data form. Patients with incomplete data were excluded from the study. SPSS version 20 was used for statistical analysis.

Results

A total of 78 patients were included with a mean age of 44.73 years (SD ± 13.66). 34 (43%) were Malays, 31 (39.2%) were Chinese, 7 (8.9) were Indians and 6 (7.6%) patients belonged to other ethnicity. 98.7% (n=77) had history of snoring. 52.6% (n=41) had at least one cardiovascular comorbidity. In order of frequency, the comorbidities were hypertension (n=38, 48.7%), followed by diabetes (n=23, 29.5%), dyslipidemia (n=11, 14.1%), heart failure (n=7, 9%) and stroke (n=2, 2.6%). 27 (34.6%) had asymptomatic OSA. Only 51.3% (n=40) exhibited compliance to CPAP. Average duration of symptom onset-to-diagnosis was 31.3 months. The apnoea-hypopnea index (AHI) range was wide; 7.3 - 108.4 (mean: 43.5). Documentation on anatomical features was inadequate for analysis. Correlation between Body Mass Index (BMI) and AHI was weak but statistically significant (r=0.27, p=0.01). No significant correlation were found for BMI and Epworth Sleepiness Scale (ESS) (r=0.11, p=0.30), and AHI and ESS (r=0.03, p=0.79).

Conclusion

In our patients, the prevalence of snoring history and cardiovascular comorbidities are consistent with known figures[1,2]. CPAP compliance of 51.3% is also comparable to some studies[3]. Our asymptomatic OSA prevalence is slightly higher than reported figures[4]. There is significant albeit weak correlation between BMI and AHI as previously reported5. However, we could not establish significant correlation between ESS and BMI or AHI unlike previous reports[6,7]. This could be due to our higher prevalence of patients with asymptomatic OSA, difficulty relating to an English-based questionnaire or underestimation of symptom severity. In summary, the characteristics of our patients largely correspond to those reported in published data.

1. *Terry Young 2002*
2. *Ohayun MM 1997*
3. *McArdle N 1999*
4. *Duran J 2001*
5. *Santiago-Recuerda 2007*
6. *Lee SJ 2012*
7. *Geetha Kandasamy 2013*

SURVIVAL AND PROGNOSTIC FACTORS OF ADULT TUBERCULOUS MENINGITIS IN PENINSULAR MALAYSIA

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Introduction

Tuberculous meningitis causes substantial mortality despite its low incidence. Identification of prognostic factors is crucial for better clinical management.

Objective

This study was performed to determine the survival and prognostic factors of adult tuberculous meningitis patients in peninsular Malaysia.

Methods

The medical records of 217 adult tuberculous meningitis patients treated or follow up in Hospital .Kuala Lumpur (HKL), Hospital Pulau Pinang (HPP), Hospital Sultanah Aminah Johor Bahru (HSAJB) and Hospital Universiti Sains Malaysia (HUSM) from 1st January 2006 to 31st December 2012 were reviewed retrospectively. Data collected included socio-demographic, clinical and treatment characteristics of the patients. Survival status and duration were determined with one year follow up period until 31st December 2013. Data entry and analysis were accomplished using Stata SE version 11.0. The Kaplan-Meier method was used to perform survival estimates while the log-rank test and the Cox proportional hazards regression model were employed to perform univariable and multivariable analysis.

Results

Overall survival probability of adult tuberculous meningitis was 36.8%, median survival time 244 days. Significant prognostic factors were Malaysia citizen (aHR 0.33, 95%CI 0.20, 0.54; p<0.001), GCS score (aHR 0.73, 95% CI 0.67, 0.78; p<0.001), HIV status (aHR 2.56, 95% CI 1.56, 4.22; p<0.001), diabetes mellitus (aHR 2.98, 95%CI 1.63, 5.42; p<0.001), meningeal enhancement (aHR 0.46, 95% CI 0.30, 0.73; p=0.001), headache (aHR 0.62, 95% CI 0.40, 0.97; p=0.036) and LOC (aHR1.66, 95%CI 1.02, 2.69; p=0.041).

Conclusion

Survival of adult tuberculous meningitis was relative low. Early diagnosis and prompt treatment is vital to reduce mortality.

VIRUSES DETECTED IN CHILDREN PRESENTING TO THE ACCIDENT AND EMERGENCY DEPARTMENT IN UNIVERSITY MALAYA MEDICAL CENTRE, KUALA LUMPUR: A PROSPECTIVE STUDY

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Introduction

Lower respiratory tract infections (LRTIs) are a significant cause of morbidity in children and viruses are often implicated as their aetiology.

Objective

To determine (a) types of viruses in children and (b) factors associated with need for admission in children presenting to the Accident and Emergency (A&E) department with LRTIs.

Methods

This was a prospective study from 1st September 2010 to 6th March 2012, at the Paediatrics A&E Department, UMMC, Kuala Lumpur. Children less than 3 years old presenting with respiratory symptoms had nasopharyngeal aspirates taken and tested for common respiratory viruses (rhinovirus, respiratory syncytial virus, parainfluenza virus 1-3, bocavirus, human metapneumovirus, and influenza A and B) by polymerase chain reaction. Demographic, environmental and host factors were obtained. Clinical assessment and management were recorded by the attending physician. Children with asthma were excluded.

Results

One hundred and eighty-one children with a median (IQR) age of 8(4, 12) months were recruited. Nasopharyngeal aspirates were positive in 55.2% (n=100) of patients. The three commonest viruses detected were RSV alone (25.4 %), rhinovirus alone (16.0 %) and parainfluenza virus alone (6.1 %). Five (2.8 %) patients had 2 detectable viruses. More than two-thirds of children (67.4) were admitted. In multivariate analysis, symptoms of fever and breathlessness were independent factors associated with admission for LRTI while being breastfed was protective against admission. Neither type of virus detected nor being positive for a virus was associated with admission for LRTI.

Conclusion

Viruses were detected in more than half of the patients seen in A&E with RSV and rhinovirus being the commonest. Children who were breastfed were more likely to be discharged from A&E while those with fever and shortness of breath were more likely to be admitted.

DOES POLYSOMNOGRAPHY PREDICT POST-OPERATIVE RESPIRATORY COMPLICATIONS AFTER ADENO-TONSILLECTOMY?

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Introduction

Obstructive sleep apnoea (OSA) is common in children and polysomnography (PSG) is the gold standard for the diagnosis. Adeno-tonsillectomy is the surgical procedure of choice with high curative rate and relatively low morbidity. However, PSGs are expensive, time consuming with a long waiting time. The focus has been, traditionally, to anticipate post-operative airway and respiratory complications in this group of children. The aim of this study is to determine if PSGs can predict post-operative respiratory complications following adeno-tonsillectomy in OSA children.

Methodology

We performed a retrospective review between 1st January 2010 and 31st December 2013 at Universiti Malaya Medical Centre of 107 children aged three to eighteen years with clinical suspicion of OSA and who had an overnight PSG. Most (n=80) of these children had documented tonsillar size between 3+ and 4+. We looked at body mass index (BMI), apnoea hypopnea index (AHI) as per American Academy of Sleep Medicine guidelines and outcomes of patients who had adeno-tonsillectomy.

Results

The mean BMI in this group was 25.8 (SD=7.2). The median AHI was 4 (0 to 164) events/ hour. The mean stay in hospital was 2 days (SD=1) post-operatively and only five patients were admitted to the paediatric intensive care unit (PICU) for observation. They did not have any respiratory complications nor required any further intervention. Some patients had their adeno-tonsillectomy cancelled due to lack of available PICU beds. All the children recovered well post-operatively and needed no further support upon discharge.

Conclusion

In view of our low complication rates and low post-operative morbidity the need for mandatory overnight PSG pre-operatively should be reviewed.

FOLLOW UP OF CHILDREN WITH CONGENITAL DIAPHRAGMATIC HERNIA AND NEED FOR A MULTIDISCIPLINARY CARE PROGRAM

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Introduction

There is wide variation in follow up practices after initial hospitalisation and surgical repair of congenital diaphragmatic hernia (CDH) patients. We reviewed morbidities and follow up practices in our survivor cohort and propose a new comprehensive CDH follow up program.

Method

This is a retrospective review of all CDH (n=65) admitted to paediatric intensive care unit (PICU) from 2003 till 2012. Controls without CDH were age matched and recruited for comparison of pulmonary function.

Results

Of the 42 patients who survived, most were male (62%) and non-Malays (66.7%). Most were diagnosed postnatally. Mean gestational age was 38.5 ± 1.7 weeks with a birth weight of 2987 ± 431 gm. We noted a significant decrease in mean FEV_1 [68mL ± 17% v 98 ± 8%, p<0.001], FVC [71mL ± 17% v 90 ± 7%, p=0.01] and MEF_{25-75} [62mL/s ± 30% v 118 ± 28%, p<0.001] compared to the controls. The length of stay in PICU was a risk factor for subsequent chronic lung disease (CLD) and asthma. Five (12%) patients were discharged on non-invasive ventilation, which was subsequently weaned off. One patient (2.4%) with pulmonary hypertension remains on oxygen therapy at home. Postnatal diagnosis of CDH and use of conventional ventilation were associated with CLD. More than half of our CDH survivors had failure to thrive (FTT) and musculoskeletal abnormalities. The duration of ventilation and of stay in PICU correlated with FTT. Recurrence of hernia was seen in 2 patients. Lack of medical follow up led to delayed detection of specific complications such as asthma (n=9), CLD (n=6), failure to thrive (n=14), musculoskeletal abnormalities (n=17) and hearing impairment with speech delay (n=1).

Conclusion

A systematic long-term multidisciplinary follow up is needed in the standard care of CDH patients to detect and minimize further co-morbidities.

PARENTS' KNOWLEDGE REGARDING HEALTHY SLEEP IN YOUNG CHILDREN

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Introduction

Insufficient and poor quality sleep is a growing health issue among children and has been associated with a number of consequences.

Aim

To examine sleep health knowledge, beliefs and their relationship to sleep practices among parents of young children in Hospital Serdang.

Methodology

57 patients without chronic illness who were admitted to the paediatric ward in March 2014 were enrolled. They were between 1 year to 12 years of age. Questionnaire forms on child sleep habits and parental basic sleep knowledge and beliefs and attitudes regarding sleep were given to parents on admission.

Results

50% of children did not have a consistent bedtime, 53% had a bedtime later than 10 pm on weekdays and 81% on weekends. 47% had at least one electronic device in the bedroom and 68% frequently fell asleep with an adult present. 72% of children did not have any bedtime routine. Both positive and negative sleep habits tended to cluster. 46% of parents did not consider sleep after 9pm to be late. 64% of parents thought that they needed to change their children's sleeping habits. And 74% of parents did not think seeking medical advice was needed.

Conclusion

The results of this survey suggest that there are clear parental knowledge gaps regarding healthy sleep in young children. Sleep health education needs to be emphasised.

RISK FACTORS ASSOCIATED WITH EXACERBATIONS OF COPD AMONG MALAYSIAN POPULATION AGED 40 YEARS AND ABOVE

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Introduction

COPD is expected to be the 3rd leading cause of death by 2020. The prevalence and mortality rate unfortunately continues to rise despite the reduction in mortality of other chronic diseases such as coronary heart disease. There is a high prevalence of smokers in Malaysia and based on model projections, the prevalence of moderate to severe COPD in Malaysia is 4.7% which translates to 448,000 cases.

Objective

The aim of this study is to investigate the risk factors associated with exacerbations of COPD among Malaysian population aged 40 years and above.

Methodology

This is a prospective observational study across 8 general hospitals in Malaysia. Patients > 40 years old admitted with a diagnosis of acute exacerbation of COPD requiring hospital admission were enrolled in this study. Prior hospitalisation, demographic data, comorbidities and potential risk factors of COPD exacerbations were ascertained from patients and healthcare registeries.

Results

A total of 222 subjects with mean age of 66 years old were enrolled. In this study, several predictive risk factors: smoking status (non smoker - 1.3%, current smoker - 16.2% and ex smoker - 73.9%), previous COPD exacerbations prior to hospital admission (no exacerbations - 31.6%, 1 exacerbation - 12.4%, 2 or more exacerbations - 47%), previous hospital admission for other causes (5.6%) and poor inhaler technique (12.4%) were all found to be significant risk factors of COPD exacerbations among Malaysian population.

Conclusion

Identifying significant risk factors of COPD exacerbation could potentially reduce the health care expenditure and improve the patient's quality of life and survival.

Acknowledgement

This study was supported by the Malaysian Thoracic Society Research Grant.

COMORBIDITIES IN COPD PATIENTS ADMITTED WITH ACUTE EXACERBATION REQUIRING HOSPITALISATION IN MALAYSIA

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Introduction

Comorbidities such as hypertension, diabetes mellitus and cardiac disease are common in patients with COPD. However the relationship between COPD, comorbidities and mortality are not fully understood.

Objective

The aim of this study is to determine the prevalence of comorbidities in patients admitted to hospital with acute exacerbation of COPD.

Methodology

8 centers participated in this study. Patients > 40 years old admitted to hospital with a diagnosis of clinical AECOPD were included. Prior hospitalisation, demographic data and comorbidities were ascertained from patients and healthcare registeries.

Results

A total of 222 subjects with mean age of 66 years old were enrolled. The prevalence of comorbidities was as follows: hypertension (32.9%), diabetes (19.4%), asthma (10.4%), previous pulmonary TB (9.9%), congestive heart failure (9.5%), bronchiectasis (5.9%) and myocardial infarction (2.7%). During 1-year follow up, 13 patients died. Among the 13 patients, five subjects had one comorbidity, three subjects had two comorbidities and two subjects had five comorbidities.

Conclusion

Comorbidities are common in patients admitted with acute exacerbations of COPD. Comorbidities may contribute to a higher risk of mortality.

Acknowledgement

This study was supported by the Malaysian Thoracic Society Research Grant.

GUIDELINE ADHERENCE AND TREATMENT OUTCOMES AMONG ASTHMA PATIENTS

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Objective

To evaluate doctor's adherence to asthma clinical practice guideline (GINA 2011) on management and treatment of asthma in respiratory clinic at Hospital Pulau Pinang, Malaysia, and to evaluate treatment outcome of guideline adhered and non-adhered pharmacotherapy.

Method

This was a cross sectional study conducted at respiratory clinic of Hospital Pulau Pinang, Malaysia. Prescriptions written by 6 doctors for 180 established asthma patients, a total of 30 prescriptions per doctor were noted on 1st visit along with patient demographic and clinical data. Prescriptions written were categorised as "adhered" or "non-adhered" to CPG (GINA 2011). Treatment outcome of enrolled patients was calculated based on lung functions values (FEV1) that was noted during the patients' 2nd visit. SPSS 20 was used for data analysis.

Results

One hundred and forty three patients (79%) received guideline (GINA 2011) adhered pharmacotherapy. One hundred and thirty three (73.9%) patients had asthma control that was categorised as "partially controlled". Patient gender had a significantly positive moderate association with asthma control (p=0.015, phi=0.21). Treatment outcome was successful in one hundred and fifty eight patients (87.7%) patients whereas treatment outcome was unsuccessful in 22 patients (12.3%). Of the 158 (87.7%) successfully treated asthma patients, 124 (78.4%) patients received guideline adhered pharmacotherapy whereas 34 (12.7%) patients did not received guideline adhered pharmacotherapy. Of the 22 (12.3%) patients unsuccessfully treated, 19 (86.3%) patients received guideline therapy and 3 (12.7%) patients did not receive guideline adhered pharmacotherapy.

Conclusion

Majority of patients received guideline adhered pharmacotherapy. However, doctors may deviate from guidelines based on their experience and patient clinical condition to optimize therapeutic outcomes.

EGFR STATUS AMONG PATIENTS SUFFERING FROM ADENOCARCINOMA OF THE LUNG IN KUCHING – AN UPDATE FROM SLCSIG

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Introduction

Adenocarcinoma is now the commonest form of lung malignancy diagnosed in Kuching and Malaysia. EGFR receptor mutation is one of the targets for therapy and the incidence of its mutation in different exon varies according to gender, race and smoking status. The aim of our study is to describe the characteristic of patients with EGFR mutation.

Methods

This is a retrospective study. All patients seen in respiratory unit during the study period from November 2011 to February 2014 suffering from adenocarcinoma with EGFR status tested were included. Their characteristics were obtained from their clinic cards.

Results

188 patients had a diagnosis of lung malignancy during this period. 64.9% (n=122) were adenocarcinomas. Out of the 122, EGFR status was known in 98 patients. EGFR mutation was detected in 55.1% (n=54) of the cases. Deletion in Exon 19 was the most common mutation detected (n=26). This was followed by point mutation L858R in exon 21 (n=17). 2 patients had exon 20 insertion while 4 patients had more than 1 exon mutation. Female sex, non smokers and Chinese race had higher odds ratio for EGFR mutation in our population.

Conclusion

Our analysis showed that non-smokers and females were more common in the group of patients with EGFR mutation. Chinese ethnicity was also more common in these patients. Deletion in Exon 19 was the most common mutation detected.

PULMONARY ARTERIAL HYPERTENSION – 10 YEAR EXPERIENCE IN IPR

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Introduction

Pulmonary arterial hypertension (PAH) is a progressive disease characterised by increased pulmonary vascular resistance, leading to chronic elevation in pulmonary arterial pressure resulting from restricted flow through the pulmonary artery circulation which typically will lead to right sided heart failure and premature death.

Objectives

The objectives are to determine the demographic characteristics and the outcome of pulmonary hypertension patients in our centre.

Methodology

A retrospective observational study of PAH cases managed from January 2004 to April 2014 in IPR and data collection was from individual patient's notes.

Results

Total number of PAH cases was 26. The median age was 34.5, range from 27 to 79 years old. Majority of cases were female (89%). Distribution between the races was as follows: Malay 65.4%, Chinese 26.9% and Indian 7.7%. Near half of the patients were in the category of PAH class I (idiopathic) followed by class II (left heart disease) (34.6%), class III (lung disease) (7.7%), class IV (chronic thromboembolism) (3.8%) and class V (others) (7.7%). With regards to PAH therapy, 30.8% of patients were on mono-therapy, 26.9% on dual therapy, 19.2% on triple therapy and 23.1 % were not on treatment. With respect to outcome of this study cohort, 65.4% patients were still on medical therapy, 19.2% had defaulted and 15.4% had died. However there was no correlation between functional class pre- and post-treatment, result of 6 minute walking test and treatment with the outcome (P=0.202, P=0.273, P=0.767 and P=0.765 respectively).

Conclusion

Our results demonstrate that majority of PAH patients had idiopathic disease and the second largest group had left heart disease as the aetiology. Majority of our patients were on PAH treatment. There were no statistically significant correlation between functional class pre- and post-treatment, 6 minute walking test and treatment with the patients' outcome.

CHARACTERISTICS OF PATIENTS SUFFERING FROM DIFFUSE PARENCHYMAL LUNG DISEASES DISEASE (DPLD) IN RESPIRATORY CLINIC, KUCHING, SARAWAK – A CASE SERIES

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Introduction

DPLD or interstitial lung diseases (ILDs) are heterogeneous group of disorders classified together because of similar clinical, radiographic, physiologic, and pathologic manifestations. Diagnosis and management are challenging. There is minimal information on the type of DPLD or characteristics of patients suffering from DPLD in Sarawak.

Objectives

To report the characteristics of patients suffering from DPLD.

Methodology

Patients suffering DPLD were identified by going through all the case notes of patients in respiratory clinic. Patient data was included if DPLD was considered a possible diagnosis. Patients suffering from tuberculosis were excluded from the analysis.

Results

A total of 27 patients were found to be suffering from DPLD during the period of July 2011 to Feb 2014. Out of that, 7 had connective tissue disease related ILD (CTD-ILD) and 8 were classified as idiopathic pulmonary fibrosis (IPF). Mean age was 56 years old. Mean age for those suffering from CTD-ILD is 49.6 compared to 67.8 years old for those suffering from IPF. Male and female distribution was equal. Majority of the patients suffering from DPLD were Chinese 70.4% (n=19), followed by Malays (n=3) and Iban (n=3). Only 30% of the patients were smokers. Most of the diagnoses were made from radiological findings and clinical history and tissue diagnosis was obtained in only 3 patients. All the patients diagnosed as CTD-ILD received systemic immunosuppressant, whereas only 2 out of the 8 IPF patients are given a trial of oral steroids.

Conclusions

DPLD is not a common disease referred in the respiratory clinic, Hospital Umum Sarawak. Diagnosis is usually made radiologically and clinically. Treatment was heterogeneous, with CTD-ILD patients usually receiving systemic immunosuppressant.

AN OPTIMISING STUDY FOR THE WEANING MODELING OF CLINICAL MECHANICAL VENTILATOR

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The purpose of this study is using data analysis technology to analyse the clinical data from a respiratory care (RC) in Taiwan. The eligible criteria of samples must be the respiratory failure more than 24 hours and their age over 18 years old. Data collection period was from September to December, 2012. With the met criteria there were 359 samples, male and female was 241 (67.1%) and 118 (32.9%), respectively. The average age was 66.5 ± 16.98 years old; there were 195 cases in Surgery and 164 cases in internal medicine. There was diversity of disease severity, with average APACH II score of 22.10 ± 7.17. Successful weaning was achieved in 235 cases (65.5%) and there was failure in 124 (34.5%). The independent variables screened daily included the solving result of respiratory failure, the use of sedatives, the use of vasopressors, the Positive End Expiratory Pressure (PEEP), the coughing ability, the Fraction of inspired oxygen (FiO2) and the rapid shallow breathing index (RSBI). These variables were significantly correlated with the success of weaning. The fitting (Hosmer-Lemeshow test) of daily screening parameters model tested was 4.084 ($P = .770 > .05$). The data showed the regression models had a goodness of fit, and reached the clinical used quality. In particular, the total score, the ability to cough, the PEEP and the RSBI were significant. For the accuracy analysis, the weaning score, the sensitivity, specificity, positive predictive value, negative predictive value, accuracy rate, positive likelihood ratio and negative likelihood ratio were 94.89%, 74.19%, 87.5%, 88.5%, 87.7%, 3.68, and 0.07, respectively.

In conclusion, our study showed that the weaning score, the ability of cough, RSI and PEEP had significant correlation with the success of weaning. These four variables can be used as the rapid screening index for judging the weaning process.

Keywords
Respiratory Failure, APACH II, Daily Screening, Weaning Score

TUBERCULOSIS MORTALITY 2011 TO 2013: IPR EXPERIENCE

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Introduction

Tuberculosis (TB) is still a worldwide deadly threat despite global and national control programs. Understanding factors leading to death following diagnosis of TB is important to predict prognosis in TB patients.

Objectives

To determine the demographic characteristics and to identify the risk factors causing death among TB patients in our centre.

Methodology

A retrospective study analysed the TB mortality cases in IPR from January 2011 to December 2013. Data collection was based on individual patient's notes.

Results

Total number of mortality cases among TB patients was 47. More than half were classified as TB death (61.7%). The mean age was 50 years old. Male to female ratio was 9:1. The majority were Malaysians (91.5%). Malay ethnic group accounted for the highest proportion (55.3%) of patients followed by Indian (21.3%) then Chinese (14.9%). 53.2% of the patients were drug users and 14.9% had HIV co-infection. 11 patients had concomitant extra-pulmonary TB. Most cases were sensitive to first line anti-TB therapy (89.4%). Majority of patients had advanced radiological findings (89.4%). 22 out of 47 cases ended up with lung complications and sepsis. We found significant correlation between severity of radiological findings and TB death ($P<0.05$). History of drug use, HIV co-infection and drug resistant pattern showed a trend as risk factors for the TB death ($P=0.122$, $P=0.157$ and $P=0.176$ respectively). However there was no correlation between duration of symptoms and complications with TB death ($P=0.248$ and $P=0.507$).

Conclusion

Our result demonstrated more than half of TB mortality cases were classified as TB deaths. Majority of patients were Malaysian and fifty percent had history of drug abuse. Advanced radiological changes were significantly correlated with TB death.

CHEST XRAY FEATURES IN SMEAR NEGATIVE PULMONARY TUBERCULOSIS IN SABAH

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Introduction

Pulmonary Tuberculosis (PTB) remains a big public health problem in Malaysia with Sabah state contributes one third of the total cases in the country. Smear negative pulmonary Tuberculosis (SNPTB) is a special entity which is difficult to diagnose and often small in number. We reviewed if CXR features in Sabah conformed to published scoring predictors for SNPTB.

Method

Case notes and CXR are reviewed from TB Clinic, Queen Elizabeth Hospital (QEH), Kota Kinabalu from 2010 until November 2012. All SNPTB were defined by WHO guideline 4th edition. Patients' demographic data and CXR features were recorded. Exclusion and inclusion criteria were used. CXR were reported in a standardised format by a radiologist.

Findings

13 patients satisfied the inclusion and exclusion criteria, 4 males (30%) and 9 (70%) females. Mean age was 43 years. All CXR were abnormal. The predominant feature was air space opacities. Apical and upper segment involvement and bilateral lesions were predominantly seen.

Discussion

Clinicians face uncertainties when faced with SNPTB. In a highly endemic area like Sabah, differentiating PTB from other lung infection or disease is often difficult. Our findings are in contrast with the published literature[1]. All of our cases presented with abnormal CXR. This may be due to cultural differences in health seeking behavior and their perception of TB in their community[2].

References

1. *Kanaya AM, Gilden DV et al.* ***Identifying pulmonary tuberculosis in patients with negative sputum smear results.*** *Chest 2001, 120:349-355.*
2. *Rundi C.* ***Understanding tuberculosis: perspectives and experiences of the people of Sabah, East Malaysia.*** *J heatlh Popul Nutr 2010 Apr;28(2):114-123.*

PREVALENCE OF POSITIVE MANTOUX TEST AND IGRA AMONG HEALTH CARE WORKERS IN HOSPITAL PEKAN

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Introduction

Healthcare workers' (HCW) increased risk of contracting tuberculosis (TB) is well documented in various studies. Mantoux test is widely available for screening tuberculosis but it has several weaknesses. Interferon Gamma Release Assay (IGRA) is a new promising tool to overcome the weakness but its use in HCW screening remains to be clarified.

Objectives

To estimate the prevalence of positive Mantoux test (> 15 mm) and IGRA in healthcare workers (HCW) with positive Mantoux test in Hospital Pekan.

Methodology

All staff working in Hospital Pekan were offered voluntary Mantoux testing since 2012 and were required to answer a standardised questionnaire. HCW with positive Mantoux were offered an IGRA test (Quantiferon Gold In-Tube-QFT) which was done at Makmal Kesihatan Awam Kebangsaan (MKAK) Sungai Buloh. A total of 243 HCWs in the hospital were screened from April 2012 to December 2012. Chi square test was used to analysed the association of positive Mantoux test.

Results

The prevalence of positive Mantoux test among HCWs was 21.4% (n=52). Only 21 (40.4%) of the positive Mantoux HCW agreed for an IGRA test. Out of 21 HCW, 7 were IGRA positive (33.3%) and 14 were IGRA negative (66.7%). Factors significantly associated with positive Mantoux test were duration of service of more than 10 years (p=0.021), history of tuberculosis (p=0.006) and history of type 2 diabetes mellitus ($p < 0.001$).

Conclusions

Positive Mantoux test among healthcare workers in Hospital Pekan was associated with duration of service, history of tuberculosis and underlying type 2 diabetes. HCW with positive Mantoux and IGRA should be encouraged to take treatment for latent tuberculosis.

RESULT OF MANTOUX TEST SCREENING AMONG HEALTH CARE WORKERS IN HOSPITAL UMUM SARAWAK

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Introduction

Health care workers (HCWs) are at increased risk of nosocomial TB infection. Mantoux test screening in asymptomatic high risk HCWs is one of the administrative controls advocated by the Occupational Health Unit, Disease Control Division of Ministry of Health Malaysia to help in early identification of HCWs suffering from Latent TB.

Objectives

To report the results of Mantoux testing among the staffs in Hospital Umum Sarawak (HUS)

Methodology

All staff working in HUS were offered voluntary Mantoux testing since 2012. Those positive (> 15mm) were worked up for active TB and a questionnaire was given to the staff to identified potential source of infection. Results of all the staff who underwent screening in 2012 and 2013 are recorded and analysed.

Results

A total of 2292 Mantoux readings were done at 84 clinics and wards from HUS in 2012 and 2013. 16 % (n=374) of staff tested had a positive Mantoux test. Out of that 17.9 % (n=67) were professional and management category staf while the rest (n= 307) were allied health and support staff. 5 staff are found to have active TB while 8 staff had past history of TB disease. Mantoux test positive rate are higher for staff working in non-TB wards compared to staffs working in Medical Isolation (TB wards)

Conclusions

Mantoux testing is a labour intensive exercise. While it may detect active tuberculosis in some cases, its routine use remains controversial. It is unknown if positive Mantoux test indicates latent TB infection in HCWs but it is important to highlight the importance of vigilance in even in non-TB wards.

CLINICAL CHARACTERISTICS OF PATIENTS WITH SPINAL TUBERCULOSIS AT A MALAYSIAN TEACHING HOSPITAL

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Introduction

Spinal tuberculosis is one of the most dangerous forms of skeletal TB affected in spine and accounts for 50% of all cases of skeletal TB.

Objectives

To analyse the characteristics of patients with spinal tuberculosis reported at Orthopaedic Department, Hospital Universiti Sains Malaysia.

Methodology

A retrospective record review of 45 patients with spinal tuberculosis was conducted at Hospital Universiti Sains Malaysia by assessing the medical records and radiographic finding from 2005 to 2014. Kyphosis angle was measured in each patient by an orthopaedic surgeon. The kyphosis was then categorised into kyphosis ≤ 30° and kyphosis > 30°. Simple linear regression and Fisher's Exact Test was applied by using IBM SPSS 20.

Results

The mean (SD) age of the patient at the time of diagnosis was 53.47 (17.20) years. Majority of the patients were male (57.8%) and Malay (97.8%). The mean (SD) of kyphosis angle was 13.64° (12.84). The majority of the lesions involved the lumbar spine (42.2%) followed by thoracic spine (37.8%). Abscess was seen in 64.4% of the patients. A total of 68.9% of the patients had duration of illness more than one year. The mean (SD) of number of vertebral bodies involved was 2.16 (0.77). The most common presenting complaints included back pain (77.8%), pain elsewhere (53.3%), fever (44.4%), night sweat (26.7%) and cough (33.3%). Increase in one year of age of the patients at the time of diagnosis would reduce 0.32 degrees the angle of kyphosis (95% CI -0.53,-0.11, =0.03). There was significant association between kyphosis severity and duration of illness (=0.023).

Conclusions

Younger patients were more likely to develop greater kyphosis angle. Severity of kyphotic deformity was associated with duration of illness. Classifying the characteristics of patients are needed to identify patients at higher risk of disease.

FACTORS ASSOCIATED WITH SEVERITY OF KYPHOTIC DEFORMITY AMONG SPINAL TUBERCULOSIS PATIENTS

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Introduction

Spinal tuberculosis is a form of skeletal disease and represents the most common form of skeletal tuberculosis. The complication such as kyphotic deformity affects the quality and span of life.

Objective

To determine the proportions and factors associated with kyphotic deformity among Spinal Tuberculosis patients.

Methods

A retrospective record review of 85 patients with spinal tuberculosis was conducted at Hospital Universiti Sains Malaysia and Hospital Raja Perempuan Zainab II from 2005 to 2014 and 2008 to 2014 respectively by assessing the medical records and radiographic findings (MRI and X-ray). Kyphosis angle was measured in each patient by two orthopaedic surgeons from both hospitals and had been categorized into kyphosis ≤ 30° and kyphosis > 30°. Socio-Demographic Characteristics, Clinical Presentations, Imaging Study Findings and Disease Characteristics were reviewed from the medical records. Proportions of kyphosis were determined by using IBM SPSS 20. Multiple logistic regression was applied by using IBM SPSS 20 and Stata (SE) 11 to identify the factors associated with kyphotic deformity.

Results

Proportion of kyphotic deformity in kyphosis ≤ 30° was 90.6% (95% CI 0.84, 0.97) and kyphosis > 30° was 9.4% (95% CI 0.03, 0.16). Four significant adjusted associated factors that affected kyphotic deformity were age of the patient at the time of diagnosis (Adjusted OR=0.84, 95% CI 0.73, 0.98), number of vertebral bodies involved (Adjusted OR=10.15, 95% CI 1.12, 92.11), type of vertebrae affected; eighth thoracic (T8) (Adjusted OR=18.39, 95% CI 0.89, 384.97) and eleventh thoracic (T11) (Adjusted OR=56.66, 95% CI 2.70, 1202.85).

Conclusion

Younger patients were at risk to develop greater kyphotic deformity compared to adults. Increasing in vertebral involvement particularly in thoracic region may have developed severe kyphotic deformity as well. Kyphotic deformity should be prevented with early detection and effective treatment.

TIME SERIES ANALYSIS AND FORECASTING OF RATE OF TUBERCULOSIS TREATMENT SUCCESS AMONG TB/HIV CO-INFECTION IN KELANTAN

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Background

Human immunodeficiency virus (HIV) is the greatest single risk factor for developing TB (Lazarus, 2008). Many studies had reported the increasing in trend of TB/HIV co-infection cases (Jetan, 2010). This study was designed to study the pattern and the best time series model for forecasting the tuberculosis treatment success among TB/HIV co-infection in Kelantan.

Methods

A cross-sectional of population-based study among TB/HIV co-infection patients from year 2005 to 2012 were conducted in Kelantan by reviewing tuberculosis records in all hospitals and health clinics. Patients with outcome of cure and treatment completed were classified as having tuberculosis treatment success. Three types of exponential smoothing models and four types of Box-Jenkin's model were fitted to the model. Mean Square Error (MSE) and Mean Absolute Percentage Error (MAPE) were two error measures used for comparing the models.

Results

Out of 1562 all of TB/HIV co-infection patients throughout the years, only 420 of them achieved treatment success. Slightly increasing trend pattern and irregularities of outlier were two components found in the data series. The best Exponential Smoothing model that fit the data series was Single Exponential Smoothing model (SES) while ARMA (2,2) was found to be the best Box-Jenkin's model. However, between the two models, SES was found to have smaller error compared to ARMA (2,2).

Conclusion

The slightly increasing trend obtained indicates that the approach that has been implemented by the Ministry of Health (MOH) was effective. However, the overall estimated rate has not improved much. Thus, the strategy should be improved by emphasising potential factors that may affect the tuberculosis treatment success rate among TB/HIV co-infection.

RETROSPECTIVE REVIEW ON CLINICAL CHARACTERISTICS AND OUTCOME OF TUBERCULOSIS IN PATIENTS WITH RETROVIRAL POSITIVE DISEASE IN HOSPITAL MELAKA, MALAYSIA IN 2012-2013

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Introduction

The incidence and characteristics of tuberculosis (TB) among HIV infected individuals in Malaysia are largely unknown. There is no local data on the impact of retroviral disease (RVD) in response to TB treatment and mortality among TB patients.

Objective

To understand the clinical characteristics and outcome of TB in RVD patients in Hospital Melaka.

Methodology

All adult RVD patients diagnosed with TB infections during January 2012 to December 2013 in Hospital Melaka, Malaysia were retrospectively reviewed.

Results

A total of fifty-seven RVD patients (male: 52, female: 5) with TB infections were identified during that period. However, only fifty patients had complete data for analysis. The mean age of the RVD patients with TB was 37 years (range, 19-63 year). Most patients were in the advanced stages of RVD when TB was first diagnosed. Their mean CD4 cell count was 100 cells /mm^3 (IQR, 5-422 cells /mm^3). Clinical symptoms were nonspecific, and the chest physical examination was not helpful in the diagnosis of pulmonary tuberculosis. Atypical patterns (diffuse interstitial infiltrates mimicking Pneumocystis carinii pneumonia or other patterns) and normal chest radiographs were noted in nearly one-third of the patients with pulmonary TB. Acid-fast bacilli (AFB) were detected in sputum smears from thirty-two patients (64%). Ten patients (20%) had extra-pulmonary TB with the most common site being the lymph nodes. None were diagnosed with drug-resistant Mycobacterium tuberculosis (MDRTB). Six patients (12%) died due to late presentation and late diagnosis. Majority had good response to anti-tuberculosis drugs and a favourable outcome. All of them were commenced on antiretroviral therapy (ARV) before completion of their TB treatment.

Conclusion

Early identification of TB in HIV-infected patients and timely ARV initiation especially in patients with advanced stages of RVD is vital to improve their outcome.

PREDICTORS FOR SURVIVAL OF HIV POSITIVE ADULT TUBERCULOUS MENINGITIS PATIENTS IN PENINSULAR MALAYSIA

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Introduction

HIV positivity in adult tuberculous meningitis patents causes low survival time.

Objective

This study was performed to determine the survival and prognostic factors in HIV positive adult tuberculous meningitis patients in Peninsular Malaysia.

Methods

The medical records of 54 HIV positive adult tuberculous meningitis patients treated or follow up in Hospital Kuala Lumpur (HKL), Hospital Pulau Pinang (HPP), Hospital Sultanah Aminah Johor Bahru (HSAJB) and Hospital Universiti Sains Malaysia (HUSM) from 1st January 2006 to 31st December 2012 were reviewed retrospectively. Data collected included socio-demographic, clinical and treatment characteristics of the patients. Survival time was determined with one year follow up period until 31st December 2013. Data entry and analysis were accomplished using Stata SE version 11.0. The Kaplan-Meier method was used to perform survival estimates while the log-rank test and the Cox proportional hazards regression model were employed to perform univariable and multivariable analysis.

Results

Overall survival probability of HIV positive adult tuberculous meningitis was 27.7%, with median survival time 153 days. Significant predictive factors were GCS score (aHR 0.75, 95% CI 0.65, 0.86; $p<0.001$) and headache (aHR 0.33, 95% CI 0.13, 0.84; $p=0.021$). Use of steoids ($p=0.976$) and HAART treatment ($p=0.359$) were found not altered the survival among HIV positive adult tuberculous meningitis patients.

Conclusion

Survival of HIV positive adult tuberculous meningitis in Peninsular Malaysia was lower than that for the normal population. Clinical suspicion of tuberculous meningitis among HIV positive patients is crucial to ensure early treatment and prevent mortality.

TREATMENT OUTCOME OF PATIENTS WITH SMEAR-NEGATIVE PULMONARY TUBERCULOSIS IN HOSPITAL KULIM

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Introduction

Diagnosing sputum smear-negative pulmonary tuberculosis (PTB) remains a challenge to clinicians. The decision to treat as smear-negative PTB is subjective based on experience and confidence of treating clinicians. A vastly different treatment outcome can be observed. Induced sputum and bronchoscopic broncho-alveolar lavage (BAL) are shown to improve diagnostic yield in sputum smear-negative patients (McWilliams T 2003). A study of smear-negative PTB treatment outcome was done with hope to improve future service in Hospital Kulim.

Objective

This study aimed to determine treatment outcome of patients with smear-negative PTB. The secondary objectives were to determine the clinical characteristics of patients with smear-negative PTB, to identify the basis of diagnosis, and to assess the treatment and follow up of patients.

Method

This was a retrospective study involving 44 sputum smear-negative patients from Hospital Kulim from year 2011 to year 2013. Data collection was done by reviewing the patients' folders.

Results

All smear-negative PTB diagnosis was based on symptoms and chest radiograph findings. 20.4% had additional positive Mantoux test. Only one patient had bronchoscopy done. None of the patients had documented induced sputum performed. Of 44 patients, 68.1% completed treatment, 6.8% stopped treatment due to change of diagnosis, 9.1% defaulted, 13.6% died, and one patient was transferred to other centre. Of 6 patients who died, 4 were in high risk group with multiple co-morbidities. Of these, 3 patients were diabetic.

Conclusion

Hospital Kulim still has rooms for improvement in its diagnosis and care of patients with smear-negative PTB. Induced sputum and BAL are useful investigative ways to be considered.

A CROSS-SECTIONAL STUDY ON ENDOBRONCHIAL TB PATIENTS IN UMMC

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Objective

Endobronchial tuberculosis (EBTB) is defined as a tuberculous infection of the tracheobronchial tree. In this cross-sectional study from 2005 to 2014, clinical, radiological, bronchoscopic findings and the outcome of patients diagnosed to have EBTB were evaluated.

Methods

30 patients diagnosed to have EBTB were included in our study. Age, sex, symptoms, signs, microbiological examination results, radiological and bronchoscopic findings as well as treatment outcomes were recorded.

Results

EBTB was found to be more common amongst females (24/30). The mean age of affected patients was 33.8 ± 13.3 years old. Common presenting symptoms included cough (30/30), sputum production (19/30), fever (11/30), weight loss (11/30), wheezing (10/30) and dyspnea (9/30). Physical examination findings included reduced breath sounds (12/30), rhonchi (10/30), crepitations (7/30), body temperature > 37.5°C (6/30) and stridor (4/30). Radiological findings included pulmonary infiltrates (12/30), lung collapse (10/30), consolidation (8/30) and cavitation (7/30). Sputum smear for acid-fast-bacilli was positive in 19 patients. Majority of the patients had a single endobronchial stenosis (21/30). The common sites involved were the left main bronchus (12/30), trachea (9/30), and right main bronchus (8/30). The duration of symptoms prior to presentation significantly correlated with multiple endobronchial stenosis (p=0.005). 14 patients required dilatation of the stenosed area with six patients requiring diathermy to cut the surrounding strictures. Two patients required dilatation up to eight times. The success rate of treatment is lower if the stenosis is at the left main bronchus compared to other sites (p=0.009). We found no correlation between the usage of steroids in predicting the outcome of treated patients (p=1.00).

Conclusions

Stenosis at areas apart from the left main bronchus predicts a better outcome in treatment. Steroid usage may not be useful in the treatment of EBTB.

OCULAR TUBERCULOSIS: EXPERIENCE IN RESPIRATORY DEPARTMENT, HOSPITAL SULTANAH BAHIYAH, ALOR SETAR, KEDAH

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Introduction

Ocular tuberculosis can involve any part of the eye; typically it occurs after haematogenous spread from a primary focus. The diagnosis is challenging thus, presumptive clinical diagnosis is usually made.

Methodology

This is a case series of ocular tuberculosis treated in Chest department Hospital Sultanah Bahiyah. All patients diagnosed to have ocular tuberculosis by ophthalmologist and in whom a decision was made to start anti-tuberculosis treatment between January 2009 until December 2010 were analysed. The baseline data collection was done retrospectively and included data on the outcome of treatment for each of the patients. Data on clinical outcome of ocular tuberculosis patients was taken from information recorded on the last date they attended for follow up. Thus, limited data on long term follow up was retrieved since patients were unable to attend for long term follow-up for various reasons.

Summary of Data

13 patients were recruited through the course of 12 months, 6 are female and 7 are male. 92% of patients had blurring of vision. More patients were treated based on clinical judgment than NAAT testing (62% and 38% respectively, difference was statically was significant with p value of 0.001). In terms of treatment outcome there was no difference between the two groups as the p value was 0.83. In both groups, 77% of patient responded to treatment and 23% had static disease at the end of their treatment regimen. Majority of patients tolerated treatment well, less than 0.08% patients complained of rashes and hepatitis with p value of 0.982.

Conclusion

In conclusion diagnosis of ocular tuberculosis remains a challenge; high clinical index of suspicion is needed to diagnose ocular tuberculosis.

References

Helm CJ, 1993. Sharma A, 2011. Sakai J, 2001. G N. Sahu, 1998.

THE ROLE OF PLEUROSCOPY IN UNDIAGNOSED EXUDATIVE PLEURAL EFFUSION: A MALAYSIAN TERTIARY HOSPITAL'S EXPERIENCE

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Introduction

Pleuroscopy is a minimally invasive procedure to inspect the pleura and perform a biopsy of the pleural space as well as to perform therapeutic interventions.

Objective

The aim of this study was to determine the diagnostic yield of pleuroscopic findings and biopsies and to look at the asociation between pleuroscopic findings and their diagnoses, in a Malaysian Tertiary Hospital setting.

Methodology

Clinical data from Hundred and Forty Three patients who had undiagnosed exudative pleural effusion recruited for pleuroscopy in Hospital Selayang from January 2011 to December 2013 were reviewed.

Results

A total of 143 patients (98 males and 45 females, mean age 75 years) underwent pleuroscopy. Malignancy was diagnosed in 56 patients, tuberculosis was found in 69 patients, 10 patients had empyema, 3 patients had normal pleura, 2 patients had parapneumonic effusion and procedure was abandoned in 3 patients. The diagnostic yield was 39.2% for malignancy and 48.2% for Tuberculosis. The pleuroscopic findings were mainly described as multi-loculated effusion with adhesion in 27 patients, 'sago'-seed appearance in 21 patients, pleural mass in 4 patients, multiple pleural nodules in 59 patients, and diseased pleura in 12 patients. In patients with pleuroscopic findings of 'sago'-seed appearance, 85.7% patients were found to have smear/culture/biopsy positive of PTB. With multiloculated effusion and adhesion findings, 40.7% had culture/biopsy/smear positive PTB, 44.4% of patients had culture/biopsy/smear negative PTB with lymphocytes predominance in cytology, and 3.7% had malignancy.

Conclusion

Pleuroscopy is a minimally invasive and valuable tool in the diagnosis of undiagnosed exudative pleural effusion. Multi loculated effusions with adhesion and 'sago'-seed appearance on pleuroscopy is highly suggestive of Tuberculosis.

PLEUROSCOPY: PENANG GENERAL HOSPITAL'S EXPERIENCE YEAR 2011 TO 2014

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Introduction

Pleuroscopy service wascfirst started in Penang General Hospital (PGH) in May 2006. Flex-rigid pleuroscope is used during the procedure. It is an effective evaluation of pleural and pulmonary diseases in cases of moderate to massive pleural effusions. In exudative effusions of unclear aetiology, it replaces second-attempt thoracocentesis and closed needle biopsy.

Objective

This study aimed to determine clinical characteristics of patients who underwent pleuroscopy in PGH. This study also looked into final diagnosis of the patients post pleuroscopy and assessed complications post pleuroscopy, including duration of chest tube after procedure.

Method

This was a retrospective study involving 142 patients from PGH year 2011 to March 2014. Data collection was done by reviewing the pleuroscopy record book, the pleuroscopy reports and the patients' folders.

Results

The median age of the patients was 59.5 years old, with the youngest 15 years old and the oldest 91 years old. 60.6% (86 patients) were male, 39.4% (56 patients) were female. Of 142 patients who underwent pleuroscopy, 97 patients' data were retrievable for outcome analysis. Of these, 45.3% had malignancy, 30.9% had pleural tuberculosis, 5.2% had empyema, 3.1% had parapneumonic effusion. 3 patients had surgical emphysema as immediate complication. 3 patients had infection post pleuroscopy. The median duration of chest tube was 3 days.

Conclusion

Pleuroscopy is generally a safe procedure in trained hands. It offers physicians the ability to intervene diagnostically and therapeutically in a minimally invasive way. To minimise complications, proper training in techniques and instrumentation is required.

ULTRASONOGRAPHIC FEATURES OF EXUDATIVE PLEURAL EFFUSION IN SABAH

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Introduction

Malignant and tuberculous pleural effusion remains the 2 most common differential diagnoses in Malaysia and specifically in Sabah. Ultrasounography of thorax has an acceptable sensitivity and good specificity in predicting malignant and tuberculous effusion

Study Aim

To assess the sensitivity and specificity of ultrasound in predicting malignant & tuberculous pleural effusion.

Method

Retrospective data were collected for all Ultrasonographic (USG) features of patients aged more than 12 years old with chest radiograph and thoracocentesis evidence of exudative effusion prior to Abrams pleural biopsy or pleuroscopic biopsy were collected and were compared to subsequent histological diagnosis(n=42). Specific ultrasonographic features such as simple effusion, echogenicity, septations, loculations, fibrin,diaphragmatic& pleural nodules, parietal & visceral pleural thickening, diaphragmatic thickening , presence of hepatic metastasis, pleural mass or lung mass were done by Radiologist.

Results

Histological diagnosis were malignant pleural effusion (n=9), tuberculous pleural effusion (n=15) and chronic inflammation/pleuritis due to parapneumonic effusion or non specific pleuritis(n=18). Statistical analysis were done to assess sensitivity, specificity and association of each USG features: Parietal pleura thickness and nodularity and diaphragm nodularity were specific but not sensitive for TB and malignancy. Ultrasound managed to avoid 13 planned thoracocentesis of suspected effusion on CXR.

Conclusion

Sensitivity of Ultrasound thorax parameters for above diagnosis was poor despite good specificity of some of its features. Possible causes are small sample size and operator dependent nature of Ultrasonography of Thorax. Ultrasound Thorax is recommended prior to any pleural procedures or intervention.

Case Reports

Case Reports

THORACIC LYMPHANGIOMATOSIS AS A RARE CAUSE OF PLEURAL EFFUSION: CASE SERIES OF THREE CHILDREN

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Lymphangiomatosis is a proliferative disorder of the lymphatic system of unknown aetiology. There are limited pathological, radiological and clinical studies on this disease due to its rarity and the definitive diagnosis is often delayed. We report 3 children with thoracic lymphangiomatosis to illustrate the complexity, varied presentation and morbidity of this disease.

The first patient was a 6 year old boy with persistent haemorrhagic effusion who required mechanical ventilation and was initially treated for tuberculosis. The diagnosis of lymphangiomatosis was made histologically 2 weeks after presentation. He was treated with subcutaneous interferon alpha and vincristine but did not respond and succumbed to his illness.

The second patient was an 18 month old girl who presented with recurrent pleural effusion and was initially treated for a complicated empyema. Diagnosis was made histologically and right pleurectomy was done. She was given interferon gamma but the parents were not compliant to treatment. Nonetheless her disease has remained dormant for the past 3 years.

The third patient, a 5 year old boy, was initially diagnosed as a T-cell lymphoblastic lymphoma based on the pleural fluid immunophenotyping. As he did not respond to treatment, a video assisted thoracoscopic pleurectomy was done. He was treated with propanolol and sirolimus. Although he has persistent respiratory distress due to loss of right lung volume his disease is under control and there is no reaccumulation of the effusion. All 3 patients presented with respiratory distress due to massive and persistent chylous pleural effusion requiring prolonged chest drainage. Recognition and management of lymphangiomatosis are challenging and treatment options are limited.

INTERSTITIAL LUNG DISEASE IN COW'S MILK PROTEIN ALLERGY

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Around 2 % - 4 % of children develop some kind of cow's milk protein allergy (CMA). Respiratory system involvement is uncommon and direct involvement of the lung parenchyma is a rare occurrence.

MZ, a 1 year 7 months old boy presented with multiple hospital admissions for severe respiratory problems and diarrheal illness since the age of 4 months. He developed a few episodes of severe respiratory distress, and recurrent episodes of severe dehydration due to excessive gastrointestinal loss. He had been introduced to cow based formula milk since 1 month old and had had mild eczematous rash ever since. He was failing to thrive with frequent episode of vomiting, diarrhoea and wheezing. He became oxygen dependent and started to have persistent alveolar infiltrate. His HRCT showed generalised ground glass appearances. Initial screening for inborn errors of metabolism, primary and acquired immunodeficiency revealed normal studies except for elevated IgE level (53.2 kU/L at 7 months old).

His milk was changed to soy based formula at the age of 7 months after which he showed some improvement but his symptoms did not resolve completely. He was then started on hydrolysed formula milk at 9 months old and made a marked recovery thereafter. His recurrent gastroenteritis ceased, hyperactive airway condition was controlled and weight began to catch up on the centile chart. The follow-up x-ray showed the persistent lung infiltrate has resolved.

He is recovering steadily at the moment with regular clinic follow up.

A RARE CAUSE OF SECONDARY STRIDOR IN CHILDREN

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Relapsing polychondritis (RP) is a multisystemic rheumatic disease of unknown aetiology and it is characterised by inflammation of the cartilage. The inflammation usually involves the cartilage of the ears, nose, trachea, larynx, ribs, joints and Eustachian tubes. Relapsing polychondritis is rare in children and most of the reported cases are in Caucasian group of patients.

We report one Malaysian child who was diagnosed with RP at 4 years old when he presented with recurrent arthralgia and severe stridor. The child had severe respiratory distress that required intubation. Flexible bronchoscopy showed severe generalised tracheobronchomalacia. Biopsy of pinna showed necrosis of cartilage tissue consistent with chondritis. The patient required prolonged ventilation and was extubated with endotracheal tube in situ for a year. He was treated with prednisolone, azathioprine and subcutaneous methotrexate. The child slowly recovered and was discharged with CPAP during sleep.

In conclusion RP is a rare disease with multi-system presentation. Airway involvement of RP can be life threatening. Treatment with steroid and other cytotoxic drug gives a good result and can save the life of patient.

PROLONGED SECONDARY SPONTANEOUS PNEUMOTHORAX IN PAEDIATRIC PATIENTS: ARE THERE THERAPEUTIC ALTERNATIVES?

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Secondary spontaneous pneumothorax occurs as a rare complication from an underlying pulmonary parenchymal disease in children. The condition typically warranted long periods of chest tube and a long stay in hospital with financial implications. This often results in management dilemma. Here we present a case series of patients with pneumothorax.

The first patient was a 4-year-old girl with necrotising pneumococcal pneumonia and empyema. She had fever for three weeks associated with cough and dyspnea. She developed worsening respiratory distress due to a spontaneous pneumothorax following 6 days of appropriate intravenous antibiotics. A chest tube was inserted and remained in-situ for 61 days due to a persistent bronchopleural fistula.

Our second patient was a 2-year-old boy with necrotising pneumonia and empyema. He was pyrexial for two weeks followed by cough for a week. Despite a week of oral antibiotics, his developed worsening respiratory distress due to a large right sided hydropneumothorax. A chest tube was inserted and remained for 21 days due to a persistent air leak.

Our third patient was a 9-year-old girl with smear positive pulmonary tuberculosis. Despite 4 months of anti-tuberculous treatment and good compliance, a surveillance chest radiograph showed a right apical pneumothorax. Interestingly she was asymptomatic and was initially managed conservatively. Subsequent chest radiograph showed a significant increase in the size of the pneumothorax and now she had mild respiratory distress. In view of the clinical changes, a chest tube was inserted. She too had a persistent air leak which resolved at day 22 with chest drainage.

We would like to highlight in our case series that all of these patients required a prolonged chest tube and hospitalisation due to persistent brochopleural fistula. Surgical intervention such as video assisted thoracoscopy, may be considered as an alternative therapeutic intervention in paediatric patients with spontaneous pneumothorax (E.O'Lone, 2008).

PULMONARY MELIOIDOSIS IN KAPIT HOSPITAL, SARAWAK: A REPORT OF 5 CASES & REVIEW

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Introduction

Melioidosis is a potentially fatal infection, caused by *Burkholderia Pseudomallei*. It is a disease that is predominantly seen in Thailand, Malaysia, Northern Australia and India. Pulmonary melioidosis eg., pneumonia is the most common clinical manifestation of melioidosis. Kapit district of Sarawak is an endemic hot spot for melioidosis.

Objective

The aim of this review is to describe the spectrum, in terms of presentation, severity and outcome of culture proven pulmonary melioidosis treated in Kapit District Hospital.

Methodology

Case notes of five cases of culture positive pulmonary melioidosis treated in Hospital were reviewed. The patient profile, potential risk factors, clinical features, investigation findings as well as eventual outcome were discussed in the form of case presentation.

Results/Discussion

All patients presented with symptoms such as fever, chills and rigors associated with productive cough for at least one week prior to seeking treatment. One particular patient presented with one week history of right knee join effusion which was subsequently tapped and grew *B.Pseudomallei*. All the patients' CXR had patchy consolidative changes with varying pattern of infiltrates. All the patients' blood cultures grew *B.Pseudomallei*; two patients' sputum grew *B.Pseudomallei*. They presented with a spectrum of severity, ranging from respiratory distress needing intubation (n=3), septic shock requiring at least one inotrope (n=4), severe metabolic acidosis (n=2) and acute kidney injury needing dialysis (n=1). Three patients died despite escalation of treatment from ceftazidime to carbapenem and transfer to tertiary center with proper ICU care. Two patients completed standard treatment and were discharged well.

Conclusion

Pulmonary melioidosis can present with varying spectrum of severity. Poor prognostic factors includes respiratory failure, renal failure and metabolic acidosis. High suspicion in endemic area such as Kapit district is crucial in ensuring early treatment and preventing mortality.

Reference

Cheng AC, Currie BJ. Melioidosis: epidemiology, pathophysiology, and management. Clin Microbiol Rev 2005; 18:383.

CASE SERIES OF MULTIDRUG-RESISTANT TUBERCULOSIS IN PERLIS FROM 2008 TO 2013

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Background

Multidrug- resistant Tuberculosis (MDR-TB) and extensively drug-resistant (XDR-TB) increasingly occur worldwide and threatens global tuberculosis control efforts. Limited information about multidrug-resistant tuberculosis is available in Perlis.

Objectives

This case series was reported to evaluate the trend, types of drug resistance, side effects of the treatment and outcomes of patients with multidrug-resistant tuberculosis.

Design

Data was collected from registries of MDR-TB patients at the Chest Clinic Hospital Tuanku Fauziah from 2008 to 2013. Patients' files were analysed for epidemiology data, co-morbidities, side effects of treatment and the outcome towards treatment.

Result

Total reported MDR-TB cases from 2008 to 2013 were 3 males. Diabetes was the most common co-morbidity of MDR-TB cases. Resistance to Isoniazid and Rifampicin was present in all the patients. Joint pain and gastritis were the side effects of antiTB drugs. Outcome of treatment was 33.3 percent cured and 66.6 percent still undergoing treatment.

Conclusions

There is a rising trend of MDR-TB from 2008 to 2013. Diabetes are the most common co-morbidity in the patients with MDR-TB. Intervention to reduce default from MDR-TB treatment should centre on patient education and support and improving provider-patient relationships.

Reference

1. *World Health Organization. Guidelines for the programmatic management of drug-resistant tuberculosis. Geneva. Switzerland. WHO, 2011.*
2. *Ministry Of Health. Clinical Practice Guidelines of Mnagement of Tuberculosis (3rd edition). Putrajaya, Malaysia. MOH, 2012.*
3. *G.He.MD Thesis submitted in University Of Amsterdam. Epidemiology and Control of Multidrug-Resistant Tuberculosis In China.2012.*
4. *W Saeed, A Naseem, J Ahmed.Retrospective Audit of Patients Treated for MDR-TB in Re-Treatment Category. J Ayub Med Coll Abbottabad 2009;21(2)*

MILIARY BUT NOT TUBERCULOSIS (TB)

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Case 1

A 47 year-old man presented with loss of weight and reduced effort tolerance. His chest radiograph showed lower zone reticulonodular infiltrates and CT thorax was reported as changes consistent with military PTB. Trial of anti-tuberculosis treatment was given for a month but there was no improvement of symptoms. A transbronchial lung biopsy revealed adenocarcinoma.

Case 2

A 35 year-old man complained of non-productive cough for 2 months with constitutional symptoms. Conventional pleural biopsy showed non-caseating granulomatous inflammation. Anti-tuberculosis treatment was commenced but he deteriorated generally. His CT Thorax showed diffuse bilateral lung nodules. A transbronchial lung biopsy showed adenocarcinoma.

Case 3

A 34 years old female presented with cough and constitutional symptoms for one month. Her chest radiograph showed miliary like pattern. She was started on anti-tuberculosis treatment for two months; however, she deteriorated. CT scan thorax showed diffuse reticulonodular opacities. The diagnostic bronchoalveolar lavage revealed non-small cell carcinoma.

Discussion

Miliary TB may present as cryptic or overt disease[1]. It is a disease of children and has now changed to affect the elderly. Chest radiograph may identify up to 69% of miliary TB with high specificity. The characteristic CXR finding consists of diffuse and scattered nodular opacities 1 – 3 mm in diameter in both lungs[2]. If chest radiograph is not conclusive or normal, CT thorax plays a role to determine the disease activity and complications. A trial of antiTB treatment for a couple of weeks is one of the diagnostic tools for this disease.

Conclusion

An early revision of diagnosis is required if anti-TB treatment failed to improve well-being of patients. Invasive imaging and bronchoscopic procedures are necessary to exclude other diagnoses.

References

1. *A.T. Proudfoot et al, BMJ, 1969*
2. *J.Stephen et al, Chest, 1996.*

A TALE OF TWO PNET

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Introduction

Primitive Neuroectodermal Tumor (PNET) is a malignant (cancerous) neural crest tumour. It arises from cells of neuroectodermal origin that affect soft tissue and bone. Classifying PNET is not only challenging but controversial.

Objective

This retrospective study is meant to show the disease at presentation and its natural history, bearing in mind its known aggressiveness. We have had 2 cases in the first quarter of 2014, which displayed a great contrast.

Methodology

Two cases were studied. The first patient, a 68 years old lady, presented with shortness of breath and growth at her anterior chest for two months, associated with constitutional symptoms. Contrast enhanced CT Thorax showed a large anterior chest wall tumour likely carcinoma with mediastinal involvement and extensive bony involvement. Trucut biopsy revealed PNET. She passed away before initiation of treatment due to late presentation with advanced stage of her disease.

The second patient was a 42 years old gentleman, with superior vena cava (SVC) obstruction. He had initially presented with diffuse neck swelling, cough, hoarseness of voice, dysphagia, facial puffiness, dyspnoea and constitutional symptoms. Contrast enhanced CT neck and thorax showed a mediastinal mass with superior vena cava obstruction and mediastinal lymphadenopathy; with impression of anterior mediastinal tumour causing SVC obstruction and tracheal narrowing. CT guided biopsy revealed PNET. He had a central venogram done, showing total occlusion of distal right subclavian, bilateral brachiocephalic vein and SVC with multiple collaterals. SVC stenting was not performed because the patient was unable to lie supine and because of inavailability of the stent. Patient is tolerating chemotherapy with vincristine, adriamycin and ifosfamide.

Conclusion

Radiation and chemotherapy play an important role in treating PNET. Chemotherapy provided a better outcome for one of our patients. General condition remains a stumbling block prior to initiation of treatment. The first patient was not fit at presentation for treatment. Radiation has its drawbacks and Kuttesch et al reported that 20% of patient receiving radiation more than 60 Gy developed secondary malignancies, compared to 5% in those who received 48-60Gy. A case by case approach is vital in treating PNET.

PRIMARY REPAIR OF LEFT MAIN BRONCHUS A CASE REPORT

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Main bronchus injury rarely needs to be repaired. We report a case of 17-year-old girl, involved in a motor vehicle accident who sustained cerebral concussion, chest injury and fracture of several transverse processes of vertebrae. A series of investigations revealed left pneumothorax with left main bronchus injury. Due to persistent left lung collapse, we proceeded with semi-emergency primary repair of left main bronchus via left thoracotomy.

PULMONARY ACTINOMYCOSIS, A RARE PRESENTATION OF MILIARY PATTERN

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Pulmonary actinomycosis is a rare and difficult disease to diagnose. Pulmonary infection caused by actinomycosis is uncommon and it usually presents with craniofacial infection. The clinical manifestations and chest radiograph findings are usually non specific which frequently leads to misdiagnosis of pulmonary tuberculosis and malignancy.

We present a gentleman with chronic cough and constitutional symptoms. Chest radiograph showed multiples widespread small discrete lung parenchymal nodules in both lungs which appeared similar to those in miliary tuberculosis. Subsequently, patient was treated for miliary tuberculosis and started empirically on anti- tuberculosis drugs.

However, patient did not respond to anti-tuberculosis drugs and further investigations were carried out. Biopsy was taken from the lung and histopathological examination proved the diagnosis of pulmonary actinomycosis.

Patient was then treated with intravenous penicillin for two weeks and is currently on prolonged course of oral penicillin. On this treatment, the patient improved clinically and radiologically.

Diagnosis of pulmonary actinomycosis remains a challenge to medical professionals. Thus, differential diagnosis of pulmonary actinomycosis has to be considered miliary pattern is seen radiologically. If culture results are negative, lung biopsy is a valuable tool for making the diagnosis of pulmonary actinomycosis.

Reference

Hooi, 1992. Mabeza, 2003.

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

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Tuberculosis of cervix is a rare condition in Malaysia. The statistics of this condition is virtually unknown in this country.

This is a case of a 42 year old lady who presented with persistent intermenstrual bleeding and symptoms caused by anaemia. There were neither respiratory nor constitutional symptoms suggestive of active tuberculosis. However, from further history, patient had contact with tuberculosis patient as her husband had renal tuberculosis. Vaginal examination revealed per vaginal bleeding and colposcopy showed to polypoid endocervical tissue growth.

Punch biopsy was performed and histopathological examination revealed foci of epithelioid cell aggregations with Langhan's giant cells and caseous necrosis.

From the histopathology results, diagnosis of tuberculosis of cervix was made and patient was started on anti-tuberculosis drugs (two months of isoniazid, rifampicin, ethambutol and pyrazinamide followed by seven months of isoniazid and rifampicin). Patient responded well and the intermenstrual bleeding stopped after 3 weeks of treatment.

In this case the possibility of sexual transmitted disease is highly likely since patient had history of sexual intercourse with husband who had been treated with renal tuberculosis. There are a few papers in which described a possible mode of transmission when sputum is used as lubricant to facilitate sexual activity.

In summary, the diagnosis of tuberculosis of cervix is difficult as clinical symptoms and physical examination are not diagnostic and the condition is rare. The definitive diagnosis must be made from the histopathological examination and culture results.

References

Misch, 1976. Maj, 2008. Sunita, 2010.

POLYSEROSITIS DUE TO LEPTOSPIROSIS – A RARE CASE REPORT

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Background

Leptospirosis is a common public health problem. It has various clinical manifestations, thus may be underdiagnosed. Our case is a very unusual case of a patient with rare manifestation.

Case

We report a case of a 24 year old Malay male who presented with 2 weeks' duration of productive cough, pleuritic chest pain, and fever. He later developed septic shock, acute kidney injury, confusion, respiratory distress, and required intubation and mechanical ventilation. He had transaminitis, CXR showed bilateral pleural effusion, echocardiogram showed massive pericardial effusion which accounted for his pericardial tamponade. CT scan thorax showed presence of pericardial fluid, pleural effusion and ascites. Pleural fluid and pericardial fluid analysis was consistent with exudative effusion. All cultures yielded no growth. Atypical pneumonia screening, TB work-up, connective tissue disease screening, viral screening, and thyroid function tests were negative or normal. Leptospirosis Ig M and microscopic agglutination test (MAT) were strongly positive, with titre 1:800. He was initially treated with intravenous tazocin, intravenous meropenam, then de-escalated to penicillin V once MAT result came back positive. He showed marked improvement thereafter.

Conclusion

This patient had an uncommon manifestation of leptospirosis, ie polyserositis. There is only 1 case of leptospirosis with polyserositis reported in Turkey. Early diagnosis has to be made. In this case, prompt and adequate antibiotic therapy and other supportive therapy (pericardial drainage and mechanical ventilation) were lifesaving.

PULMONARY INFECTION WITH MICROSPORIDIA IN IMMUNOCOMPETENT PATIENT

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Introduction

Microsporidiosis is considered as an opportunistic infection and infection in immunocompetent patients is rare. We report a case of pulmonary microsporidial infection in an immunocompetent patient.

Case Summary

A 57 year-old Malay man with no past medical illness presented with history of chronic cough, loss of appetite and loss of weight for 3 months with increasing shortness of breath. He was treated as pneumonia and given a course of antibiotic but he developed type 1 respiratory failure with worsening opacities on the CXR. CT scan thorax was reported as showing bilateral perihilar consolidations with multiple small patchy consolidation and bilateral pleural effusion. Results of pleural biopsy and tap were inconclusive and bronchoscopy findings were normal but bronchial washing for culture came back as microsporidium species and he was started on T. Albendazole 400mg bd. Upon review in clinic after 1 month of treatment he was clinically and radiologically improved with no more cough and had gained 5kg.

Conclusion

Microsporidiosis has becoming increasingly common in immunocompetent patients. It is commonly found in the gastrointestinal tract but few reports have identified the organism in respiratory samples.

Reference

Sak B, Brady D, Pelikánová M, Květoňová, et al. Unapparent microsporidial infection among immunocompetent humans in Czech Republic. J Clin Microbiol. 2011;49:1064-70.

MATURE TERATOMA WITH PULMONARY INVASION PRESENTING WITH TRICHOPTYSIS: A CASE REPORT

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Mature teratoma is the most common primary germ cell tumor in the mediastinum. Invasion of pulmonary structure by benign tumor is rarely seen. We report a case of a 27-year-old Malay gentleman, with an anterior mediastinal teratoma who presented with trichoptysis. This teratoma was located superior to the aorta and right ventricle, and was compressing the pulmonary artery. The tumour infiltrated the upper lobe of the left lung which created a fistula to the left upper lobe branches. We performed a complete resection of the tumour and left upper lobectomy.

A CASE OF BRONCHOESOPHAGEAL FISTULA DUE TO MELIOIDOSIS TREATED WITH AIRWAY STENT

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Introduction

Melioidosis, an infection due to *Burhkloderia Pseudomallei* is endemic in Sarawak.

Aim

To describe a case of melioidosis presenting with bronchoesophageal fistula treated with both esophageal and airway stents.

Method

A 44-year-old man was referred from a district hospital for cough and fever for 3 months. His symptoms did not improve with antibiotics and empirical anti-tuberculous treatment. He underwent several investigations, which include Computer Tomography of the chest, bronchoscopy , oesophagogastroendoscopy (OGDS) and EBUS TBNA. However all these investigations did not reveal a definite diagnosis. He developed a large bronchoesophageal fistula resulting in aspiration pneumonia, mediastinitis, septic shock and acute kidney injury. Broncho-alveolar lavage culture grew *Burhkholderia Pseudomallei*. His condition stabilised after appropiate antibiotics, oesophageal and airway stenting. The patient is planned for surgical closure of the bronchoesophageal fistula once he is able to tolerate the procedure.

Conclusion

Airway stent can be useful for initial stabilisation of patient with bronchoesophageal fistula.

BRONCHOSCOPIC LUNG VOLUME REDUCTION USING ENDOBRONCHIAL VALVE (PULMONYX) IN SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENT: A CASE REPORT

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Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a major cause of morbidity and mortality worldwide and in Malaysia. Emphysema is a component of COPD characterised by alveolar destruction, leading to impaired gas exchange and loss of elastic recoil with resultant air trapping, hyperinflation and impaired breathing mechanics. Bronchoscopic lung volume reduction (BLVR) using one-way valves to induce atelectasis of the hyperinflated lung has the potential for improvement in exercise capacity and improvement in lung function. We report a recent case of severe COPD which was treated with endobronchial Zephyr (*Pulmonyx*) valve and his progress post operatively.

Case Presentation

A 57 year old Chinese gentleman, an ex smoker of 30 pack years, was diagnosed as COPD Group D and was on maximal medical therapy with repeated exacerbations. Further tests revealed upper lobe emphysema on HRCT Thorax, severe obstructive airways disease and air trapping on lung function and impaired exercise capacity in 6MWT. He was referred for Endobronchial Valve (EBV) to Hospital Serdang. Four EBV was inserted in the left upper lobe (LUL) and post procedure, he developed pneumothorax, which resolved with conservative management after 6 days. Serial follow up at month 1, 2, and 5 revealed marked improvement in FEV1, improved dyspnoea score, improved exercise tolerance and clinical benefit with atelectasis of LUL and patient remained free from exacerbations.

Conclusion

In summary, EBV referral in severe COPD with maximal medical therapy is an exciting option for a selected subgroup of patients who will derive clinical benefit in terms of improved dyspnoea score, improved FEV1 and better exercise capacity with an acceptable complication rate.

CASE SERIES OF SLEEP DISORDERS WITH PARKINSON'S DISEASE

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Introduction

Altered sleep is among the most frequent non-motor symptoms in parkinsonism. As many as 15-59% patients with Parkinson's disease suffer from rapid eye movement sleep behaviour and 30% from excessive daytime sleepiness.

Patients and Methods

Two cases of rapid eye movement sleep behaviour and one case of hypersomnia secondary to Parkinson's disease were diagnosed from July 2013 until March 2014 and reviewed retrospectively.

Results

All three patients were males. The mean age for the patients with REM behaviour disorder was 55 years (53-57 years old). Both patients had EEG features of REM sleep without atonia. They responded well to clonazepam. The patient with hypersomnia secondary to Parkinson's disease remained symptomatic with excessive sleepiness despite optimal CPAP treatment for his obstructive sleep apnoea with an ESS score of 20/24. He improved after being treated for his newly recognised long standing Parkinson's disease and treatment with modafinil.

Conclusion

It is of paramount importance that the clinician obtains a detail history about sleep problems in patients with Parkinson's disease. Specific interventions can improve the quality of sleep.

CUTANEOUS VASCULITIC RASH AS AN INITIAL PRESENTATION OF MALIGNANT PLEURAL MESOTHELIOMA: A CASE REPORT FROM TERTIARY HOSPITAL IN SELANGOR, MALAYSIA

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Introduction

Malignant Mesothelioma is an aggressive tumour and more than 90% of reported cases occur in the pleura. Paraneoplastic syndromes occur in 10-15% of malignancy and could be the first or most prominent manifestation. A spectrum of paraneoplastic syndromes is associated with pleural mesothelioma and leukocytoclastic vasculitis is one of them

Methods

We report a case of a 53 years old man who presented to our hospital with an erythematous, non-pruritus, non-painful ecchymotic rash involving his left abdomen and flank fo which he had previously sought treatment from his general practitioner. He worked as a plumber and was a smoker with a 40 pack year history. He had been losing weight and appetite for 3 months prior to the onset of the rash. Clinical examination revealed no clubbing, no palpable lymphadenopathy and clinically he had pleural effusion. Abdominal examination revealed a large ecchymosis with no stigmata of chronic liver disease and no tenderness. Relevant investigations showed left pleural effusion on Chest Xray, no coagulopathy, normal serum amylase, abdominal ultrasound showed no features of pancreatitis with no evidence of retroperitoneal hemorrhage and CT scan showed pleural based mass. Biopsy of the skin revealed leucocytoclastic vasculitis and biopsy of the pleural mass showed malignant mesothelioma. He was then referred to Oncology Department, Hospital Lumpur for treatment.

Conclusions

Skin manifestations could be the initial presentation of neoplastic diseases in 1% of patients although it is more common in hematological than the solid malignancies. Hence physicians should remain vigilant to the association of leukocytoclastic vasculitis with malignancies.

BILATERAL PNEUMOTHORACES IN A PATIENT WITH CYSTIC LUNG DISEASE

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Introduction

Cystic lung diseases are uncommon and represent a diagnostic and therapeutic challenge. We report a case of probable sporadic lymphangioleiomyomatosis (LAM) in a young non-smoker lady who presented with recurrent pneumothorax.

Case Report

A 41-year-old nulliparous Sri Lankan lady presented with spontaneous bilateral pneumothorax. She had history of right chest tube insertion two years ago while she was in Sri Lanka. On physical examination, she had a thin build, was not cachexic, and had no syndromic features. Her hospital stay was eventful in which she was intubated for acute respiratory distress. High resolution computed tomography (HRCT) showed numerous diffuse thin wall cysts of various sizes bilaterally surrounded by normal lung parenchyma. Histopathological examination (HPE) obtained through cryobiopsy of the lung was non-specific and showed moderate lymphocytic infiltration and focal emphysematous changes with dilatation of alveolar spaces. Further imaging looking for renal angiomyolipoma and repeat lung biopsy to confirm LAM were not done in view of her financial limitations. In the ward, she developed ventilator associated pneumonia. She responded to antibiotics and subsequently talc pleurodesis was done. The left lung successfully expanded while the right lung showed residual pneumothorax. After consultation with cardiothoracic and respiratory teams, surgical pleurodesis was not offered in view of diffuse cystic lesions. Patient was asymptomatic throughout and discharged well.

In conclusion, LAM should be considered as a differential diagnosis in a young lady with recurrent pneumothorax. Further evaluation with HRCT with/out biopsy is needed to confirm the diagnosis.

EVENTRATION OF THE RIGHT HEMIDIAPHRAGM MIMICKING A LUNG MASS

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Introduction

Eventration of the diaphragm is caused by weakened musculature of the diaphragm. This can occur in one or both hemidiaphragms. Symptoms may be minimal and it is usually detected incidentally on chest radiograph which would show an elevation of the diaphragm. Our patient presented atypically with a well-rounded lung mass on chest radiograph.

Case Report

A 65-year-old man, ex-chronic smoker, presented with a 1 month history of cough following a trip to Mecca. He had no constitutional symptoms, no fever and no haemoptysis. His cough had gradually improved without any medication. He was found to have a rounded mass with smooth margin above the right diaphragm on chest radiograph. He was referred to the respiratory unit for further investigation. In view of his age and significant smoking history, we proceeded with a computer tomography (CT) of the thorax with a view for biopsy of the lung mass. Our findings were an elevation of the anteromedial aspect of the right hemidiaphragm with herniation of the liver. We then went on to review his older chest radiographs which revealed a mildly elevated right hemidiphragm 4 years prior to this presentation. This case illustrates the need to be aware of diaphragmatic herniation of the liver as a cause of rounded lung mass.

Conclusion

We should consider eventration of the diaphragm as a differential diagnosis of a rounded opacity in the right lower zone. Reviewing serial chest radiographs in the past may be helpful. A CT scan thorax would confirm the diagnosis.

DIFFICULT TO DIAGNOSE TUBERCULOSIS

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Introduction

Tuberculosis is an ancient disease and great mimicker. Diagnosis of extrapulmonary tuberculosis is always a challenge to a young physician who are lacks experience in managing tuberculosis. A new National tuberculosis guideline in parallel with WHO guideline agrees that the diagnosis made should be supported by laboratory evidence of tuberculosis. Management of the side effects of anti-tuberculosis medication also should not simply be stopping the treatment.

We present a case of a 62 year old Malay lady with a background of hypertension who presented with low backache and lower limb weakness, urinary incontinence and constitutional symptoms. She was investigated at a private hospital for spinal cord compression which was confirmed on MRI spine at the level of L4 and L5. At the same time there was multiple lung nodules bilaterally. On further questioning she denied tuberculosis contact and had no respiratory symptoms. Clinically

there was lower limb lower motor neuron weakness with power grade 4/5. There was no

lymphadenopathy. Lungs were clear. Other systems were unremarkable. She was referred to our centre for further investigation of multiple pulmonary nodules.

Conclusion

The diagnosis based on clinical and radiological judgment must be supported with histopathology and culture for mycobacteria to help to firmly establish the diagnosis.

NOT ALL WHEEZE IS ASTHMA: A CASE REPORT

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Wheezing is a common respiratory manifestation among adults. It can be either due to bronchoconstriction or airflow limitation. The commonest causes of wheeze are bronchial asthma and chronic obstructive airway disease. There is also a variety of conditions which can causes wheeze such as tracheal stenosis, mediastinal mass, carcinoid tumours, cardiac asthma etc.

We report a case of a 41 year old lady, who was referred to us for poorly controlled bronchial asthma. She had chronic cough and wheeze for 6 months. Her clinical examination showed localised rhonchi at right middle zone. Chest imaging showed a heterogenous haziness at right lower zone, with CT thorax showed an ill-defined lobulated soft tissue mass within the apical segment of right lower lobe, and collapse consolidation in the medial segment of right middle lobe. The subsequent bronchoscopy showed stenosed right main bronchus, which correlated with our clinical findings. The endobronchial biopsy result came back to be adenocarcinoma.

Patients with bronchial carcinoma can present with wheezing, therefore other differential diagnosss of wheeze should be taken into account if a patient does not respond to the conventional treatment of bronchial asthma.

EXTENSIVELY DRUG-RESISTANT (XDR) *MYCOBACTERIUM TUBERCULOSIS*: FIRST UNEXPECTED CASE IN THE EAST COAST OF MALAYSIA

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Background

Extensively drug resistant Tuberculosis (XDR-TB) and Multi-drug resistant Tuberculosis (MDR-TB) have emerged as major global threats, causing morbidity and high mortality, and generating very diverse actions among members of the public, scientific leaders, clinicians and public health personnel. This problem has arisen because of weaknesses in TB control programe management.

Objective

This reports the first case of extensively drug resistant *Mycobacterium tuberculosis* isolated from a patient at Hospital Raja Perempuan Zainab II Kota Bharu, Kelantan, East Coast of Malaysia.

Results

A 47 year old Chinese female patient, who had diabetes Mellitus type 2 with no previous history of TB treatment and no history of contact with TB patients was diagnosed as suffering from PTB and developed MDR-TB. It was related to inadequate therapy, poor regimen, and side effects of the medication, poorly uncontrolled diabetes, history of frequent travelling and poor compliance. Inadequate dosage of drugs and side-effects of MDR-TB medication resulted in MDR-TB treatment failure and the development of XDR-TB. The patient has been treated with various drugs regimens, because of side-effects of medication. Currently patient is on moxifloxacin, para-amino salicylic acid (PAS), clofazimine, high dosage of Isoniazid and Vitamin C. The patient has improved well and responded to the treatment.

Conclusions

MDR-TB and XDR-TB were man-made diseases. The contributing factors included inadequate regimen, poor therapy, poor management, poor compliance and the side-effects of anti-TB drugs. Treatment of XDR-TB is even more difficult than MDR-TB, because of long duration of treatment course, high burden of drugs and toxicity, although some patients still respond to the treatment. The commitment of both doctors and patients is highly crucial for the success of treatment.

Keywords

Case report, Tuberculosis, XDR-TB and MDR-TB, Isoniazid, Rifampicin, Peninsular Malaysia

SYNOVIAL SARCOMA IN AN ADOLESCENT WITH UNILATERAL PLEURAL EFFUSION

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Synovial sarcomas are rare soft tissue tumours that usually occur in adolescents and typically involve extremities in the vicinity of the large joints. However, the pleura is an uncommon site of tumour spread and involvement, making recognition difficult and thus complicating its subsequent management. This case report highlights the atypical presentation in an adolescent female who presented with a massive left sided exudative pleural effusion. A diagnostic pleuroscopy was performed in which a specimen of the parietal pleura was obtained and showed metastatic monophasic synovial sarcoma of the pleura on histopathological examination. This tumour is a rare entity resulting in diagnostic difficulty and relatively scarce information about the management and overall prognosis. To date, only 36 cases have been reported worldwide with the first case being reported in 1996. The best standard care of practice and management still remains unclear as there is paucity of data regarding its natural history and limited number of reported cases. Overall, the management of synovial sarcoma is one of a multidisciplinary approach consisting of a combination of surgery, chemotherapy and radiotherapy.

REEXPANSION PULMONARY OEDEMA – A MYTH?

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Introduction

Reexpansion Pulmonary Oedema (RPE) is a rare but life-threatening complication of thoracostomy with mortality of 20%

Methods

Case report

Summary

A 64 year old male was transferred in with worsening dyspnoea for 2 days associated with history of 2 weeks cough of whitish sputum. He was recently diagnosed as suffering from COPD and had a history of gut tuberculosis diagnosed via laparatomy in 2008 . He had been a smoker (50 pack years), was a teetotaller and denied other high risk behaviour. He was initially treated as acute exacerbation of COPD due to CAP. Review of the Chest x-ray done on admission revealed missed right pneumothorax and ICT was inserted immediately with good function. Dyspnoea and tachypnoea improved and repeat chest x-ray showed expansion of lung.

5 hours later he developed sudden severe dyspnoea, became restless and arterial blood gas analysis showed type 2 respiratory failure. He required intubation and ventilation. There was copious secretion from ETT with 500 cc of frothy pinkish coloured fluid aspirated and ICT drained haemorrhagic fluid. Post intubation chest x-ray ipsilateral pulmonary oedema. Blood pressur, ECG and blood investigations were within acceptable range. Patient was extubated uneventfully after 24 hours of ventilation in ICU .

Conclusion

RPE is uncommon complication of thoracostomy, with rapid deterioration frequently requiring ventilatory support. Preservation of life is possible if prompt action is taken.

CR 26

TUBERCULOUS CONSTRICTIVE PERICARDITIS: CASE REPORT

Sotheenathan K, Basheer Ahamed K, Syed Nasir, Mohd Hamzah K

Department of Cardiothoracic Surgery, Hospital Pulau Pinang, Pulau Pinang, Malaysia

Tuberculosis has been increasing in incidence in recent years especially in developing countries. Tuberculous pericarditis is a form of extrapulmonary tuberculosis that is considered unusual. Diagnosis is often challenging. High index of suspicion combined with the use of all available diagnostic techniques are important to increase diagnostic yield.

A definite or proven diagnosis is based on demonstration of tubercle bacilli in pericardial fluid or on histologic section of the pericardium. Constrictive pericarditis is a complication of tuberculous pericarditis that necessitates surgical intervention. The timing of surgical intervention is controversial, but many experts recommend a trial of medical therapy for non-calcific pericardial constriction, and pericardiectomy in non-responders after 4 to 8 weeks of anti-tuberculosis chemotherapy.

Pericardiectomy is a surgical option which carries high mortality and morbidity. We report a case of tuberculosis of pericardium complicated with constrictive pericarditis and the surgical challenges both intraoperative and post operatively.

CR 27

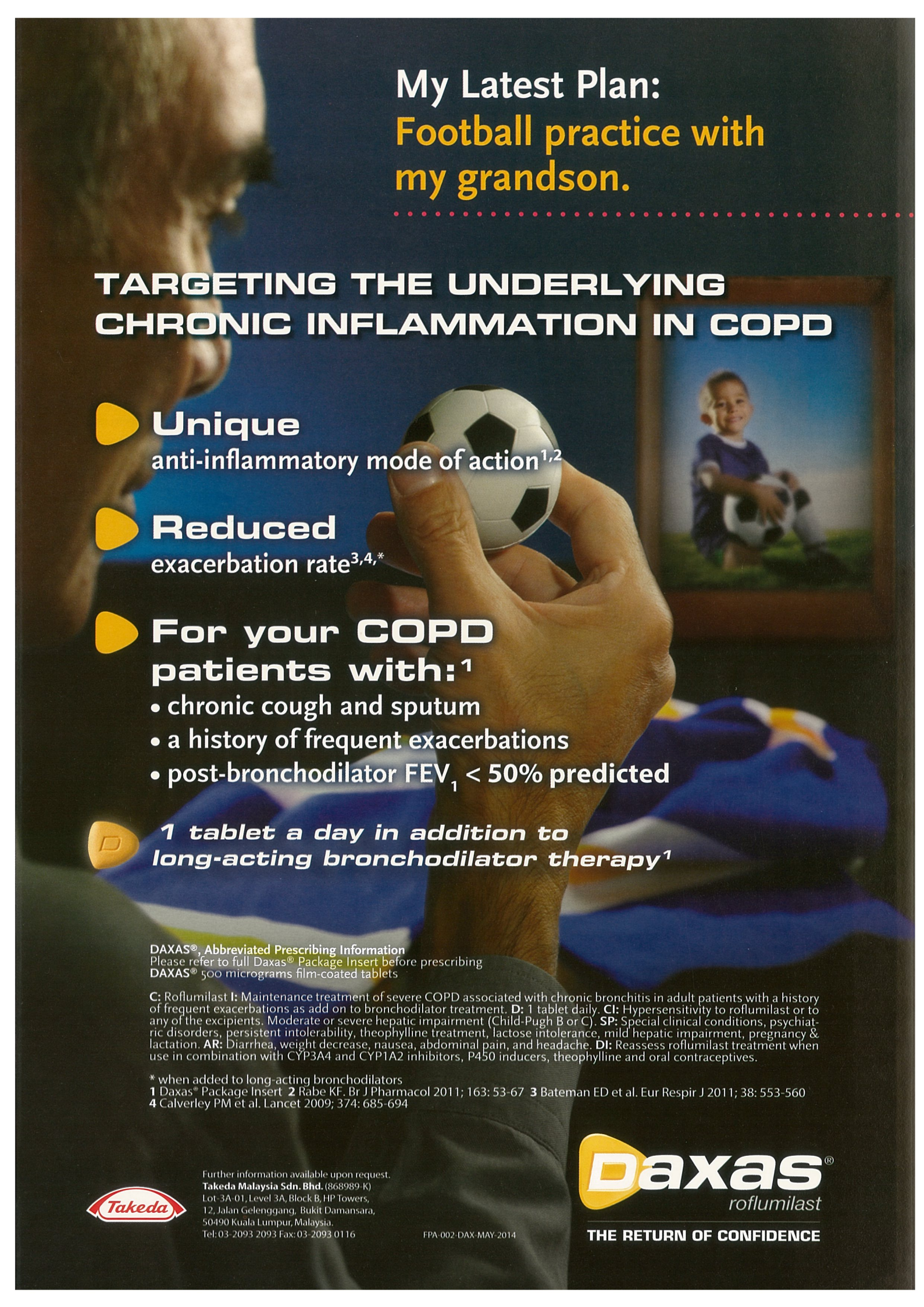
A CASE OF A DISSEMINATED MIXED MYCOBACTERIUM FORTUITUM, ABSCESSUS, AND INTRACELLULARE INFECTION WITH FAILED THERAPY

Hyder Ali I A, C K Ong, K S Goh

Chest Department, Penang General Hospital, Penang, Malaysia

The presence of a disseminated mixed atypical mycobacterial infection in a non-HIV patient is not only rare but provides diagnostic and management difficulties. We describe a non-HIV patient who was initially treated for what was thought to be simple tuberculous lymphadenitis. As more investigations ensued, a disseminated atypical mycobacterial infection was diagnosed; and surprisingly different species were isolated from different sites. When a resistant M. abscessus was isolated from his skin ulcer, it was clear that his disease would be almost incurable. It was clear he required long term follow-up with a shift towards non-drug management.

Lai CC 2006
Chetchotisakd 2007
Henry MT 2004



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* when added to long-acting bronchodilators

1 Daxas® Package Insert **2** Rabe KF. Br J Pharmacol 2011; 163: 53-67 **3** Bateman ED et al. Eur Respir J 2011; 38: 553-560
4 Calverley PM et al. Lancet 2009; 374: 685-694

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References: 1. Centers for Disease Control and Prevention. *MMWR Recomm Rep,* 2008;**57**(RR-7):1-64. **2.** Influenza: Asian Focus. Highlights from APACI Clinician Symposium in Jakarta, Influenza: A Global Perspective, 2008;**2**(2):4-6. **3.** Malaysian Clinical Practice Guidelines on Adult Vaccination, December 2003.

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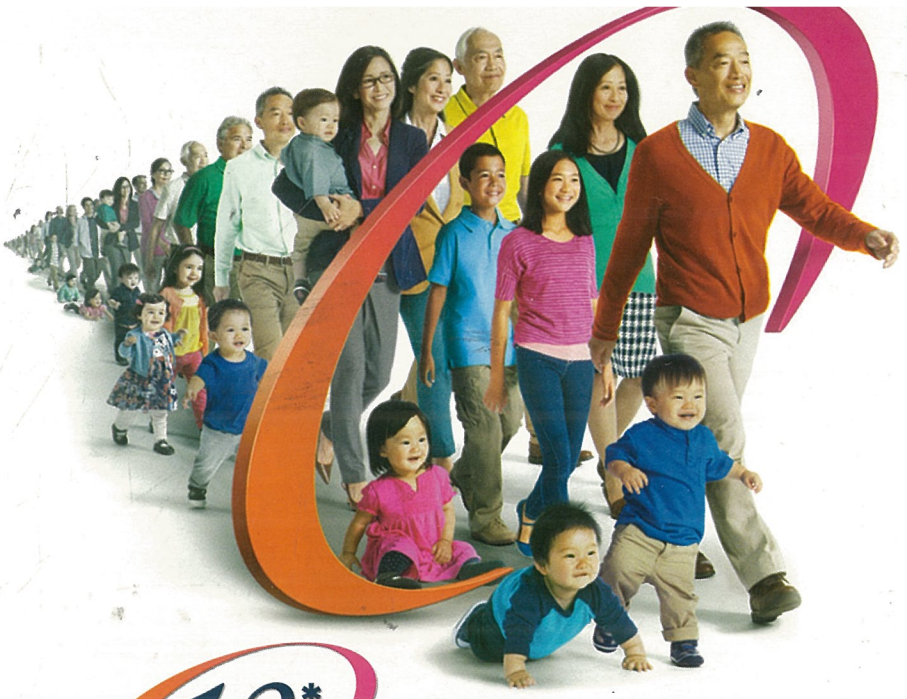

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Help protect your adult patients ≥50 years who are at increased risk of pneumococcal pneumonia by vaccinating them with Prevenar 13

ABRIDGED PRESCIBING INFORMATION
NAME OF THE MEDICINAL PRODUCT: Prevenar 13 suspension for injection. The vaccine is a homogeneous white suspension. Pneumococcal polysaccharide conjugate vaccine (adsorbed), 13-valent Conjugated to CRM197 carrier protein and adsorbed on aluminium phosphate (0.125 mg aluminium). **THERAPEUTIC INDICATIONS:** Active immunization for the prevention of pneumococcal disease caused by Streptococcus pneumonia serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F and 23F (including invasive disease, pneumonia and acute otitis media) in infants, children and adolescents from 2 months to 17 years of age. Active immunization for the prevention of pneumococcal disease caused by Streptococcus pneumonia serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F and 23F in adults aged 50 years and older. This indication is based on immune responses elicited by Prevenar 13 and there have been no controlled trials in adults demonstrating vaccine efficacy. **METHOD OF ADMINISTRATION:** The vaccine should be given by intramuscular injection. The preferred sites are the anterolateral aspect of the thigh (vastus lateralis muscle) in infants or the deltoid muscle of the upper arm in children, adolescents and adults. POSOLOGY: Infants aged 2- 6 months: The recommended immunisation series consists of four doses, each of 0.5 ml. The primary infant series consists of three doses, with the first dose usually given at 2 months of age and with an interval of at least 1 month between doses. The first dose may be given as early as six weeks of age. The fourth (booster) dose is recommended between 12-15 months of age. Alternatively, when Prevenar 13 is given as part of a routine infant immunization programme, a series consisting of three doses, each of 0.5 ml, may be considered. The first dose may be given from the age of 2 months, with a second dose 2 months later. The third (booster) dose is recommended between 11-15 months of age. Unvaccinated children ≥7 months of age: Infants aged 7-11 months: Two doses, each of 0.5 ml, with an interval of at least 1 month between doses. A third dose is recommended in the second year of life. Children aged 12-23 months. Two doses, each of 0.5 ml, with an interval of at least 2 months between doses. Children and adolescents aged 2 years to 17 years One single dose of 0.5 ml. Prevenar 13 vaccine schedule for children previously vaccinated with Prevenar (Streptococcus pneumoniae serotypes 4, 6B, 9V, 14, 18C, 19F, and 23F). Prevenar 13 contains the same 7 serotypes contained in Prevenar, using the same carrier protein CRM197. In clinical trials, immunogenicity and safety profiles are comparable between the two vaccines. Children who have begun immunisation with Prevenar may complete immunisation by switching to Prevenar 13 at any point in the schedule. Young children and adolescents (1-17 years) who are completely immunised with Prevenar should receive one dose of Prevenar 13 to elicit immune responses to the 6 additional serotypes. Adults aged 50 years and older: Prevenar 13 is to be administered as a single dose to adults 50 years and older including those previously vaccinated with a pneumococcal polysaccharide vaccine. The need for re-vaccination with a subsequent dose of Prevenar 13 has not been established. **CONTRAINDICATIONS:** Hypersensitivity to the active substances, to any of the excipients or to diphtheria toxoid. As with other vaccines, the administration of Prevenar 13 should be postponed in subjects suffering from acute, severe febrile illness. However, the presence of a minor infection, such as a cold, should not result in the deferral of vaccination. **SPECIAL WARNINGS AND PRECAUTIONS FOR USE:** Do not administer Prevenar 13 intravascularly. As with all injectable vaccines, appropriate medical treatment and supervision should always be readily available in case of a rare anaphylactic event following the administration of the vaccine. This vaccine should not be given to infants or children with thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injection, unless the potential benefit clearly outweighs the risk of administration. Prevenar 13 will only protect against Streptococcus pneumoniae serotypes included in the vaccine, and will not protect against other microorganisms that cause invasive disease, pneumonia, or otitis media. As with any vaccine, Prevenar 13 may not protect all individuals receiving the vaccine from pneumococcal disease. Individuals with impaired immune responsiveness, whether due to the use of immuno-suppressive therapy, a genetic defect, human immunodeficiency virus (HIV) infection, or other causes, may have reduced antibody response to active immunization. Safety and immunogenicity data for Prevenar 13 are not available for individuals in specific immunocompromised groups (e.g., congenital or acquired splenic dysfunction, HIV infected, malignancy, haematopoietic stem cell transplant, nephrotic syndrome) and vaccination should be considered on an individual basis. **PREGNANCY AND LACTATION:** There are no data from the use of pneumococcal 13-valent conjugate in pregnant women. Animal studies do not indicate direct or indirect harmful effects with respect to reproductive toxicity. **UNDESIRABLE EFFECTS:** Infants and children aged 6 weeks to 5 years: The most commonly reported adverse reactions were vaccination-site reactions, fever, irritability, decreased appetite, and increased and/or decreased sleep. An increase in vaccination site reactions was reported in children older than 12 months compared to rates observed in infants during the primary series with Prevenar 13. The most common adverse events in children and adolescents 6 to 17 years of age were headaches, decreased appetite, vomiting, diarrhea, rash, vaccination-site reactions and pyrexia. Adults aged 50 years and older: Decreased appetite, Headaches, Diarrhea, vomiting, Rash, arthralgia, myalgia, Chills, fatigue, vaccination-site erythema, vaccination-site induration/swelling, vaccination-site pain/tenderness, limitation of arm movement, fever. **SPECIAL PRECAUTIONS FOR STORAGE:** Store in a refrigerator (2°C–8°C). Do not freeze.

REFERENCES:
1. Prevenar 13 Malaysia package insert, Pfizer (M) Sdn. Bhd.; April, 2013. **2.** Jackson LA, Gurtman A, Rice K, et al. Immunogenicity and safety of a 13-valent pneumococcal conjugate vaccine in adults 70 years of age and older previously vaccinated with 23-valent pneumococcal polysaccharide vaccine. Vaccine. 2013;31(35):3585-3593. **3.** Jackson LA, Gurtman A, van Cleeff M, et al. Immunogenicity and safety of a 13-valent pneumococcal conjugate vaccine compared to a 23-valent pneumococcal polysaccharide vaccine in pneumococcal vaccine-naive adults. Vaccine. 2013;31(35):3577-3584. **4.** Data on file–global manufacturing and supplies. Pfizer Inc, New York, NY. **5.** Centers for Disease Control and Prevention. Prevention of pneumococcal disease among infants and children—use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Morb Mortal Wkly Rep. 2010;59(RR-11):1-19. **6.** GlaxoSmithKline Inc, 2013. Synflorix Summary of Product Characteristics.

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‡ In a prospective randomised control trial vs ICS alone.

References:
1. Seretide® Abbreviated Prescribing Information,Version 03 prepared on October 2013 based on Seretide® Accuhaler® IPI14 and Seretide® Evohaler® Dose Counter IPI13 MAL ver 2. 2. Bateman ED et al. Am J Respir Crit Care Med. 2004; 170(8): 836-844. 3. Vestbo J et al. *Thorax* 2005:60:301-304. 4. Calverley P et al. *New Eng J Med* 2007;356:775-789. 5. Jenkins CR et al. *Respir Research* 2009:10:59. 6. Wedzicha et al. *Am Journal Respir Crit Care Med* 2008;Vol 177:19-26.

SERETIDE® salmeterol/fluticasone propionate

SERETIDE® COPD salmeterol/fluticasone propionate

MY/SFC/0002/14 01/16

Abbreviated Prescribing Information. Based on full International Prescribing Information and prepared to meet the requirements of the GSK International Pharmaceutical Promotional and Marketing Policy. Brand name: Seretide Accuhaler® and Seretide Evohaler®. **Active Ingredients:** Salmeterol/fluticasone propionate. **Indications: Reversible Obstructive Airways Disease (ROAD).** *Seretide* is indicated in the regular treatment of reversible obstructive airways disease (ROAD), including asthma in children and adults, where use of a combination (bronchodilator and inhaled corticosteroid) is appropriate. This may include: • Patients on effective maintenance doses of long-acting beta-agonists and inhaled corticosteroids. • Patients who are symptomatic on current inhaled corticosteroid therapy. • Patients on regular bronchodilator therapy who require inhaled corticosteroids. **Chronic Obstructive Pulmonary Disease (COPD).** *Seretide* is indicated for the regular treatment of chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema. **Dosage and administration:** *Seretide* Accuhaler and Evohaler are for inhalation only. Patients should be made aware that *Seretide* must be used regularly for optimum benefit, even when asymptomatic. Patients should be regularly reassessed by a doctor, so that the strength of *Seretide* they are receiving remains optimal and is only changed on medical advice. **Reversible Obstructive Airways Disease (ROAD).** The dose should be titrated to the lowest dose at which effective control of symptoms is maintained. Where the control of symptoms is maintained with twice daily *Seretide*, titration to the lowest effective dose could include *Seretide* given once daily. Patients should be given the strength of *Seretide* containing the appropriate fluticasone propionate dosage for the severity of their disease. If a patient is inadequately controlled on inhaled corticosteroid therapy alone, substitution with *Seretide* at a therapeutically equivalent corticosteroid dose may result in an improvement in asthma control. For patients whose asthma control is acceptable on inhaled corticosteroid therapy alone, substitution with *Seretide* may permit a reduction in corticosteroid dose while maintaining asthma control. **Accuhaler:** Adults and adolescents 12 years and older:- One inhalation (50 mcg salmeterol and 100 mcg fluticasone propionate) twice daily or One inhalation (50 mcg salmeterol and 250 mcg fluticasone propionate) twice daily or One inhalation (50 mcg salmeterol and 500 mcg fluticasone propionate) twice daily. Children 4 years and older:- One inhalation (50 mcg salmeterol and 100 mcg fluticasone propionate) twice daily. There are no data available for use of Seretide in children aged under 4 years. Use of SERETIDE ACCUHALER for Inhaled Corticosteroid Sparing: Adults and adolescents 12 years and older, with stable asthma who require fluticasone propionate 250 mcg twice daily or equivalent to maintain control of their asthma; this dose may be replaced with one inhalation (50 micrograms salmeterol and 100 micrograms fluticasone propionate) twice daily. **Evohaler:** Adults and adolescents 12 years and older:- Two inhalations (25 mcg salmeterol and 50 mcg fluticasone propionate) twice daily or Two inhalations (25 mcg salmeterol and 125 mcg fluticasone propionate) twice daily or Two inhalations (25 mcg salmeterol and 250 mcg fluticasone propionate) twice daily. Children 4 years and older:- Two inhalations (25 mcg salmeterol and 50 mcg fluticasone propionate) twice daily. There are no data available for use of *Seretide* in children aged under 4 years. **Chronic Obstructive Pulmonary Disease (COPD). Accuhaler:** For adult patients the recommended dose is one inhalation 50/250 mcg to 50/500 mcg salmeterol/fluticasone propionate twice daily. **Evohaler:** For adult patients the recommended dose is two inhalations 25/125 mcg to 25/250 mcg salmeterol/fluticasone propionate twice daily. **Special patient groups:** There is no need to adjust the dose in elderly patients or in those with renal or hepatic impairment. **Contraindications:** Seretide is contraindicated in patients with a history of hypersensitivity to any of the ingredients. For Accuhaler, one of the excipient is lactose which contains milk protein. **Warnings & Precautions:** The management of ROAD should normally follow a stepwise programme and patient response should be monitored clinically and by lung function tests. *Seretide* is not for relief of acute symptoms for which a fast and short-acting bronchodilator (e.g. salbutamol) is required. Patients should be advised to have their relief medication available at all times. Increasing use of short-acting bronchodilators to relieve symptoms indicates deterioration of control and patients should be reviewed by a physician. Sudden and progressive deterioration in control of asthma is potentially life-threatening and the patient should be reviewed by a physician. Consideration should be given to increasing corticosteroid therapy. Also, where the current dosage of *Seretide* has failed to give adequate control of ROAD, the patient should be reviewed by a physician. *Seretide* should not be initiated in patients with unstable or acutely deteriorating asthma, which may be a life-threateing condition. Serious acute respiratory events, including fatalities, have been reported when salmeterol has been initiated in this situation. Although it is not possible from these reports to determine whether salmeterol contributed to these adverse events or failed to relieve the deteriorating asthma, the use of salmeterol in this setting is inappropriate. For patients with asthma or COPD, consideration should be given to additional corticosteroid therapies and administration of antibiotics if an exacerbation is associated with infection. Treatment with *Seretide* should not be stopped abruptly in patients with asthma due to risk of exacerbation, therapy should be titrated-down under physician supervision. For patients with COPD cessation of therapy may be associated with symptomatic decompensation and should be supervised by a physician. There was an increased reporting of pneumonia in studies of patients with COPD receiving *Seretide* (see *Adverse Reactions*). Physicians should remain vigilant for the possible development of pneumonia in patients with COPD as the clinical features of pneumonia and exacerbation frequently overlap. As with all inhaled medication containing corticosteroids, *Seretide* should be administered with caution in patients with active or quiescent pulmonary tuberculosis. Seretide should be administered with caution in patients with thyrotoxicosis. Cardiovascular effects, such as increases in systolic blood pressure and heart rate, may occasionally be seen with all sympathomimetic drugs, especially at higher than therapeutic doses. For this reason, *Seretide* should be used with caution in patients with pre-existing cardiovascular disease. A transient decrease in serum potassium may occur with all sympathomimetic drugs at higher therapeutic doses. Therefore, *Seretide* should be used with caution in patients predisposed to low levels of serum potassium. Systemic effects may occur with any inhaled corticosteroid, particularly at high doses prescribed for long periods; these effects are much less likely to occur than with oral corticosteroids (*see Overdose*). Possible systemic effects include Cushing's syndrome, Cushingoid features, adrenal suppression, growth retardation in children and adolescents, decrease in bone mineral density, cataract and glaucoma. It is important, therefore for ROAD patients, that the dose of inhaled corticosteroid is titrated to the lowest dose at which effective control is maintained. The possibility of impaired adrenal response should always be borne in mind in emergency and elective situations likely to produce stress and appropriate corticosteroid treatment considered (*see Overdose*). It is recommended that the height of children receiving prolonged treatment with inhaled corticosteroid is regularly monitored. Certain individuals can show greater susceptibility to the effects of inhaled corticosteroid than do most patients. Because of the possibility of impaired adrenal response, patients transferring from oral steroid therapy to inhaled fluticasone propionate therapy should be treated with special care, and adrenocortical function regularly monitored. Following introduction of inhaled fluticasone propionate, withdrawal of systemic therapy should be gradual and patients encouraged to carry a steroid warning card indicating the possible need for additional therapy in times of stress. Patients in a medical or surgical emergency, who in the past have required high doses of inhaled steroids and/or intermittent treatment with oral steroids, remain at risk of impaired adrenal reserve for a considerable time. The extent of the adrenal impairment may require specialist advice before elective procedures. The possibility of residual impaired adrenal response should always be borne in mind in emergency and elective situation likely to produce stress and appropriate corticosteroid treatment must be considered. There have been very rare reports of increases in blood glucose levels (*see Adverse Reactions*) and this should be considered when prescribing to patients with a history of diabetes mellitus. During post-marketing use, there have been reports of clinically significant drug interactions in patients receiving fluticasone propionate and ritonavir, resulting in systemic corticosteroid effects including Cushing's syndrome and adrenal suppression. Therefore, concomitant use of fluticasone propionate and ritonavir should be avoided, unless the potential benefit to the patient outweighs the risk of systemic corticosteroid side-effects (*see Interactions*). Data from a large US study (SMART) comparing the safety of SEREVENT (a component of *Seretide*) or placebo added to usual therapy showed a significant increase in asthma-related deaths in patients receiving SEREVENT. Data from this study suggested that African-American patients may be at greater risk of serious respiratory-related events or deaths when using SEREVENT compared to placebo. It is not known if this was due to pharmacogenetic or other factors. The SMART study was not designed to determine whether concurrent use of inhaled corticosteroids modifies the risk of asthma-related death. It was observed in a drug interaction study that concomitant use of systemic ketoconazole increases exposure to SEREVENT. This may lead to prolongation in the QTc interval. Caution should be exercised when strong CYP3A4 inhibitors (e.g. ketoconazole) are co-administered with SEREVENT (*see Interactions*). **Interactions:** Both non-selective and selective beta-blockers should be avoided unless there are compelling reasons for their use. Under normal circumstances, low plasma concentrations of fluticasone propionate are achieved after inhaled dosing, due to extensive first pass metabolism and high systemic clearance mediated by cytochrome P450 3A4 in the gut and liver. Hence, clinically significant drug interactions mediated by fluticasone propionate are unlikely. A drug interaction study in healthy subjects has shown that ritonavir (a highly potent cytochrome P450 3AF inhibitor) can greatly increase fluticasone propionate plasma concentrations, resulting in markedly reduced serum cortisol concentrations. During post-marketing use, there have been reports of clinically significant drug interactions in patients receiving intranasal or inhaled fluticasone propionate and ritonavir, resulting in systemic corticosteroid effects including Cushing's syndrome and adrenal suppression. Therefore, concomitant use of fluticasone propionate and ritonavir should be avoided, unless the potential benefit to the patient outweighs the risk of systemic corticosteroid side-effects. Studies have shown that other inhibitors of cytochrome P450 3A4 produce negligible (erythromycin) and minor (ketoconazole) increases in systemic exposure to fluticasone propionate without notable reductions in serum cortisol concentrations. Nevertheless, care is advised when co-administering potent cytochrome P450 3A4 inhibitors (e.g. ketoconazole) as there is potential for increased systemic exposure to fluticasone propionate. Co-administration of ketoconazole and SEREVENT resulted in a significant increase in plasma salmeterol exposure (1.4-fold Cmax and 15-fold AUC) and this may cause a prolongation of the QTc interval. **Effects on Ability to Drive and Use Machines:** There have been no specific studies of the effect of *Seretide* on the above activities, but the pharmacology of both drugs does not indicate any effect. **Pregnancy and lactation:** Administration of drugs during pregnancy and lactation should only be considered if the expected benefit to the mother is greater than any possible risk to the foetus or child. There is insufficient experience of the use of salmeterol xinafoate and fluticasone propionate in human pregnancy and lactation. Reproductive toxicity studies in animals, either with single drug or in combination, revealed the foetal effects expected at excessive systemic exposure levels of a potent beta2-adrenoreceptor agonist and glucocorticosteroid. Extensive clinical experience with drugs in these classes has revealed no evidence that the effects are relevant at therapeutic doses. Neither salmeterol xinafoate or fluticasone propionate have shown any potential for genetic toxicity. Salmeterol and fluticasone propionate concentrations in plasma after inhaled therapeutic doses are very low and therefore concentrations in human breast milk are likely to be correspondingly low. This is supported by studies in lactating animals, in which low drug concentrations were measured in milk. There are no data available for human breast milk. **Adverse Reactions:** As *Seretide* contains salmeterol and fluticasone propionate, the type and severity of adverse reactions associated with each of the compounds may be expected. There is no incidence of additional adverse events following concurrent administration of the two compounds. As with other inhalation therapy paradoxical bronchospasm may occur with an immediate increase in wheezing after dosing. This should be treated immediately with a fast and short-acting inhaled bronchodilator. Salmeterol/fluticasone propionate Accuhaler or Evohaler should be discontinued immediately, the patient assessed and alternative therapy instituted if necessary. Adverse events which have been associated with salmeterol include tremor, subjective palpitations and headache, but these tend to be transient and reduce with regular therapy. Cardiac arrhythmias (including atrial fibrillation, supraventricular tachycardia and extrasystoles) may occur, usually in susceptible patients. There have been very rare reports of arthralgia. Hypersensitivity reactions, including anaphylactic reactions such as oedema and angioedema, bronchospasm and anaphylactic shock have been reported very rarely. There have also been uncommon reports of rash. There have been reports of oropharyngeal irritation, common reports of muscle cramps and very rare reports of hyperglycaemia. **Fluticasone propionate** include hoarseness and candidiasis (thrush) of the mouth and throat can occur in some patients. There have been uncommon reports of cutaneous hypersensitivity reactions. There have also been rare reports of hypersensitivity reactions manifesting as angioedema (mainly facial and oropharyngeal oedema), respiratory symptoms (dyspnoea and/or bronchospasm) and very rarely, anaphylactic reactions. Both hoarseness and incidence of candidiasis may be relieved by rinsing with water after use of salmeterol/fluticasone propionate Accuhaler. Symptomatic candidiasis can be treated with topical anti-fungal therapy whilst still continuing with salmeterol/fluticasone propionate Accuhaler or Evohaler. Possible systemic effects include Cushing's syndrome, Cushingoid features, adrenal suppression, growth retardation in children and adolescents, decrease in bone mineral density, cataract and glaucoma (see Warnings and Precautions). There have been very rare reports of hyperglycaemia. There have been very rare reports of anxiety, sleep disorders and behavioural changes, including hyperactivity and irritability (predominantly in children). **Salmeterol/fluticasone propionate clinical trials:-** There have been uncommon reports of contusion. Undesirable effects commonly reported included hoarseness/dysphonia, throat irritation, headache, candidiasis of mouth and throat and palpitations. Pneumonia (in COPD patients). **Salmeterol/fluticasone proprionate postmarketing:-** There have been uncommon reports of cutaneous hypersensitivity reactions. There have also been rare reports of hypersensitivity reactions manifesting as angioedema (mainly facial and oropharyngeal oedema), respiratory symptoms (dyspnoea and/or bronchospasm) and very rarely, anaphylactic reactions. There have been very rare reports of anxiety, sleep disorders and behavioural changes, including hyperactivity and irritability (predominantly in children) and hyperglycaemia. **Overdosage:** The expected symptoms and signs of salmeterol overdosage are those typical of excessive beta2–adrenergic stimulation, including tremor, headache, tachycardia, increases in systolic blood pressure and hypokalaemia. The preferred antidotes are cardioselective beta-blocking agents, which should be used with caution in patients with a history of bronchospasm. If *Seretide* therapy has to be withdrawn due to overdose of the beta agonist component of the drug, provision of appropriate replacement corticosteroid therapy should be considered. Acute inhalation of fluticasone propionate doses in excess of those approved may lead to temporary suppression of the hypothalamic-pituitary-adrenal axis. This does not usually require emergency action as normal adrenal function typically recovers within a few days. If higher than approved doses of Seretide are continued over prolonged periods, significant adrenocortical suppression is possible. There have been very rare reports of acute adrenal crisis, mainly occurring in children exposed to higher than approved doses over prolonged periods (several months or years); observed features have included hypoglycaemia associated with decreased consciousness and/or convulsions. Situations which could potentially trigger acute adrenal crisis include exposure to trauma, surgery, infection or any rapid reduction in the dosage of the inhaled fluticasone propionate component. It is not recommended that patients receive higher than approved doses of *Seretide*. It is important to review therapy regularly and titrate down to the lowest approved dose at which effective control of disease is maintained (*see Dosage and Administration*). **Special Precautions for Storage:** Do not store above 30°C. **Full Prescribing Information is available on request. Please read the full prescribing information prior to administration, available from GlaxoSmithKline Pharmaceutical Sdn Bhd (3277-U), Level 6, Quill 9, 112, Jalan Semangat, 46300 Petaling Jaya, Selangor Darul Ehsan. Abbreviated prescribing information Version 03 prepared on October 2013 based on Seretide Accuhaler IPI14 and Seretide Evohaler Dose Counter IPI13 MAL ver 2.**