PERTUBUHAN TORASIK MALAYSIA

MALAYSIAN
THORACIC SOCIETY

MALAYSIAN THORACIC SOCIETY

ANNUAL CONGRESS 2017

20th -23rd July 2017
Sunway Putra Hotel
Kuala Lumpur, Malaysia

SOUVENIR PROGRAMME & ABSTRACT BOOK

WITH ULTIBRO™ BREEZHALER®
EXACERBATION PREVENTION IS IN YOUR HANDS[1]

ULTIBRO™ BREEZHALER® is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD)[2]

FLAME STUDY RESULTS[1]

"...[ULTIBRO™ BREEZHALER®] showed not only non-inferiority, but also... consistent superiority to [Seretide®* Accuhaler®] for all outcomes related to exacerbations, lung function† and health status**.[1‡§]"

The FLAME study is a 52-week head-to-head trial comparing ULTIBRO™ BREEZHALER® with Seretide® Accuhaler® (LABA/ICS) in 3362 exacerbating‡ COPD patients.[1] The primary endpoint was to demonstrate that ULTIBRO™ BREEZHALER® was at least non-inferior to Seretide® Accuhaler® in reduction of all exacerbations. Superiority over Seretide® Accuhaler® was a pre-defined secondary endpoint.[1]

*Fluticasone/salmeterol 500/50 mg BID. †Lung function trough FEV, (P<0.001).[1] **Health-related quality of life, SGRQ-C (P<0.01).[1] ‡Patients had at least one moderate or severe exacerbation in the previous 12 months.[1] §Annual rate reduction of all exacerbations (mild/moderate/severe): ULTIBRO™ BREEZHALER® vs. Seretide® Accuhaler® was 11% (RR 0.89, P=0.003). Annual rate reduction of moderate or severe exacerbations: ULTIBRO™ BREEZHALER® vs. Seretide® Accuhaler® was 17% (RR 0.83, P<0.001). Annual rate reduction of severe exacerbations: ULTIBRO™ BREEZHALER® vs. Seretide® Accuhaler® was 13% (RR 0.87, P=0.23).[1] Seretide® Accuhaler® is a registered trademark by GSK.

BID, twice daily; COPD, chronic obstructive pulmonary disease.

ONCE DAILY
ultibro™
breezhaler®
indacaterol maleate/glycopyrronium bromide
inhalation powder

Prescribing Information: ULTIBRO™ BREEZHALER®

Important note: Before prescribing, consult full prescribing information.

Presentation:
Inhalation powder hard capsules containing indacaterol maleate equivalent to 110 microgram (mcg) indacaterol and glycopyrronium bromide equivalent to 50 microgram glycopyrronium.

Indications:
ULTIBRO™ BREEZHALER® is indicated as a once-daily maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD).

Dosage and administration:
Adults: recommended dosage is the once-daily inhalation of the content of one 110/50 mcg capsule using the ULTIBRO BREEZHALER inhaler.
Pediatric patients (aged <18 years): should not be used in patients under 18 years of age.

Special populations:
Renal impairment: can be used at recommended dose in patients with mild to moderate renal impairment. Should be used only if expected benefit outweighs the potential risk in patients with severe renal impairment or end-stage renal disease requiring dialysis.
Hepatic impairment: Can be used at the recommended dose in patients with mild and moderate hepatic impairment. No data are available for subjects with severe hepatic impairment.
Geriatric patients: can be used at recommended dose in patients 75 years of age and older.

Method of administration:
ULTIBRO BREEZHALER capsules must be administered by the oral inhalation route and only using the ULTIBRO BREEZHALER inhaler. Capsules must not be swallowed. ULTIBRO BREEZHALER should be administered at the same time of the day each day. If a dose is missed, it should be taken as soon as possible. Patients should be instructed not to take more than one dose in a day. Capsules must always be stored in the blister to protect from moisture, and only removed immediately before use. Patients should be instructed on how to administer the product correctly. Patients who do not experience improvement in breathing should be asked if they are swallowing the medicine rather than inhaling it.

Contraindications:
♦Known hypersensitivity to indacaterol or glycopyrronium, which are components of ULTIBRO BREEZHALER, or to any of the excipients.

Warnings and precautions:
♦ULTIBRO BREEZHALER should not be administered concomitantly with other long-acting beta-agonists or long-acting muscarinic-antagonists. **♦asthma:** should not be used in asthma, long-acting beta2-adrenergic agonists may increase the risk of asthma-related serious adverse events, including asthma-related deaths, when used for treatment of asthma. **♦not for acute use:** should not be used as rescue therapy. **♦hypersensitivity:** If hypersensitivity reaction occurs, ULTIBRO BREEZHALER should be discontinued immediately and alternative therapy instituted. **♦paradoxical bronchospasm:** as with other inhalation therapy, administration may result in paradoxical bronchospasm that may be life-threatening. If paradoxical bronchospasm occurs, ULTIBRO BREEZHALER should be discontinued immediately and alternative therapy instituted. **♦anticholinergic effects related to glycopyrronium:** use with caution in patients with narrow-angle glaucoma and urinary retention. **♦systemic effects of beta-agonists:** as with other beta2-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 beta2-adrenergic agonists. **♦patients with severe renal impairment:** to be used only if expected benefit outweighs potential risk in patients with severe renal impairment including end-stage renal disease requiring dialysis. **♦cardiovascular effects of beta-agonists:** like other beta2-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. **♦hypokalemia with beta-agonists:** beta2-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. **♦hyperglycemia with beta agonists:** During long-term clinical studies ([ENLIGHTEN] and [RADIATE]), more patients on ULTIBRO BREEZHALER experienced clinically notable changes in blood glucose (4.9%) than on placebo (2.7%). ULTIBRO BREEZHALER has not been investigated in patients for whom diabetes mellitus is not well controlled.

Women of child-bearing potential:
There are no special recommendations for women of child-bearing potential.
Pregnancy: should only be used during pregnancy if the expected benefit to the patient justifies the potential risk to the fetus.
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 or females.
Labor and delivery: Information related to indacaterol-Like other beta2-adrenergic agonist containing drugs, ULTIBRO BREEZHALER may inhibit labor due to a relaxant effect on uterine smooth muscle.

Interactions:
♦No specific drug-drug interaction studies were conducted with ULTIBRO BREEZHALER. Information on the potential for interactions is based on the potential for each of its two components. ♦should not be given together with beta-adrenergic blockers (including eye drops) unless there are compelling reasons for their use. ♦should be administered with caution to patients being treated with monoamine oxidase inhibitors, tricyclic antidepressants, or drugs known to prolong the QT-interval. Drugs known to prolong the QT-interval may increase the risk of ventricular arrhythmia. ♦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 hypokalemic effect of beta2-adrenergic agonists. ⊠inhibition of the key contributors of indacaterol clearance, CYP3A4 and P-gp, has no impact on safety of therapeutic doses. ♦co-administration with other anticholinergic-containing drugs has not been studied and is therefore not recommended. ♦no clinically relevant drug interaction is expected when glycopyrronium is co-administered with cimetidine or other inhibitors of the organic cation transport.

Adverse drug reactions:
♦Common (≥1% to <10%) and potentially serious: Hyperglycemia and diabetes mellitus, hypersensitivity **♦Uncommon** (≥0.1% to <1%) and potentially serious: Glaucoma, ischemic heart disease, atrial fibrillation, paradoxical bronchospasm **♦Very common** (≥10%): Upper respiratory tract infection **♦Common** (≥1% to <10%): Nasopharyngitis, urinary tract infection, sinusitis, rhinitis, dizziness, headache, cough, oropharyngeal pain including throat irritation, dyspepsia, dental caries, pyrexia, chest pain, bladder obstruction including urinary retention **♦Uncommon** (≥0.1% to <1%): Musculoskeletal pain, insomnia, tachycardia, palpitations, epistaxis, dry mouth, pruritus/rash, muscle spasm, myalgia, peripheral edema, fatigue, gastroenteritis, pain in extremity **♦Rare** (≥0.01% to <0.1%): Paresthesia **♦Not known** Angioedema, dysphonia.
BSS ULTIBRO RD 14 JUL 16; APPR 25 MAY 2017.

References
1. Wedzicha JA, et al. New Engl J Med 2016. N Engl J Med 2016;374:2222– 2234. June 9, 2016. DOI: 10.1056/NEJMoa1516385.
2. D3 Dec 16 (Ultibro PI RD 14 Jul 2016 - APPR 25 May 2017)

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

For Healthcare Professionals Only

ULT.ADV.01/ MY1706660579

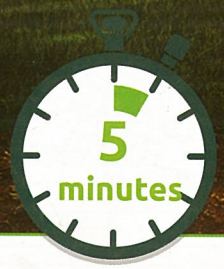
NEW ONCE-DAILY SPIOLTO®

The sustained efficacy of tiotropium enhanced by fast-onset olodaterol[3,4]

Once-daily SPIOLTO® can provide further improvements beyond SPIRIVA®[1-5]

Improvements with SPIOLTO®:

- Superior improvements in lung function*[3-5]
- Superior COPD symptom reduction*[3-4]
- Better quality of life for more patients*[3-4]



Starts working within 5 minutes after the first dose[3]

Improves lung functions, last for 24 hours**[3,5]

Consistently reduces the need for rescue medication beyond SPIRIVA®[3]

NEW ONCE-DAILY
SPIOLTO®
RESPIMAT®
TIOTROPIUM & OLODATEROL

An advance in COPD care built on strong roots

Boehringer Ingelheim

Boehringer Ingelheim (M) Sdn Bhd (Co.149591-H)
Suite 15-5 Level 15, Wisma UOA Damansara II,
No 6, Jalan Changkat Semantan,
Damansara Heights, 50490 Kuala Lumpur.
Tel: 603-2092 0088 Fax: 603-2095 2818

SPIOLTO® RESPIMAT®
Boehringer Ingelheim

Regulatory Class: POM **C:** Tiotropium Br, olodaterol **I:** Maintenance bronchodilator treatment to relieve symptoms i adult patients w/ COPD. **D: Adult** 2 puffs once daily. **CI:** Hypersensitivity to tiotropium, olodaterol, atropine or its derivatives eg, ipratropium or oxitropium. **SP:** Do not exceed recommended dose. Not to be used in asthma & treatmen of acute episodes of bronchospasm. Discontinue immediately & substitute alternative therapy if paradoxical bronchospasm occurs. Narrow-angle glaucoma, prostatic hyperplasia, bladder-neck obstruction. Moderate to severe renal impairment (CrCl ≤50 mL/min). Dry mouth associated w/ dental caries in long-term use. Patients w/ CV disorders coronary insufficiency, cardiac arrhythmias, hypertrophic obstructive cardiomyopathy, HTN, convulsive disorders o thyrotoxicosis, known or suspected prolongation of the QT interval & those who are unusually responsive to sympathomimetic amines. Discontinue treatment if increases in pulse rate, BP &/or symptoms occur. History of MI unstable or life-threatening cardiac arrhythmia, diagnosis of paroxysmal tachycardia (>100 beats/min); hypokalemia Not to be used in conjunction w/ long-acting β2-adrenergic agonists or long-acting muscarinic antagonists. May affec ability to drive or operate machinery. Pregnancy & lactation. Childn. **AR:** Dry mouth. Glaucoma, constipation, intestina obstruction including ileus paralytic & urinary retention. Palpitations, tachycardia & HTN. **INT:** Anticholinergic-containing drugs. May potentiate the adverse reactions w/ other adrenergic agents. May potentiate hypokalemic effec w/ xanthine derivatives, steroids or non-K sparing diuretics. May weaken or antagonize the effect w/ β-adrenergi blockers. May potentiate the action on cardiovascular system w/ MAOIs, TCAs or other drugs known to prolong QT interval. Increased systemic exposure of olodaterol w/ strong dual CYP & P-gp inhibitor ketoconazole. **P/P: Inhalation soln 2.5** mcg/2.5 mcg x 60 puffs x1's + cartridge. **Validity Code :** [0287-00] 20160113 **ATC Code:** R03AL06

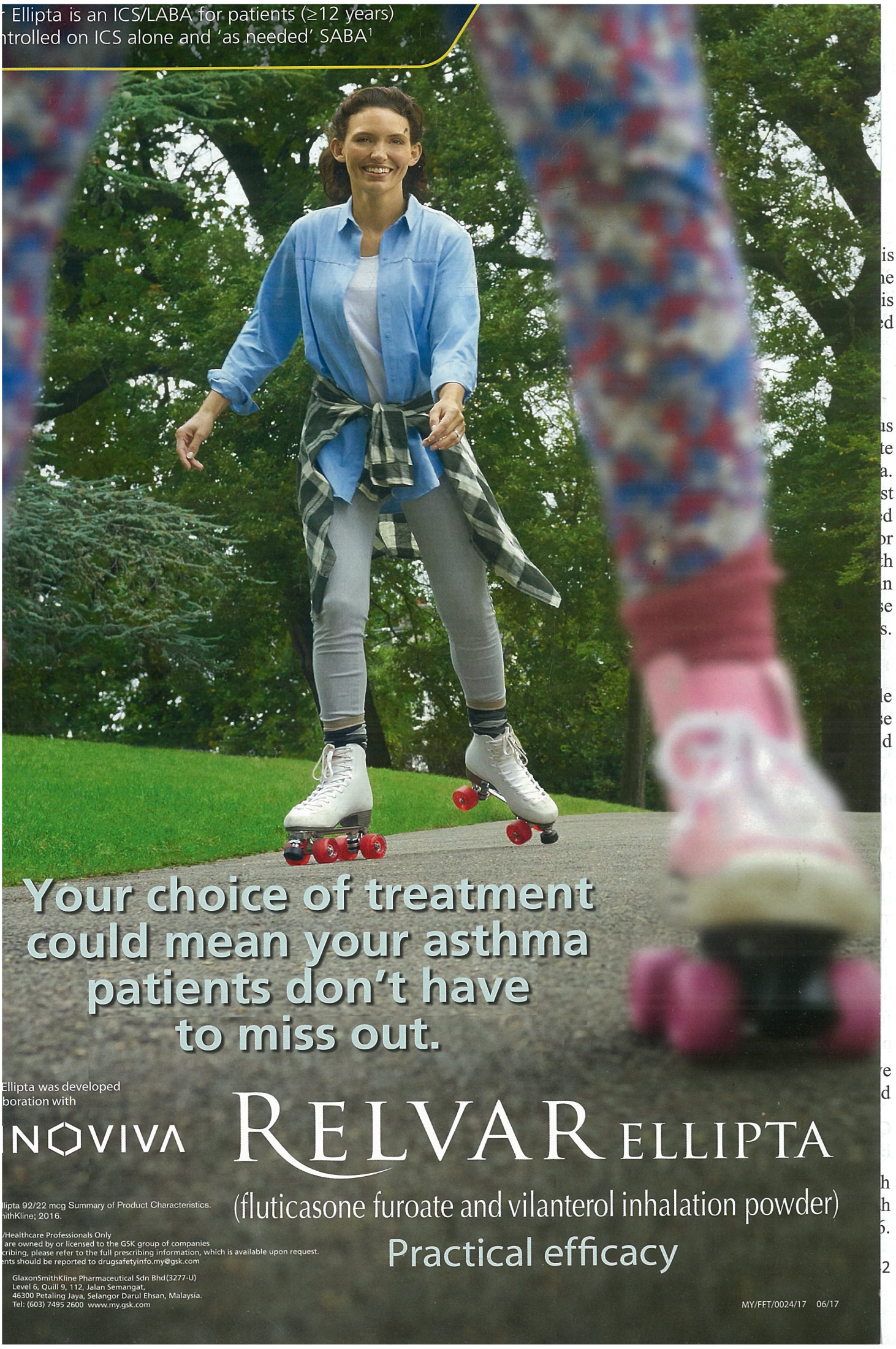
For Healthcare Professionals Only. Full prescribing information is available upon request.

REFERENCES

1. Ferguson GT, et al. Adv Ther 2015;32(6):523-36. 2. Singh D, et al. Res Med 2015:109;1312-1319. 3. SPIOLTO® RESPIMAT® Package Insert (Singapore). 4. Buhl R, et al. Eur Resp J 2015. 5. Beeh KM. Pulm Pharm Ther 2015;32:53-59.

FOOTNOTES

+ In the 52-week trials, SPIOLTO® administered once daily in the morning provided clear improvement in lung function within 5 minutes after the first dose compared to tiotropium 5 microgram (mean increase in FEV_1 of 0.137 L for SPIOLTO® vs. 0.058 L for tiotropium 5 microgram [*p<0.0001*] and 0.125 L for olodaterol 5 icrogram [*p=0.16*]).[1] * Results are derived from a post hoc subgroup analysis of patients with moderate COPD (GOLD stage 2) in the TORNADO® study. The primary endpoints of the TORNADO® study were: FEV_1, AUC_{0-3}, trough FEV_1 and SGRQ total score in patients with a history of moderate to very severe COPD (GOLD Stage 2-4). ** 24-hour FEV_1 profiles after 6 weeks of treatment in the VIVACITO® study. *p<0.0001* for all comparisons of SPIOLTO® vs. monotherapies and placebo.


Ellipta is an ICS/LABA for patients (≥12 years)
ntrolled on ICS alone and 'as needed' SABA[1]
Your choice of treatment could mean your asthma patients don't have to miss out.
Ellipta was developed
boration with
INOVIVA
RELVAR ELLIPTA
(fluticasone furoate and vilanterol inhalation powder)
Practical efficacy
lipta 92/22 mcg Summary of Product Characteristics.
ithKline; 2016.
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cribing, please refer to the full prescribing information, which is available upon request.
nts should be reported to drugsafetyinfo.my@gsk.com
GlaxonSmithKline Pharmaceutical Sdn Bhd(3277-U)
Level 6, Quill 9, 112, Jalan Semangat,
46300 Petaling Jaya, Selangor Darul Ehsan, Malaysia.
Tel: (603) 7495 2600 www.my.gsk.com
MY/FFT/0024/17 06/17

The Roche Diagnostics Lung Cancer Portfolio

From diagnosis to monitoring

H&E
- VENTANA HE 600

IHC
- c-MET
- Calretinin
- Cam 5.2
- Caveolin-1
- CD56
- CEA
- Chromogranin A
- CK5
- CK5/6
- CK5/14
- CK7
- CK17
- CK20
- E-cadherin
- EGFR
- EMA
- Epithelial-Related Antigen
- Epithelial-Specific Antigen
- HBME-1
- IGF-1R
- Ki-67
- MUC1
- MUC1

IHC
- Napsin A
- NSE
- p40
- p63
- Pan Keratin
- SOX-2
- Synaptophysin
- TAG-72
- TTF-1
- WT1

PCR (Tissue)
- EGFR
- KRAS

PCR (Plasma/Liquid Biopsy)
- EGFR

IC (Aid In Diagnosis)
- CYFRA 21-1
- ProGRP
- SCC

IC (Differential Diagnosis)
- ProGRP (SCLC vs. NSCLC)

IHC
- ALK

PCR (Tissue)
- EGFR
- KRAS

PCR (Plasma/Liquid Biopsy)
- EGFR

PCR (Plasma/Liquid Biopsy)
- EGFR

IC
- CEA
- CYFRA 21-1
- NSE
- ProGRP

Hematoxilin & Eosin Stain (H&E)
Immunohistochemistry (IHC)
Polymerase Chain Reaction (PCR)
Immunochemistry (IC)

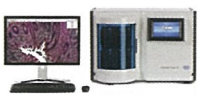
Hematoxylin & Eosin Stain (H&E)/Immunohistochemistry (IHC)

VENTANA HE 600 system

VENTANA BenchMark ULTRA system

VENTANA BenchMark XT system

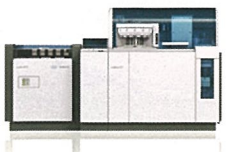
VENTANA BenchMark GX system



VENTANA iScan HT

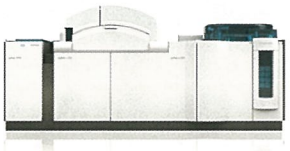
Immunochemistry (IC)

cobas e 801

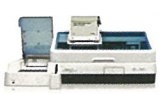


cobas® 8000 modular analyzer series

cobas c 501 *cobas e 601*



cobas® 6000 analyzer series



cobas e 411 analyzer

Polymerase Chain Reaction (PCR)

cobas z 480 analyzer

Perfect harmony
in asthma control

flutiform®

CONSISTENT DELIVERY

***flutiform*® HDi** produces consistent high fine particle fraction of approximately 40% at different inhalation flow rates[1]

EFFICACIOUS

***flutiform*®** provides greater reduction of exacerbation risk than fluticasone alone[2]

FAST

***flutiform*®** offers rapid and sustained control of asthma symptoms[3]

***flutiform*®** (fluticasone propionate and formoterol fumarate) pressurised inhalation suspension
PRESENTATION: Pressurised inhalation suspension, in a pressurised metered dose inhaler (pMDI), containing fluticasone propionate and formoterol fumarate dihydrate at strengths of 50 mcg/5 mcg, 125 mcg/5 mcg or 250 mcg/10 mcg per actuation. One inhaler contains 120 actuations. **INDICATIONS:** This fixed-dose combination of fluticasone propionate and formoterol fumarate (flutiform® inhaler) is indicated in the regular treatment of asthma where the use of a combination product (inhaled corticosteroid and long-acting β2-agonist) is appropriate: For patients not adequately controlled with inhaled corticosteroids and 'as required' inhaled short-acting β2-agonist , or for patients already adequately controlled on both an inhaled corticosteroid and a long-acting β2-agonist. flutiform® 50 mcg/5 mcg and 125 mcg/5 mcg per actuation are indicated for use in adults and adolescents 12 years and above. flutiform® 250 mcg/ 10 mcg per actuation is indicated in adults only. **DOSAGE AND ADMINISTRATION:** For inhalation use. The patient should be shown how to use the inhaler correctly by a healthcare professional. Patients should be given the strength of flutiform® containing the appropriate fluticasone propionate dose for their disease severity (note that flutiform® 50 mcg/5 mcg per actuation is not appropriate in patients with severe asthma). The appropriate strength should be taken as two inhalations, twice-daily (normally in the morning and evening) and used every day, even when asymptomatic. Prescribers should be aware that in asthmatics, fluticasone propionate is as effective as some other inhaled steroids when administered at approximately half the total daily microgram dose. Total daily dose can be increased if asthma remains poorly controlled by administering a higher strength inhaler. Appropriate doses of the β2-agonist and inhaled corticosteroid (ICS) in separate inhalers, or the ICS alone, should be prescribed if a patient requires doses outside the recommended dose regimens. Patients should be assessed regularly and once asthma is controlled, treatment should be reviewed and stepped down to the lowest effective dose, or an ICS alone. It is extremely important to regularly review patients as their treatment is stepped down. ICSs alone are first line treatment for most patients. flutiform® is not intended for initial treatment of mild asthma. For patients with severe asthma the ICS therapy should be established before prescribing a fixed-dose combination product. Patients on flutiform® must not use an additional LABA. An inhaled SABA should be taken for immediate relief of asthma symptoms arising between doses. The AeroChamber Plus® spacer device is recommended in patients who find it difficult to use inhalers; re-titration should always follow the introduction of a spacer device. Patients should be advised to contact their prescriber when the flutiform® dose indicator is getting near zero. **CONTRAINDICATIONS:** Hypersensitivity to any of the active substances or excipients. **PRECAUTIONS AND WARNINGS:** flutiform® should not be used for the first treatment of asthma, to treat acute asthma symptoms or for prophylaxis of exercise-induced asthma. It should not be initiated during an exacerbation, during significantly worsening or acutely deteriorating asthma, and should not be stopped abruptly. Patients should use their flutiform® maintenance treatment as prescribed, even when asymptomatic. If a patient experiences serious asthma-related adverse events or exacerbations, they should continue treatment but also seek medical advice. Patients should be reviewed as soon as possible if there is any indication of deteriorating asthma control. In the case of sudden and progressive deterioration, which is potentially life-threatening, an urgent medical assessment should be carried out. Use with caution in patients with: pulmonary tuberculosis; quiescent tuberculosis; fungal, viral or other infections of the airway; thyrotoxicosis; pheochromocytoma; diabetes mellitus (consider additional blood sugar controls); uncorrected hypokalaemia; predisposition to low levels of serum potassium; impaired adrenal function (monitor HPA axis function regularly); hypertrophic obstructive cardiomyopathy; idiopathic subvalvular aortic stenosis; severe hypertension; aneurysm or other severe cardiovascular disorders. There is risk of potentially serious hypokalaemia with high doses of β2-agonists or concomitant treatment with β2-agonists and drugs that can induce or potentiate a hypokalaemic effect. Particular caution is recommended in unstable or acute severe asthma and other conditions when the likelihood for hypokalaemia adverse effects is increased. Monitoring of serum potassium levels is recommended during these circumstances. Formoterol may induce prolongation of the QTc interval. Caution must be observed when treating patients with existing prolongation of QTc interval. flutiform® should be discontinued immediately if there is evidence of paradoxical bronchospasm. Systemic effects with an ICS may occur, particularly at high doses for prolonged periods or when combined with potent CYP3A4 inhibitors, but are less likely than with oral corticosteroids. Use of a spacer device may also cause an increased systemic exposure. Increased exposure can be expected in patients with severe hepatic impairment. Prolonged treatment with high doses of corticosteroids may result in adrenal suppression and acute adrenal crisis, particularly in adolescents and children or potentially as a result of trauma, surgery, infection or rapid dose reduction. Patients should be advised that flutiform® contains a small amount of ethanol, however this negligible amount does not pose a risk to patients. flutiform® is not recommended in children under 12 years of age. **INTERACTIONS:** Caution is advised in long-term co-administration with strong CYP3A4 inhibitors (e.g. ritonavir, atazanavir, clarithromycin, indinavir, itraconazo le, nelfinavir, saquinavir, ketoconazole and telithromycin); co-administration should be avoided if possible. Caution is advised with use of non-potassium sparing diuretics (e.g. loop or thiazide), xanthine derivatives, glucocorticosteroids, L-Dopa, L-thyroxine, oxytocin, alcohol or other adrenergic drugs. There is an increased risk of arrhythmias in patients receiving concomitant anaesthesia with halogena ted hydrocarbons. Hypokalaemia may increase the risk of arrhythmias in patients being treated with digitalis glycosides. Concomitant use of β-adrenergic drugs can have a potentially additive effect. Extreme caution should be taken when using formoterol fumarate with drugs known to prolong the QTc interval, such as tricyclic antidepressants or MAOIs (and for two weeks following their discontinuation), as well as antipsychotics (including phenothiazines), quinidine, disopyramide, procainamide and antihistamines. Concomitant use of an MAOI or a similar agent, such as furazolidone or procarbazine, may precipitate hypertensive reactions. β-blockers and formoterol fumarate may inhibit the effect of each other. β-blockers may produce severe bronchospasm in asthma patients, and they should not normally be treated with β-blockers including those that are used as eye drops to treat glaucoma. Under certain circumstances, e.g. as prophylaxis after myocardial infarction, cardioselective β-blockers could be considered with caution. **PREGNANCY AND LACTATION:** flutiform® is not recommended during pregnancy. It should only be considered if benefits to the mother outweigh risks to the foetus. It is not known whether fluticasone propionate or formoterol are excreted in breast milk; a risk to the breast feeding infant cannot be excluded. A decision should be made on whether to discontinue breastfeeding or discontinue/abstain from flutiform®. **SIDE-EFFECTS:** Potentially serious side-effects: hyperglycaemia; depression; aggression; behavioural changes (predominantly in children); paradoxical bronchospasm; agitation; vertigo; palpitations; ventricular extrasystoles; angina pectoris; tachycardia; hypertension; dyspnoea; peripheral oedema; Cushings Syndrome; adrenal suppression; growth retardation; cataract and glaucoma; hypersensitivity reactions and QTc interval prolongation. For detailed information, please refer to the full prescribing information.

REFERENCES: 1. Johal B, Howald M *et al*. Fine particle profile of fluticasone propionate/formoterol fumarate versus other combination products: the DIFFUSE study. Comb Prod Ther 2013;(3):39–51. **2.** Poster presented at: Annual Congress of the European Respiratory Society (ERS); 2013; Barcelona. **3.** Aalbers R *et al*. Onset of bronchodilation with fluticasone/formoterol combination versus fluticasone/salmeterol in an open-label, randomized study. Adv Ther 2012; 29 (11): 958-969.

For Healthcare Professional Use Only.

MY-FLU-0729-V1-0617

mundipharma

Mundipharma Pharmaceuticals Sdn. Bhd. (Reg. No. 665228K)
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46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia.
Tel: (603) 7946 0606 Fax: (603) 7946 0600

flutiform®
fluticasone propionate/formoterol

GIVE THEM A GOOD SHOT AT BEATING THE FLU

BOTH INFLUENZA A & B circulate in Malaysia all year round[1]

Together, influenza type A and B viruses are responsible for the SEASONAL FLU EPIDEMICS that occur each year.[2]

In tropical and sub-tropical countries, both type A and type B influenza viruses CIRCULATE YEAR-ROUND.[3]

WORLDWIDE

Every year:

3-5 million cases of severe illness[4]

250K-500K deaths[4]

FLUQUADRI™ PROVIDES BROADER PROTECTION

as it includes both co-circulating B lineages[5,6]

Everyone 6 months or older is recommended for annual influenza vaccination, especially those at higher risk of serious influenza complications, and those who live with or care for high risk individuals:[4,7]

- Chronic pulmonary (including asthma/COPD*)
- Children
- All pilgrims undertaking Hajj or Umrah (at least 2 weeks before departure).[8,9]
- People aged > 50 years**
- People with extreme obesity (BMI > 40)
- Pregnant women
- Healthcare personnel
- Residents of nursing homes and other chronic-care facilities

*Chronic Obstructive Pulmonary Disease. **Among adults, complications, hospitalisations, and deaths due to influenza are generally most common among those aged > 65 years. However, adults aged > 50 years are a priority group for vaccination because this group may be more likely to have chronic medical conditions that put them at higher risk of severe influenza illness

FluQuadri™
4 strains for broader protection

- Best fits current influenza epidemiology[5,6]
- Offers broader influenza protection
- Has demonstrated safety and immunogenicity[10-12]
- Indicated from 6 months of age and older[13]
- Benefits from Sanofi Pasteur's expertise[14]
  - Over 2.5 billion influenza vaccines distributed worldwide
  - Provides high quality influenza vaccines in more than 150 countries

REFERENCES: 1. Oong, XY, *et al.* Epidemiological and Evolutionary Dynamics of Influenza B Viruses in Malaysia, 2012-20147. PLoS ONE 2015;10(8): e0136254. doi:10.1371/journal. **2.** Centers for Disease Control and Prevention. Types of influenza viruses. Available at http://www.cdc.gov/flu/about/viruses/types.htm. Last accessed Jan 2017. **3.** Saha S, *et al. Bull World Health Organ* 2014;**92**:318-30. **4.** World Health Organization. Influenza (Seasonal). Fact Sheet No 211, March 2014. Available at http://www.who.int/mediacentre/factsheets/fs211/en/. Last accessed Jan 2017. **5.** Belshe RB. The need for quadrivalent vaccine against seasonal influenza. *Vaccine* 2010;**28S**:D45-D53. **6.** Ambrose CS, Levin MJ. The rationale for quadrivalent influenza vaccines. *Hum Vaccin Immunother* 2012;**8**(1):81-8. **7.** Centers for Disease Control and Prevention. Vaccination: Who Should Do It, Who Should Not and Who Should Take Precautions. Available at https://www.cdc.gov/flu/protect/whoshouldvax.htm#annual-vaccination. Last accessed Jan 2017. **8.** Ministry of Health, Saudi Arabia. Health requirements and recommendations for Hajj and Umrah performers and those working in Hajj areas – 2015. Available at http://www.moh.gov.sa/en/Hajj/HealthGuidelines/HealthGuidelinesDuringHajj/Pages/HealthRegulations1437.aspx. Last accessed Jan 2017. **9.** Tabung Haji. Immunization Information. Available at http://www.tabunghaji.gov.my/immunization-information. Last accessed Jan 2017. **10.** Greenberg DP, *et al.* Safety and Immunogenicity of an Inactivated Quadrivalent Influenza Vaccine in Children 6 Months through 8 Years of Age. *Pediatr Infect Dis J* 2014;**33**(6):630-36. **11.** Greenberg DP, *et al.* Safety and immunogenicity of a quadrivalent inactivated influenza vaccine compared to a licensed trivalent inactivated influenza vaccine in adults. *Vaccine* 2013;**31**(5):770-6. **12.** Greenberg DP, *et al.* Final Clinical Study Report (QIV03 – NCT01218646), 2011. **13.** Sanofi Pasteur. FluQuadri™ Product Prescribing Information. **14.** Sanofi Pasteur, Leading Provider of Seasonal Influenza Vaccines. Fact Sheet. Press Release, June 2016. Available at http://www.sanofipasteur.com/en/Documents/PDF/Factsheet_SP_world_manufacturer_2016_06_22%20EN.pdf. Last accessed Jan 2017.

ABBREVIATED PRODUCT INFORMATION (API): 1. TRADE NAME: FLUQUADRI™ QUADRIVALENT INFLUENZA VACCINE: Active Ingredient: Four split Influenza virus, inactivated strains. 2. THERAPEUTIC INDICATION: FluQuadri™ is indicated for the prevention of influenza disease caused by influenza type A and B viruses contained in the vaccine. 3.DOSAGE AND INSTRUCTIONS FOR USE: For intramuscular use only. Children from 6 months to 35 months receive one 0.25 mL dose. Children from 36 months to 8 years receive one 0.5 mL dose. If your child has not been previously vaccinated against flu, a second dose should be given after at least 1 month apart. Individuals 9 years and older receive one 0.5 mL dose. FluQuadri™ should not be combined through reconstitution or mixed with any other vaccine. 4. CONTRAINDICATIONS: History of severe allergic reaction to any component of the vaccine, including egg protein or after previous administration of the vaccine or a vaccine containing the same components or constituents. 5. SPECIAL WARNINGS AND PRECAUTIONS: Guillain-Barré Syndrome; Preventing and Managing Allergic Reactions; Altered Immunocompetence; Limitations of Vaccine Effectiveness. 6. PREGNANCY AND LACTATION: No animal reproduction studies have been conducted with FluQuadri™. It is not known whether this vaccine is excreted in human milk. 7. UNDESIRABLE EFFECTS: The most frequently reported reactions include injection-site pain, tiredness, feeling unwell, headache, muscular pain & irritability. 8. INTERACTIONS: Data evaluating the concomitant administration of FluQuadri™ with other vaccines are not available. 9. OVERDOSE: No cases of overdose have been reported. 10.REVISION DATE : July 2014. 11. Full prescribing information available on request from Sanofi Pasteur, vaccines division of sanofi-aventis (Malaysia) Sdn. Bhd., Unit TB-18-1, Level 18, Plaza 33, No. 1 Jalan Kemajuan, Seksyen 13, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia. Ref No. MYFLU001/0714.

SANOFI PASTEUR

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Zinforo™
ceftaroline fosamil

ZINFORO™ : Improving outcomes in complex CAP and cSSTI patients

A cephalosporin with consistent clinical cure rates in cSSTI and CAP:§

Non-inferiority to ceftriaxone 1 g in two Phase III trials for CAP (FOCUS 1&2)[2]

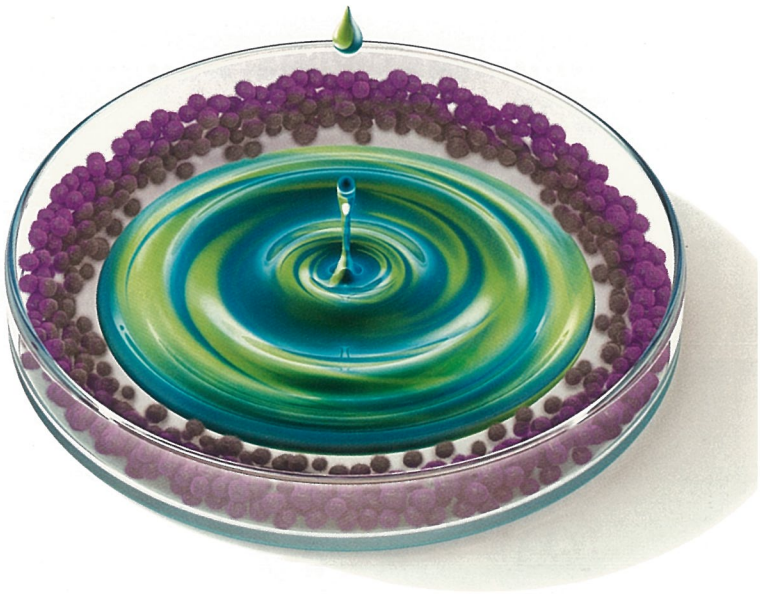
- Superiority to ceftriaxone 2 g in the Asia CAP study[3]

Non-inferiority to vancomycin + aztreonam in two Phase III trials for cSSTI (CANVAS 1&2)[4]

- ZINFORO™ 600mg every 8 h non-inferiority to vancomycin + aztreonam in cSSTI Phase III trial (COVERS)[5]

Consistent clinical cure rates in cSSTI and CAP patients with comorbidities, substantiated by real-world data including:§

- Patients with DM, PVD, obesity and renal insufficiency in cSSTI[4,6,7,8]
- Elderly patients and those with renal insufficiency in CAP [2,3,7,9]



Safety and tolerability profiles consistent with other cephalosporins[2,3,4,10]

Simple twice-daily dosing[1]

§ There is no experience with ZINFORO™ in the treatment of cSSTI in the following patient groups:[1]

The immunocompromised; patients with severe sepsis/septic shock, necrotising fasciitis, perirectal abscess and patients with third-degree and extensive burns. There is limited experience in treating patients with diabetic foot infections. Caution is advised when treating such patients.

There is no experience with ZINFORO™ in the treatment of CAP in the following patient groups:[11]

The immunocompromised, patients with severe sepsis/septic shock, severe underlying lung disease, those with PORT risk class V, and/or CAP requiring ventilation at presentation, CAP due to MRSA or patients requiring intensive care; the available clinical data cannot substantiate efficacy against PNSP.

ZINFORO™ Abbreviated Prescribing Information[1]
Product presentation: Zinforo (ceftaroline fosamil) powder 600 mg for concentrate for solution for infusion, 20 ml glass vial x 10. **Indications:** Treatment of complicated skin and soft tissue infections (cSSTI) and community-acquired pneumonia (CAP) in adults. **Dosage:** Adult: 600 mg administered every 12 hours by intravenous infusion over 60 minutes in patients aged 18 years or older. The recommended treatment duration for cSSTI is 5 to 14 days; CAP 5 to 7 days. **Contraindications:** Hypersensitivity to the active substance, excipients and to the cephalosporin class of antibacterials. Immediate and severe hypersensitivity to any other type of beta-lactam antibacterial agent. **Special Precautions:** Serious and occasionally fatal hypersensitivity reactions are possible. Antibacterial-associated colitis and pseudomembranous colitis have been reported and may range in severity from mild to life threatening. Superinfections may occur during or following the treatment with Zinforo. To be used in caution in patients with pre-existing seizure disorder. The development of a positive direct antiglobulin test (DAGT) may occur during treatment with cephalosporins. Caution is advised when treating CAP in the immunocompromised, patients with severe sepsis/septic shock, severe underlying lung disease, PORT Risk Class V, and/or CAP requiring ventilation at presentation, CAP due to methicillin resistant *S. aureus* or patients requiring intensive care. Caution is advised when treating cSSTI in the immunocompromised, patients with severe sepsis/septic shock, necrotizing fasciitis, perirectal abscess and patients with third degree and extensive burns, and diabetic foot infections. **Adverse Reaction:** Coombs Direct Test Positive, rash, pruritus, headache, dizziness, phlebitis, diarrhea, nausea, vomiting, abdominal pain, increased transaminases, pyrexia, infusion site reactions.

FULL PRESCRIBING INFORMATION IS AVAILABLE UPON REQUEST.

API-ZINFORO-0417

References: 1. ZINFORO™ Malaysia PI, April 2017. **2.** File T, Low D, Eckburg P, et al. *Clin Infect Dis* 2010; 51:1395–405. **3.** Zhong N, Sun T, D'Souza G, et al. *Lancet Infect Dis* 2015; 15:161–71. **4.** Corey G, Wilcox M, Talbot G, et al. *Clin Infect Dis* 2010; 51:641–50. **5.** Dryden M, Zhang Y, Wilson D, et al. *J Antimicrob Chemother* 2016; 71: 3575–3584. **6.** Santos PD, Davis A, Jandourek A, et al. *J Chemother* 2013; 25:341–6. **7.** Maggiore C, Pasquale T, Cole P, et al. *Expert Rev Clin Pharmacol* 2015; 8:141–53. **8.** Evans J, Udeani G, Cole P, et al. *Postgrad Med* 2014; 126:128–34. **9.** Udeani G, Evans J, Cole P, et al. *Hosp Pract* 2014; 42:109–15. **10.** Ramani A, et al. *J Chemother* 2014;26:229–34. **11.** Moisan H, Pruneau M, Malouin F. *J Antimicrob Chemother* 2010;65:713–16.

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WMAZIN0917004 – 20JUNE2017

aspira

Montelukast Sodium

RELIEVE YOUR BREATHLESSNESS, MOMENT OF FREEDOM

1 person in 20[1]
suffer from **ASTHMA.**

1 in 10 children[2] have **ASTHMA** in Malaysia.

- ☑ Easy once-daily dosing[3]
- ☑ Generally well tolerated[4,5]
- ☑ Treatment economic
- ☑ Effective asthma control[4]
- ☑ Nonsteroidal

4mg
Oral Granules

4mg
Chewable Tablet

5mg
Chewable Tablet

10mg
Coated Tablet

Indication: For the prophylaxis and chronic treatment of asthma in adults and pediatric patients 12 months of age and older. Montelukast 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. **Contraindications:** Hypersensitivity to montelukast or any component of the formulation. **Recommendation:** Montelukast should be taken once daily. For asthma, the dose should be taken in the evening. For allergic rhinitis, the time of administration may be individualized to suit patient needs. Patients with both asthma and allergy rhinitis should take only one tablet daily in the evening. *Adults 15 years of Age and Older with Asthma and/or Seasonal Allergic Rhinitis* the dosage for adults 15 years of age and older is one 10-mg tablet daily. *Pediatric Patients 6 to 14 Years of Age with Asthma and / or Seasonal Allergic Rhinitis* the dosage for pediatric patients 6 to 14 years of age is one 5-mg chewable tablet daily. *Pediatric Patients 2 to 5 Years of Age with Asthma and/or Seasonal Allergic Rhinitis* the dosage for pediatric patients 2 to 5 years of age is one 4-mg chewable tablet daily or one packet of 4-mg oral granules daily. *Pediatric patients 12 months to 2 years of age with Asthma* the dosage for pediatric patients 12 months to 2 years of age is one packet of 4-mg oral granules daily. ***Administration of oral granules:*** Montelukast oral granules can be administered either directly in the mouth, or mixed with a spoonful of cold or room temperature soft food (e.g., applesauce) or dissolved in 1 teaspoonful (5ml) of cold or room temperature baby formula or breast milk. The packet should not be opened until ready to use. After opening the packet, the full dose of Montelukast oral granules must be administered immediately (within 15 minutes). If mixed with food or dissolved in baby formula or breast milk, Montelukast oral granules must not be stored for future use. Montelukast oral granules are not intended to be dissolved in any liquid other than baby formula or breast milk for administration. However, liquids may be taken subsequent to administration. ***General Recommendations:*** The therapeutic effect of Montelukast on parameters of asthma control occurs within one day. Montelukast tablets, chewable tablets, and oral granules can be taken with or without food. Patients should be advised to continue taking Montelukast while their asthma is controlled, as well as during periods of worsening asthma. No dosage adjustment is necessary for pediatric patients, for the elderly, for patients with renal insufficiency, or mild-to-moderate hepatic impairment, or for patients of either gender. Montelukast is long term-controller medication which should not be substituted for short acting beta-agonist. It is effective alone or in combination with their prophylactic agent. Montelukast is a preventive agent, which should be used in addition to other drugs for the management of asthma. ***Therapy with Montelukast in Relation to Other Treatment for Asthma:*** Montelukast can be added to a patient's existing treatment regimen. Reduction in Concomitant Therapy ***Bronchodilator Treatments;*** Montelukast can be added to the treatment regimen of patients who are not adequately controlled on bronchodilator alone. When a clinical response is evident (usually after the first dose), the patient's bronchodilator therapy can be reduced as tolerated ***Inhaled Corticosteroids:*** Treatment with Montelukast provides additional clinical benefit to patients treated with inhaled corticosteroids. A reduction in the corticosteroid dose can be made as tolerated. The dose should be reduced gradually with medical supervision. In some patients, the dose of inhaled corticosteroids can be tapered off completely. Montelukast should be not abruptly substituted for inhaled corticosteroids. ***Use in the Elderly:*** No dosage adjustment in the elderly is required. ***Use in Patients with Impaired hepatic Function:*** No dosage adjustment is required in patients with mild-to-moderate hepatic insufficiency. There are no clinical data in patients with severe hepatic insufficiency. ***Use in Renal Failure:*** No dosage adjustment is recommended in these patients. **Precaution:** The efficacy of oral Montelukast for the treatment of acute asthma attacks has not been established. Therefore, oral Montelukast should be used to treat acute asthma attacks. Patients should be advice to have appropriate rescue medication available. While the dose of concomitant inhaled corticosteroid may be reduced gradually under medical supervision, Montelukast should not be abruptly substituted for inhaled or oral corticosteroids. Neuropsychiatric events (eg. agitation, aggression, anxiousness, dream abnormalities, hallucinations, depression, disorientation, insomnia, irritability, restlessness, suicidal thinking and behavior (including suicide), tremor have occurred. Since other factors may have contributed to these events, it is not known if they are related to Montelukat. Physicians should discuss these adverse experiences with their patients and/or caregivers. Patients and/or caregivers should be instructed to notify their physicians if these changes occur. The reduction in systemic corticosteroids dose in patients receiving anti-asthma agents including leukotriene receptor antagonist has been followed in rare cases by the occurrence of one or more of the following: eosinophilia, vasculitic rash, worsening pulmonary symptoms, cardiac complications, and/or neuropathy sometimes diagnosed as Churg-Strauss syndrome, a systemic eosinophilic vasculitis. Although a casual relationship with leukotriene receptor antagonism has not been established, caution and appropriate clinical monitoring are recommended when systemic corticosteroid reduction is considered in patients receiving Montelukast. Patients with known aspirin sensitivity should continue avoidance of aspirin or non-steroidal anti-inflammatory agents while taking Montelukast. Although Montelukast is effective in improving airway function in asthmatics with documented aspirin sensitivity, it has not been shown to truncate bronchoconstrictor response to aspirin and other documented aspirin sensitivity. *Effects on Ability to Drive and Use Machines* Montelukast is not expected to affect a patient's ability to drive a car or operate machinery. However, in very rare cases, individuals have reported drowsiness or dizziness. **For Aspira Chewable Tablet 4mg and 5mg. Warning: Unsuitable for Phenylketonurics. Pregnancy and Lactation, Pregnancy:** The safety and efficacy of Montelukast have not been determined in pregnant women. Rarely, congenital limb defects have been reported during post marketing surveillance; however, causality has not been established. Due to the lack of human safety information, Montelukast should be used in pregnant women only if the potential benefit outweighs the potential risk to the fetus. **Lactation:** Lactation studies with montelukast in humans have not been conducted. Montelukast is excreted into the milk of lactating rats. Until further data are available, caution is advised if montelukast is used in nursing women. Available evidence and/or expert consensus is inconclusive or is inadequate for determining infant risk when used during breastfeeding. Weigh the potential benefits of drug treatment against risks before prescribing this drug during breastfeeding. **Drug Interaction:** Montelukast may be administered with other therapies routinely used in the prophylaxis and chronic treatment of asthma and in the treatment of allergic rhinitis. Since Montelukast is metabolized by CYP 3A4, caution should be exercised, particularly in children, when Montelukast is co-administered with enzyme inducers of CYP 3A4, such as phenytoin, phenobarbital and rifampicin. Montelukast is not anticipated to markedly alter the metabolism of medicinal products metabolized by this enzyme (e.g., paclitaxel, rosiglitazone, and repaglinide.) Concurrent use of gemfibrozil and Montelukast may result in elevated Montelukast plasma concentrations. Concurrent use of prednisone and Montelukast may result in severe peripheral edema. Concurrent use of montelukast and repaglinide may result in increased repaglinide plasma concentrations. **Adverse Reaction:** Montelukast has been generally well tolerated. Side effects, which usually were mild, generally did not require discontinuation of therapy. **Cardiovascular Effects:** palpitations, allergic granulomatous angiitis (Systemic eosinophilia with vasculitis and a clinical presentation consistent with Churg-Strauss. Symptoms may include eosinophilia, vasculitic rash, worsening pulmonary symptoms, cardiac complications and/or neuropathy) **Skin and subcutaneous tissue disorders:** angioedema, bruising, erythema nodosum, atopic dermatitis, eczema, infection of skin and/or subcutaneous tissue, rash, urticaria. **Gastrointestinal Effects:** abdominal pain, dental pain, diarrhea, gastroenteritis, indigestion, infection of tooth, nausea, pancreatitis, tonsillitis, vomiting **Hematologic Effects:** blood coagulation disorder (increased bleeding tendency) **Hepatic Effects:** ALT/AST levels raised cholestatic hepatitis **Immunologic Effects:** hypersensitivity reactions, including anaphylaxis, varicella, and viral infection Neurologic **Effects:** asthenia, disorientated, dizziness, headache, hyperactive behavior, hypesthesia, insomnia, paresthesia, seizure, sinus headache, drowsiness, and tremor **Ophthalmic Effects:** conjunctivitis, myopia. **Otic Effects:** Otalgia, Otitis, Otitis media **Psychiatric Effects:** aggressive behavior, agitation, altered behavior, anxiety, depression, dream disorder, feeling nervous, hallucinations, irritability, nightmares, restlessness, sleep disorder, somnambulism, suicidal thinking and behavior (including suicide) **Renal Effects:** pyuria. **Respiratory Effects:** bronchitis, acute, cough, epistaxis, nasal congestion, nasal discharge, pharyngitis, pneumonia, respiratory tract infection, rhinitis, sinusitis, upper respiratory infection, wheezing. **Musculoskeletal and connective tissue disorders:** arthralgia, myalgia including muscle cramps. Other: fatigue, fever, influenza, malaise, traumatic injury. **Overdosage. Symptoms:** Symptoms included abdominal pain, somnolence, thirst, headache, vomiting and psychomotor hyperactivity. **Treatment:** Treatment is symptomatic and supportive. Treatment may include removal of unabsorbed material from the gastrointestinal tract, clinical monitoring and supportive therapy if required. It is not known if Montelukast can be removed by peritoneal dialysis or hemodialysis.

References:
1. Diamant Z., Mantzouranis E. and Bjermer L. Montelukast in the Treatment of Asthma and Beyond. Expert Review Clinical Immunol. 2009; 5(6): 639. 2. Zakaria J.,Sahn M. Hashim J.H., Allergy to Air Pollution and Frequency of Asthmatic Attacks among Asthmatic Primary School Children, American - Eurasian Journal of Toxicological Sciences, 2010;2 (2): 83 3. Product Insert for Aspira 10mg coated tablet/5mg chewable tablet/4mg chewable tablet/4mg oral granules 4. Bjermer L., Bisgaard, H. and Bousquet, J. et al. Montelukast and Fluticasone Compared with Salmeterol and Fluticasone in Protecting Against Asthma exacerbation in Adults: One Year, Double Blind, Randomised, Comparative Trial. British Medical Journal. 2003; 327: 1-5 5. Price D., Hernandez D. and Magyar P. et al. Randomised Controlled Trial Of Montelukast Plus Inhaled Budesonide Versus Double Dose Inhaled Budesonide In Adult Patients With Asthma. Thorax. 2003; 58: 213-214.

Please refer to full prescribing information before prescribing.

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passion for patients

Contents

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		Dr Nurhayati Mohd Marzuki
		Dr Ahmad Izuanuddin Ismail
Co-opted Committee Member	:	Dr Irfhan Ali Bin Hyder Ali

MTS ANNUAL CONGRESS 2017
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		Dr Asiah Kassim & Assoc. Prof Dr SurendranThavagnanam
		(*Chairpersons – Paediatric Programme*)
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		Dr Aisya Natasya Musa

Message from the President of the Malaysian Thoracic Society

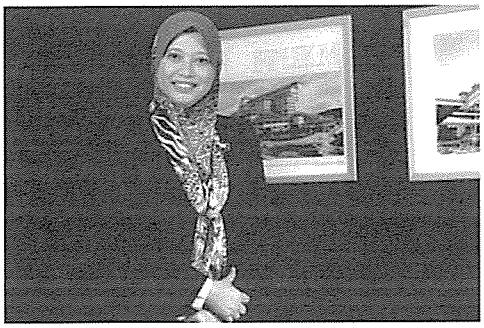
Dear Colleagues and Friends,

I warmly welcome you to the Malaysian Thoracic Society Congress 2017 in Kuala Lumpur. Over the next few days, we invite you to deliberate and explore developments and scientific advances in various aspects of respiratory health during the many symposia, plenary lectures, grand rounds, workshops and scientific communication sessions that this carefully-planned programme has to offer. The field of respiratory medicine is also currently undergoing many exciting changes as evidenced by the advent of newer diagnostic techniques, cutting-edge therapies and refined imaging modalities. Meanwhile E-health and digital technologies hold the promise of empowering and bringing better healthcare to our patients whilst at the same time heralding the advent of disruption to the practice of medicine as we know it. Examples include genome sequencing, 3D-printing, wearable health technologies, augmented and virtual realities, nanorobot sensors and biodetectors whilst supercomputers attempt to extract meaningful information from large datasets in health and disease. As clinicians, it is increasingly challenging not to lose sight of the patient that is before us.

On a different note, the Malaysian Thoracic Society has grown from a handful of committed individuals to close to 200 members over this time, comprising both respiratory specialists and allied health professionals. Collectively we have witnessed the rapid growth and sub-specialization of the field of respiratory medicine in Malaysia. It is our wish that you will leave with the satisfaction of having gleaned new information, ideas and skills as well as having made new acquaintances and renewed old friendships whilst participating in this Congress.

My personal thanks to the Organising and Scientific Committees under the able leadership of Dr Nurhayati Mohd Marzuki, Dr Helmy Haja Mydin, Dr Asiah Kassim and Associate Professor Dr Surendran Thavaganam who have contributed their invaluable time and effort towards the success of MTS 2017. Finally, I wish to express my thanks to the Lung Foundation of Malaysia, our industry partners and all speakers and delegates for their continued support.

Wishing you a productive MTS 2017.



Professor Dr Roslina A Manap
MTS President 2015-2017

Message from the Chairman of the Lung Foundation of Malaysia

Dear colleagues and delegates,

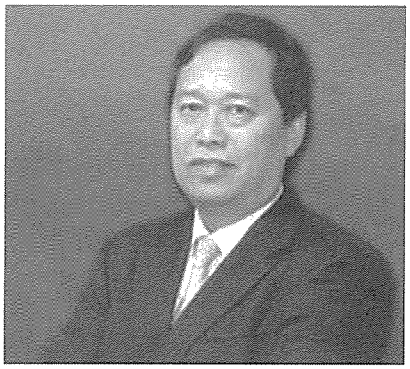
On behalf of the Lung Foundation of Malaysia, a co-organiser of this meeting, it gives me a great pleasure to warmly welcome all the participants to the Malaysian Thoracic Society Annual Congress 2017 and to Kuala Lumpur, the capital city of Malaysia.

Respiratory Medicine, like other disciplines of medicine is showered with new information and findings every year. This plethora of new findings can have major impact on the well-being of our patients but may not be readily adopted in day-to-day practice as we clinicians are often too busy with our work and have very little time to search for the information. The MTS Annual Congress would provide the opportunity for every one of us to learn and acquire new information that can be applied in our practice. The organising committee of this Congress had put together a comprehensive scientific programme for deliberation that covers common respiratory diseases such as asthma, COPD, lung cancer and respiratory infections to less common but equally important diseases such as pulmonary embolism, pulmonary hypertension and interstitial lung disease. I trust you will find that the meeting to be interesting and educational.

One of the objectives of the LFM is to promote research in any area of respiratory medicine, with the aim of achieving better understanding of diseases and better treatment outcomes. At this meeting, the Foundation will present 10 awards for 10 outstanding research works that are presented at this Congress, in recognition of the researchers' contribution to Respiratory Medicine in Malaysia. We also provide travel grants to qualified applicants to give them the opportunity to showcase their research works and to attend the Congress.

I wish to thank Dr Nurhayati Mohd Marzuki, the Organising Chairman, Dr Helmy Haja Mydin, Dr Asiah Kassim and Associate Professor Dr Surendran Thavagnanam, Scientific Committee Co-Chairmen, and all the other Organising Committee for putting up an excellent programme for the MTS Annual Congress 2017. To our industry partners and sponsors, we thank you so much for your continued support.

Have an enjoyable and fruitful meeting.



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

Message from the Organising Chairperson of MTS Annual Congress 2017

On behalf of the Organising Committee, it is my great pleasure to invite all delegates to our Malaysian Thoracic Society Annual Congress 2017, which will be held in our beautiful capital city, Kuala Lumpur, from 20th until 23rd July 2017.

It is a very exciting time in Respiratory Medicine as there are a lot of new developments and advances in the discipline. With these in mind, we have put together a programme encompassing a wide variety of interesting topics.

Starting with a workshop on Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension in collaboration with Pulmonary Vascular Research Institute on day one, we will proceed with symposia for both adult and paediatric respiratory medicine. Esteemed speakers have been lined up to delve into various topics from occupational and environmental lung disease to ethics and medicolegal matters, not forgetting the common diseases, such as obstructive lung diseases, thoracic malignancy and respiratory infections. As patients take centre stage in our work, the congress will end with a forum on the role of physician in patient advocacy. As the saying goes, "Hard work and no play makes Jack a dull boy", so the congress will not only be intellectually fulfilling, you will also be entertained during our Gala dinner, and there will be ample opportunity for networking among the delegates.

We welcome you to a congress which we hope not only will enhance your knowledge and skills, but also build up network for future collaboration as well as enable you to meet up with old friends and make new friends. We also hope you will gain new insights and formulate new ideas for betterment of our service to our patients. There is no better place to do all this than at MTS Annual Congress 2017. Look forward to seeing you in Kuala Lumpur.

Dr. Nurhayati Mohd Marzuki
Organising Chairperson, MTS Annual Congress 2017

PROGRAMME SUMMARY

Date Time	Thursday 20th July 2017	Friday 21st July 2017
		Registration
0700 - 0800	CONFERENCE WORKSHOP Acute pulmonary embolism to chronic thromboembolic pulmonary hypertension: State of the art management (0800 – 1615)	WELCOME ADDRESS
0800 – 0810		
0810 – 0850		**PLENARY 1 (P1)**
		Symposium 1 (S1)
		Coffee Break
		Symposium 2 (S2)
0850 – 1005		**Sponsored Symposium 2 (SS2)** AstraZeneca
1005 – 1035		Lunch and Friday Prayers
1035 – 1150		
1150 – 1240		**Symposium 3 (S3)**
1240 – 1430		**Sponsored Symposium 3 (SS3A)** GlaxoSmithKline Pharmaceutical
1430 - 1600		**Sponsored Symposium 3 (SS3B)** Sanofi Pasteur
1600 - 1650		
1650 - 1845	**Sponsored Symposium 1 (SS1)** ResMed (1730 – 1830)	Coffee Break & **Annual General Meeting**
1845 - 1935		**Sponsored Symposium 4 (SS4A)** Roche **Sponsored Symposium 4 (SS4B)** Pfizer
1925 - 2200		Dinner

PROGRAMME SUMMARY

Date Time	Saturday 22nd July 2017	Sunday 23rd July 2017
0700 - 0800	Sunrise Session	Sunrise Session
0800 - 0840	**PLENARY 2 (P2)**	**PLENARY 3 (P3)**
0840 - 1010	**SYMPOSIUM 4 (S4)**	**SYMPOSIUM 6 (S6)**
1010 - 1040	Coffee Break	Coffee Break
1040 - 1210	**SYMPOSIUM 5 (S5)**	**Sponsored Symposium 8 (SS8)** Mundipharma (1040 – 1130)
1210 - 1300	**Sponsored Symposium 5 (SS5)** Boehringer Ingelheim	Forum: The Role of Clinicians in Patient Advocacy (1130 - 1230)
1300 - 1400	Lunch	CLOSING CEREMONY (1230 – 1240) Lunch (1240 – 1410)
1400 - 1530	Multi-disciplinary case discussions (physician/radiologist/pathologist) (paediatrician/radiologist/pathologist)	
1530 - 1630	**Concurrent Oral and Poster Presentation**	
1630 - 1720	**Sponsored Symposium 6 (SS6)** Novartis	
1720 - 1740	Coffee Break	
1740 - 1830	**Sponsored Symposium 7 (SS7)** GlaxoSmithKline Pharmaceutical	
2000 - 2200	**MTS Gala Dinner**	

The Conference has been accredited for CPD points as follows:

1. Under the MMC CPD Grading System

Congress workshop on 20th July 2017 – 6 points under Category A3
Conference from 21st to 23rd July 2017 – 20 points under Category A1

2. By the Malaysian Nursing Board

Congress workshop on 20th July 2017 – 10 points under Category A1
Conference from 21st to 23rd July 2017 – 20 points under Category A1

Conference Workshop

ACUTE PULMONARY EMBOLISM TO CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: STATE OF THE ART MANAGEMENT
20th JULY 2017, Sunway Putra Hotel, Kuala Lumpur, Emerald

TIME	TOPIC	SPEAKER	CHAIRPERSONS
0830 - 0900	Pulmonary embolism: A background	*Prof Dr Paul Corris*	*Assoc Prof Pang Yong-Kek* *Dr Jameelah Sathar*
0900 - 0930	Case discussion 1: Risk stratification	*Prof Dr Roslina Abdul Manap*	
0930 - 1000	The role of imaging in pulmonary embolism	*Dr Josephine Subramaniam*	
1000 - 1030	Case Discussion 2: To thrombolyse or not to thrombolyse	*Dr Haizal Haron Kamar*	
1030 - 1100	Coffee break		
1100 – 1130	Case Discussion 3: The argument for lifelong anticoagulation	*Assoc Prof Dr Bee Ping Chong*	
1130 - 1200	Management of bleeding in anti-coagulated patients	*Dr Jameela Sathar*	
1200 - 1230	Management of acute pulmonary embolism – The way forward	*Prof Dr Paul Corris*	
1230 - 1330	Lunch break		
1330 - 1400	Case Discussion 4: CTEPH – An easily missed-diagnosis	*Assoc Prof Dr Pang Yong-Kek*	*Prof Paul Corris* *Datuk Dr David Chew*
1400 - 1430	Investigating suspected CTEPH	*Dr Sundari Ampikaipakan*	
1430 - 1500	Medical intervention for CTEPH – Do the drugs work?	*Datuk Dr David Chew*	
1500 - 1515	Coffee break		
1515 - 1545	Balloon pulmonary angioplasty	*Dr Lim Soo Teik*	
1545 - 1615	The surgical approach to CTEPH	*Dr David Jenkins*	
1615	Close		

1630 – 1730 **Meeting of Pulmonary Vascular Research Institute Regional Taskforce** EMERALD

1730 - 1830 **Sponsored Symposium 1 (S1)** EMERALD
Company: ResMed
Chairperson: Mr Dylan Tan
Speaker: *Mr Brett McLaren*
Topic: Big data - the new cornerstone of precision medicine

Daily Programme
21st July 2017, Friday

0700 – 0800 **Registration**

0800 – 0810 **WELCOME ADDRESS** BALLROOM 1

- Prof Dr Roslina Abdul Manap
  President, Malaysian Thoracic Society
- Dr Nurhayati Mohd Marzuki
  Organising Chairperson, MTS Annual Congress 2017

0810 – 0850 **PLENARY 1 (P1)** BALLROOM 1

Chairperson: Prof Roslina Abdul Manap

The Future of Pulmonary Hypertension

Prof Dr Paul Corris

0850 – 1005 **SYMPOSIUM 1 (S1)** BALLROOM 1

S1A – Occupational and Environmental Lung Disease

Chairpersons: Dr Syazatul Syakirin Sirol Aflah & Assoc Prof Dr Tidi Hassan

1. The impact of environmental factors on lung defenses
   Dr Roslan Harun
2. Climate change and lung disease
   Dr Hooi Lai Ngoh
3. Occupational ILD
   Assoc Prof Dr Victor CW Hoe

0850 – 1005 ***S1B – Ethics and Medicolegal Matters*** DIAMOND 1 & 2

Chairpersons: Dr Helmy Haja Mydin & K.M. John Chan

1. Palliative care – when, where and how?
   Dr Lam Chee Loong
2. Implementing a culture of safety
   Mr Vivek Anand
3. Combating pseudoscience
   Dr Suhazeli Abdullah

0850 – 1005 ***S1C (Paediatric) – Difficult asthma in children*** DIAMOND 3 & 4

Chairpersons: Dr Patrick Chan Wai Kiong & Dr Nur Fafwati Faridatul Akmar

1. Children with difficult asthma, who are they?
   Prof Dr Dominic Fitzgerald
2. Severe allergic asthma
   Dr Rus Anida Awang
3. Recognizing and managing brittle asthma in children
   Prof Dr Dominic Fitzgerald

1005 - 1035 Coffee Break BALLROOM 2 & FOYER

1035 – 1150 **SYMPOSIUM 2 (S2)** BALLROOM 1

S2A - Tuberculosis I

Chairpersons: Dato' Dr. Abdul Razak Muttalif & Dr Wong Chee Kuan

1. Review of National Tuberculosis Control Programme
   Dr Mohamad Naim Abdul Kadir
2. Patient-centred TB care
   Ms Mildred Fernando
3. Contact tracing and latent TB infection in children
   Dr Tan Kah Kee

S2B – Pulmonary manifestations of systemic disease DIAMOND 1 & 2

Chairpersons: Assoc Prof Dr Pang Yong Kek & *Datuk Dr Aziah Ahmad Mahayiddin*

1. Sarcoidosis
   Dr Anantham Devanand
2. Pleural disease
   Dr Fauzi Anshar
3. Lung-dominant connective tissue disease
   Assoc Prof Dr Raja Jasmin

1035 – 1150 ***S2C (Paediatric) – Inherited Metabolic and Genetic Diseases in children***
DIAMOND 3 & 4

Chairpersons: Dr Mariana Daud & Dr Dayang Zuraini Sahadan

1. Inherited Metabolic diseases: What the paediatrician should know?
   Dr Ngu Lock Hock
2. Inherited Metabolic diseases: Management of respiratory complications
   Dr Su Siew Choo
3. Congenital skeletal abnormalities and respiratory insufficiency
   Prof Dr Thong Meow Keong

1150-1240 **Sponsored Symposium 2 (SS2)** BALLROOM 1

Company: AstraZeneca
Chairperson: *Dr Helmy Haja Mydin*
Speaker: *Prof Dr Martyn Partridge*
Topic: Asthma: Time to Up Our Game

1240-1430 Lunch COFFEE HOUSE

1430-1600 **SYMPOSIUM 3 (S3)** BALLROOM 1

S3A – Pleural Disease

Chairpersons: Dr David Jenkins & Dr Fauzi Anshar

1. Malignant pleural effusion: AMPLE TIME or ASAP?
   Prof Dr Gary Lee
2. Empyema
   Dr Asma Navasakulpong
3. VATS – When to call a surgeon
   Dr K.M John Chan

S3B – Sleep-disordered breathing DIAMOND 1 & 2

Chairpersons: Dr Nurul Yaqeen Mohd Esa & Dr Mohd Arif Mohd Zim

1. Obstructive sleep apnoea and the metabolic syndrome
   Dr Ahmad Izuanuddin Ismail
2. When to call a neurologist?
   Prof Dr Nortina Shahrizaila
3. Obesity hypoventilation syndrome
   Dr Lalitha Pereirasamy

1430-1600 (con't) ***S3C (Paediatric) - Primary Immunodeficiency Disease (PID) and Respiratory Complications*** DIAMOND 3 & 4

Chairpersons: Dr Su Siew Choo & Dr Rus Anida Awang

1. Overview of Primary Immunodeficiency Disease in children
   Prof Dr Lokman Mohd Noh
2. Laboratory investigations in Primary Immunodeficiency Disease
   Dr Adiratna Mat Ripen
3. Respiratory complications in Primary Immunodeficiency Disease
   Dr Dayang Zuraini Sahadan
4. Optimal management for children with Primary Immunodeficiency Disease
   Assoc Prof Dr Intan Hakimah Ismail

1600-1650 **Sponsored symposium 3 (SS3A)** DIAMOND 1 & 2

Company: GlaxoSmithKline Pharmaceutical
Chairperson: *Dr Celeste Mae Lardizabal-Campomanes*
Speakers: *Prof Dato' Dr Hj Abdul Razak Muttalif & Dr Ahmad Izuanuddin Ismail*
Topic: Expert Discussion on efficacy of bronchodilators and inhaler devices for COPD Management

Sponsored symposium 3 (SS3B) DIAMOND 3 & 4

Company: Sanofi Pasteur
Chairperson: *Prof Dr Roslina Abdul Manap*
Speaker: *Assoc Prof Dr Pang Yong Kek*
Topic: Influenza disease burden in chronic respiratory patients and the role of influenza vaccination

1650-1845 Coffee Break BALLROOM 2 & FOYER

MTS Annual General Meeting DIAMOND 3 & 4

1845-1935 **Sponsored symposium 4 (SS4A)** DIAMOND 1 & 2

Company: Roche
Chairpersons: *Dato' Dr Abdul Razak Abdul Muttalif*
Speaker: *Prof. Dr. Rafael Molina*
Topic: Biomarkers in lung cancer. How they support imaging, differential diagnosis and treatment monitoring

Sponsored symposium 4 (SS4B) DIAMOND 3 & 4

Company: Pfizer
Chairperson: *Prof Dr Liam Chong Kin*
Speaker: *Professor Thomas P. Lodise*
Topic: Defining the role of A 5th Generation Cephalosporin in CAP

1935-2200 Dinner COFFEE HOUSE

Daily Programme
22nd July 2017, Saturday

0700-0800 **Sunrise Session: Emerging treatments for Bronchiectasis** DIAMOND 1 & 2
Chairperson: *Dr Kow Ken Siong*
Speaker: *Asst Prof Dr Sanjay Chotirmall*

0800-0840 **PLENARY 2 (P2)** BALLROOM 1
Chairperson: Prof Dato' Dr Azizi Hj Omar
Lung disease of prematurity and long term outcome
Prof Dr Dominic Fitzgerald

0840-1010 **SYMPOSIUM 4 (S4)** BALLROOM 1
S4A – Asthma
Chairpersons: Prof Liam Chong Kin & Dr Irfhan Ali
1. Difficult asthma: What is it and what to think about before escalating treatment?
   Prof Dr Martyn Partridge
2. The role of biomarkers in asthma management
   Dr Hilmi Lockman
3. Improving patient outcomes in asthma
   Dr Helmy Haja Mydin

S4B – Non-invasive ventilation DIAMOND 1 & 2
Chairpersons: Dr Rosmadi Ismail & Dr Lalitha Pereirasamy
1. The role of transnasal insufflation
   Dr Sewa Duu Wen
2. Home BiPaP in the management of COPD
   Dr Kow Ken Siong
3. Neuromuscular diseases
   Dr Asiah Kassim

S4C (Paediatric) – Current Childhood Asthma Phenotypes DIAMOND 3 & 4
Chairpersons: Assoc Prof Dr Anna Marie Nathan & Dr Mariana Daud
1. Asthma phenotypes in Children
   Assoc Prof Dr Jessie Anne de Bruyne
2. Genetics in childhood asthma
   Dr Alison Ting Yih Hua
3. Phenotype focused management, is it practical?
   Prof Dr Dominic Fitzgerald

1010-1040 Coffee break BALLROOM 2 & FOYER

1040-1210 **SYMPOSIUM 5 (S5)** BALLROOM 1
S5A – Lung cancer
Chairpersons: Dr Nurhayati Mohd Marzuki & Dr Asma Navasakulpong
1. Lung cancer screening
   Dr Anantham Devanand
2. Re-biopsies in known cases of lung cancer
   Dr Pathmanathan Rajadurai
3. Immunotherapy in lung cancer
   Prof Dr Liam Chong Kin

S5B - Respiratory infections DIAMOND 1 & 2

Chairpersons: Dr I. Kuppusamy & Dr Andrea Ban Yu-Lin

1. MDRO in the critically ill
   Dato' Dr Mahiran Mustafa
2. Me, Myself and my Microbes: A precision medicine approach to the lung microbiome
   Asst Prof Dr Sanjay Chotirmall
3. Preparing for the next flu pandemic
   Dr Norhayati Rusli

S5C (Paediatric) - Congenital airway and diaphragmatic defect in children
DIAMOND 3 & 4

Chairpersons: Dr Asiah Kassim & Assoc Prof Dr Jessie Anne de Bruyne

1. Congenital airway and diaphragm defects: From common to rare
   Dato Dr Zakaria Zahari
2. Management of congenital diaphragmatic hernia
   Prof Dr Lucy CS Lum
3. Intermediate and long-term complications of diaphragmatic defects
   Assoc Prof Dr Surendran Thavagnanam

1210-1300 **Sponsored symposium 5 (SS5)** BALLROOM 1

Company: Boehringer Ingelheim
Chairperson: *Dr Jamalul Azizi Abdul Rahaman*
Speaker: *Prof Klaus Rabe*
Topic: Heritage Meets Innovation – Meeting patient's needs in the changing world of COPD management

1300-1400 Lunch COFFEE HOUSE

1400-1530 **Adult Multi-disciplinary case discussions** BALLROOM 1

Chairpersons: Dr. Syazatul Syakirin Sirol Aflah & Assoc Prof Dr Tidi Hassan
Case 1:
Presenter: Dr Nurashikin Mohammad
Radiologist: Dr Zuhanis Abdul Hamid
Respiratory Physician: Dr Andrea Ban Yu-Lin

Case 2:
Presenter: Dr Muhammad Amin Ibrahim
Radiologist: Dr Zuhanis Abdul Hamid
Pathologist: Dr Nor Salmah Bakar
Respiratory Physician: Dr Mohd Arif Mohd Zim

Case 3:
Presenter: Dr Zul Amali Che Kamaruddin
Radiologist: Dr Zuhanis Abdul Hamid
Pathologist: Dr Nor Salmah Bakar
Respiratory Physician: Dr Azza Omar

1400-1530 **Paediatric Multi-disciplinary case discussions** DIAMOND 3 & 4

Chairpersons: Dr Alison Ting Yih Hua & Assoc Prof Dr Surendran Thavagnanam
Case 1:
Presenter: Dr Nurul Zamil Mohd Muzzamil
Radiologist: Assoc Prof Dr Roziah Muridan
Respiratory Paediatrician: Dr Mariana Daud

Case 2:
Presenter: Dr Mohd Shafie Hashim
Radiologist: Assoc Prof Dr Roziah Muridan
Respiratory Paediatrician: Dr Mariana Daud

1530-1630 **CONCURRENT ORAL AND POSTER PRESENTATIONS**

Oral paper presentations DIAMOND 1 & 2
Chairpersons: *Dr Helmy Haja Mydin and Dr Asiah Kassim*

Poster Paper Presentations DIAMOND FOYER
Coordinators: Paediatrics – *Dr Nur Fafwati Faridatul Akmar*
Adult – *Assoc Prof Dr Tidi Hassan & Dr Mohd Faisal Abdul Hamid*

Case Report Poster Presentations DIAMOND FOYER
Coordinators: Paediatrics – *Dr Noor Ain Noor Afendi*
Adult – *Dr Rosmadi Ismail & Dr Nurul Yaqeen Mohd Esa*

1630-1720 **Sponsored symposium 6A (SS6)** DIAMOND 1 & 2
Company: Novartis
Chairperson: *Assoc Prof Dr Pang Yong Kek*
Speaker: *Prof Dr Kai- Michael Beeh*
Topic: Importance of exacerbation prevention in COPD

1720-1740 Coffee break BALLROOM 2 & FOYER

1740-1830 **Sponsored symposium 7 (SS7)** DIAMOND 1 & 2
Company: GlaxoSmithKline Pharmaceutical
Chairperson: *Ms Shermaine Chia*
Speaker: *Dr Celeste Mae Lardizabal-Campomanes*
Topic: Is Once Daily the practical choice for asthma maintenance?

2000-2200 **MTS Gala Dinner** BALLROOM 1
Launch of Asthma Malaysia
Launch of LFM Coffee table book
Prize giving for best paper and poster awards

Daily Programme

23rd July 2017, Sunday

0700-0800 **Sunrise Session** DIAMOND 1 & 2

Moderator: Dr Mohamed Faisal Abdul Hamid

ATS Discovery Series: Mechanical Ventilation: From Vesalius to VILI

Dr Arthur Slutsky

0800-0840 **PLENARY 3 (P3)** BALLROOM 1

Chairperson: Dato' Dr Abdul Razak Abdul Muttalif

The National Strategic Plan for Tobacco Control

Dr Noraryana Hassan

0840-1010 **SYMPOSIUM 6 (S6)** BALLROOM 1

S6A - Tuberculosis II

Chairpersons: Dr Kunji Kannan & Dr Zamzurina Abu Bakar

1. Drug-resistant TB
   Dr Maria Tarcela Gler
2. HIV/TB co-infection
   Dr Leong Kar Nim
3. New drugs and regimens for TB treatment
   Dr Maria Tarcela Gler

S6B - Interventional Respiratory Techniques DIAMOND 1 & 2

Chairpersons: Dr Jamalul Azizi Abdul Rahaman & Dr Azza Omar

1. Electromagnetic navigational bronchoscopy: current and future applications
   Assoc Prof Dr Tidi Hassan
2. Pleural interventions
   Prof Dr Gary Lee
3. Airway stenting
   Prof Dr How Soon Hin

S6C (Paediatric) - Craniofacial deformity and its impact on the respiratory system DIAMOND 3 & 4

Chairpersons: Dr Asiah Kassim & Dr Patrick Chan Wai Kiong

1. Common craniofacial syndromes and their comorbidities
   Mr Mohd Ali Mat Zain
2. Management of airway complications in craniofacial syndromes
   Assoc Prof Dr Anna Marie Nathan
3. Management of other co-morbidities in craniofacial syndromes
   Mr Azmi Alias

1010-1040 Coffee break BALLROOM 2 & FOYER

1040-1130 **Sponsored symposium 8 (SS8)** BALLROOM 1

Company: Mundipharma

Chairperson: *Prof Dato' Dr Hj Abdul Razak Muttalif*

Topics: REALISE ASIA and breatherite™: Your Digital Education & Solutions in Respiratory Care

Speakers: *Professor Dato' Dr Hj Abdul Razak Muttalif and Dr. Ravindra Deore*

1130-1230 Forum: The role of clinicians in patient advocacy BALLROOM 1

Chairperson: Dr. Sundari Ampikaipakan

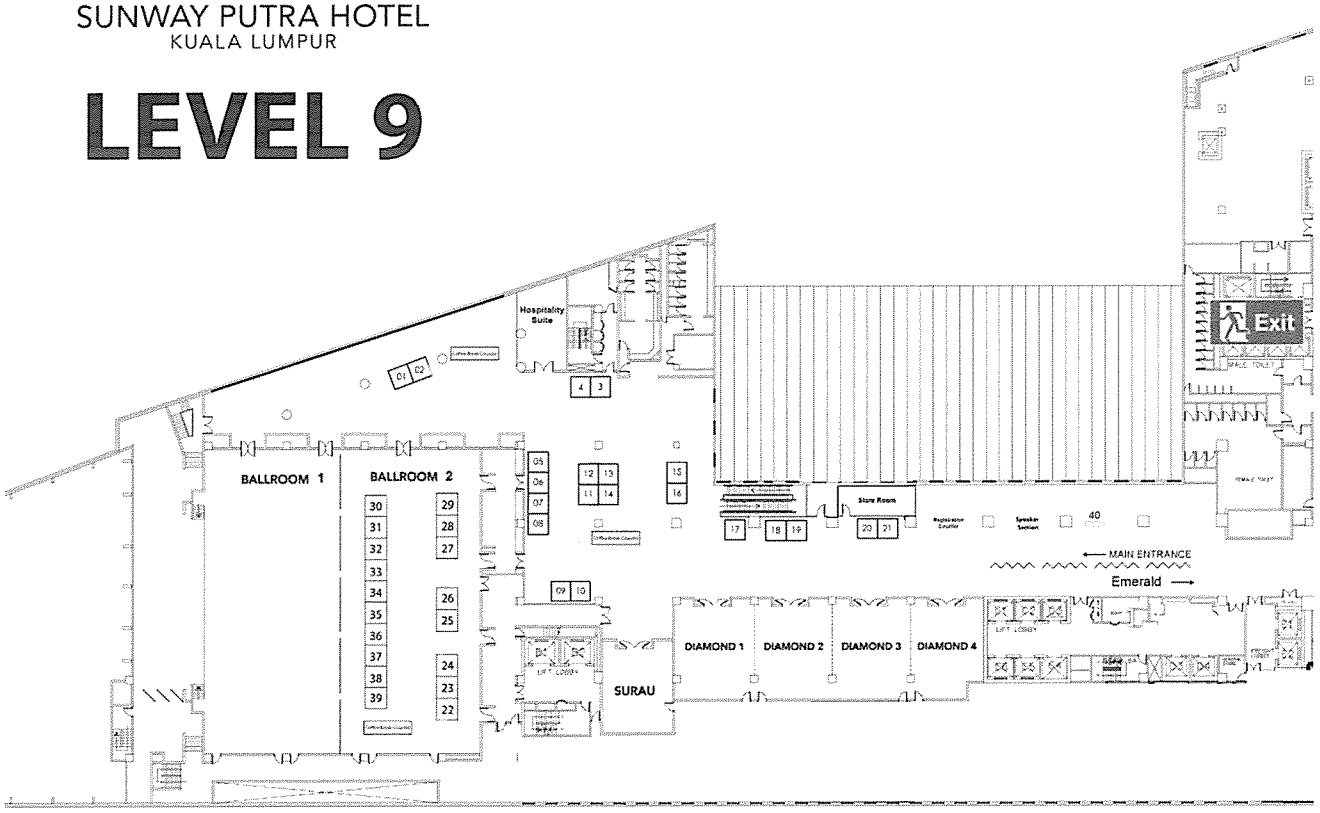
1230-1240 **Closing Ceremony** BALLROOM 1

1240-1410 Lunch COFFEE HOUSE

FLOOR PLAN & TRADE EXHIBITION

SUNWAY PUTRA HOTEL
KUALA LUMPUR

LEVEL 9



GLOSSARY OF EXHIBITORS

Booth No.	Company Name
Hospitality Suite	Orient Europharma (M) Sdn Bhd
1	Roche (Malaysia) Sdn Bhd
2	Mundipharma Pharmaceuticals Sdn Bhd
3	DanMedik Sdn Bhd
4, 11, 12, 13, 14	GlaxoSmithKline Pharmaceutical Sdn Bhd
5, 6, 7, 8	AstraZeneca Sdn Bhd
9	Pahang Pharmacy Sdn Bhd
10	Somnotec (M) Sdn Bhd
15	Philips Respironics
16	Insan Bakti Sdn Bhd
17	Sanofi Pasteur
18	AFT Pharmaceuticals (S.E. Asia) Sdn Bhd
19	Pharmaniaga Marketing Sdn Bhd
20	Symbiomed Sdn Bhd
21	A.Menarini Singapore Pte Ltd
22	DKSH Malaysia Sdn Bhd
23, 24	Pfizer (Malaysia) Sdn Bhd
25	BioCare Pharmaceutical
26	Clinical Research Malaysia
27	Accord Healthcare Sdn Bhd
28	Inova Pharmaceuticals
29	Olympus (Malaysia) Sdn Bhd
30, 31, 32, 33	Boehringer Ingelheim
34, 35, 36, 37	Novartis Corporation (M) Sdn Bhd
38	Acucare Systems (M) Sdn Bhd
39	Bayer Co (M) Sdn Bhd
40	Lung Foundation of Malaysia/ Asthma Malaysia
	CME Distribution

CONFERENCE WORKSHOP

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

PULMONARY EMBOLISM: A BACKGROUND

Paul Corris
Institute of Cellular Medicine, Newcastle University, Newcastle, United Kingdom

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

CASE DISCUSSION 1: RISK STRATIFICATION

Roslina Abdul Manap
Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Pulmonary embolism (PE) has a wide variety of presenting features, ranging from no symptoms to shock or sudden death. The most common presenting symptoms are dyspnoea, chest pain, cough and symptoms of deep venous thrombosis. However, many patients, including those with large PE, have mild or nonspecific symptoms or are asymptomatic. Thus, it is critical that a high level of suspicion be maintained.

Risk stratification for symptomatic PE classifies patients into risk groups, and the recommended therapeutic strategies are based on this stratification. An approach combining clinical and pretest probability assessment, D-dimer testing, and definitive diagnostic imaging including CT pulmonary angiography, echocardiography or venous compression ultrasound and less commonly, ventilation-perfusion scanning is recommended.

Patients who are hemodynamic instable are considered at high risk and fibrinolytic therapy is recommended for them. In normotensive patients, risk stratification helps differentiate between those of low-risk, intermediate-low risk and intermediate-high risk. There is currently insufficient evidence on the benefit of intensive monitoring and fibrinolytic treatment in patients with intermediate-high risk. For low-risk patients, standard anticoagulation is indicated.

Early mortality in patients with PE varies from 2% in normotensive patients to 30% in patients with cardiogenic shock.

THE ROLE OF IMAGING IN PULMONARY EMBOLISM

Josephine Subramaniam
Pantai Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

The diagnosis of pulmonary embolism (PE) requires a high degree of clinical suspicion as many patients present with atypical symptoms and without apparent pre-existing cause.

Imaging remains the mainstay of both the diagnosis and treatment. Imaging is also performed to determine the source of embolism and when catheter directed intervention is required.

Chest x-ray is the first imaging modality that is performed and is usually normal, but may reveal plate atelectasis or a small effusion. Occasionally large emboli may distend the pulmonary arteries and cause areas of apparent oligaemia or narrowed distal arteries. Peripheral opacities that abut the pleura can occur suggesting underlying infarction, and there may be an enlarged right ventricle.

Scintigraphy (Ventilation Perfusion or VQ scan) was used from the 1960's as a means of diagnosing PE before the advent of helical CT. Technetium 99m labelled macroaggregated human serum albumin (99mTc MAA) is used for the perfusion scan. Radiolabelled Xenon was initially used for the ventilation scan but most centres now use a 99mTc diethylenetriaminepentaacetic acid/oxygen mixture. Results are categorised according to the modified PIOPED criteria into normal, low probability, intermediate probability and high probability. It is useful in patients who have a poor renal function or allergies to contrast.

CT has become the modality of choice to diagnose PE from the 1990's when volumetric spiral CT was invented. New thin slice multidetector CT scans produce a sensitivity of 83% and specificity of 96% for the detection of PE in segmental and subsegmental pulmonary arteries. CTAP has a negative predictive value of 99%. It can also be used to perform indirect CT venography of the calf veins with a 97 – 100% sensitivity of femoropopliteal DVT in the same setting. This is however only used in selective acute patients as the additional radiation dose does not justify the procedure in the presence of the high sensitivity of ultrasound.

PE in pregnancy is usually a diagnostic dilemma. Modern CT and VQ scans have been shown to produce a low level of radiation which is roughly similar, with some favour towards CT in terms of radiation dose. There are however, similar rates of indeterminate examinations. The decreased sensitivity of CT in pregnancy is thought to be due to increased venous return and increased blood volume causing haemodilution of contrast. Statements from the Thoracic Radiology & American Thoracic Society therefore suggest a venous Doppler of the lower limbs and chest x-ray as initial imaging examinations. If the chest x-ray is normal, VQ imaging is performed. If abnormal, a CT angiogram of the pulmonary arteries (CTAP) is done.

Ultrasound using compression and Doppler assessment is currently the favoured method of examination to exclude Deep Vein Thrombosis (DVT), the most common cause of PE. It is highly sensitive (97 – 100%) down to the popliteal vein and has reduced sensitivity in the calf veins particularly in obese patients and those with swollen, tender calves. Acute clot is generally anechoic or of low echogenicity therefore compression techniques and colour Doppler are important in establishing the diagnosis. Venography used to be performed prior to the development of high resolution ultrasound machines.

MRI and MR angiography (MRA) has been used for PE since the development of fast spin echo techniques for selected patients. Information can be obtained with or without contrast. It can also be used to evaluate the right and left ventricular function at the same sitting.

Conventional catheter angiography is only used in the setting of catheter based intervention. Recent studies show a decreased long term morbidity and mortality rate when this is used for selective patients, particularly those in the intermediate and high risk category.

In summary, a variety of imaging techniques are available for the diagnosis and management of pulmonary embolism. A Doppler ultrasound of the calf veins and CTAP of the pulmonary arteries are the initial imaging examinations used when PE is suspected.

CASE DISCUSSION 2: TO THROMBOLYSE OR NOT TO THROMBOLYSE

Haizal Haron Kamar
Tropicana Medical Centre, Petaling Jaya, Selangor, Malaysia

The primary therapy for acute pulmonary embolism (PE) is anticoagulation with heparin and warfarin or the new oral anticoagulants (NOACs) to prevent additional thromboembolism. Traditional teaching relegates the use of thrombolysis to the relatively rare situation in which massive pulmonary embolism causes hypotension. Thrombolytic agents such as alteplase (recombinant tissue plasminogen activator) act on plasminogen, converting it to plasmin which dissolves the embolus.

However, there are a few unresolved issues surrounding thrombolysis in acute PE and some of them are somewhat controversial. For instance, should we expand the indications for thrombolysis to encompass intermediate risk cases such as pulmonary embolism in patients with right ventricular dysfunction in the presence of normal systemic arterial pressure? What is the time window after which thrombolysis confers no additional benefit over anticoagulation? What are the approved thrombolytic regimens? What are the advantages of catheter-directed thrombolysis over intravenous regimens?

These issues will be addressed as well as the basic fundamentals of thrombolysis in acute PE namely indications, contraindications, adverse effects and treatment outcomes. Guidelines merely serve as a guide for physicians in the management of any given medical condition. However, at the end of the day, a physician's sound clinical acumen individually assessing the risks and benefits of each case is still the best approach.

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

CASE DISCUSSION 3: THE ARGUMENT FOR AND AGAINST LIFELONG ANTICOAGULATION

Bee Ping Chong
University of Malaya, Kuala Lumpur, Malaysia

Venous thromboembolism (VTE) is a common medical condition. It has significant morbidity and mortality. Anticoagulant can prevent extension of thrombus and early recurrence within the first 3 to 6 months. Extended period of anticoagulant anticoagulation is required to prevent late recurrence. The benefit of anticoagulation continues only for as long as therapy is continued. Patients with low risk of recurrence such as those patients with a pulmonary embolism (PE) or deep vein thrombosis (DVT) provoked by surgery can safely stop anticoagulant after 3 months of treatment. On the other hand, lifelong anticoagulant is universally accepted for patients with second unprovoked VTE and patients with persistent risk factors of VTE. The duration of anticoagulant is controversial in patients with a PE or DVT associated with non-surgical risk factors or patients with first unprovoked VTE.

A careful analysis of the benefit versus risk of long-term anticoagulation in this group of patients should be considered. The risk of recurrence must be sufficiently high and the risk of bleeding sufficiently low to justify lifelong anticoagulant therapy in an individual patient with a PE or DVT. A risk stratification model may help to identify patients at high risk for recurrence that needed lifelong anticoagulation. Patients should also be involved in the decision making. Their values and preferences should be considered after the risks and benefits of lifelong anticoagulation are properly explained.

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

MANAGEMENT OF BLEEDING IN ANTI-COAGULATED PATIENTS

Jameela Sathar
Hospital Ampang, Ampang, Selangor, Malaysia

Bleeding in anti-coagulated patients can be serious and at times life-threatening. One of the most important aspects in managing patients on anticoagulants is patient education. An educated patient can prevent or reduce bleeds by knowing what anticoagulant he is on, the drugs and food that can interact and the precautions and actions that should be taken in case of illness or injury.

Understanding the mode of action of anticoagulants, drug interactions and the route of elimination are all important in managing patients with bleeding on anticoagulants. Assess the bleeding severity, the source of bleeding and other risk factors. Obtain a full medication history to identify medications that can potentiate bleeding. Determine the time elapsed since the last dose of anticoagulant and whether there is renal impairment and life-threatening anaemia.

While INR determines the anticoagulant effect of warfarin, routine coagulation tests are unable to do so for the direct oral anticoagulants (DOACs) except for dabigatran where a normal APTT excludes clinically relevant levels.

Antidotes or reversal agents are only required in severe, life-threatening bleeds or when urgent reversal is required for an emergency surgery. The available antidotes are vitamin K, protamine sulphate and idarucizumab for warfarin, heparins and dabigatran respectively.
Idarucizumab is a monoclonal antibody that binds specifically to dabigatran. At present, there are no antidotes for the anti-Xa inhibitors i.e. rivaroxaban, apixaban and fondaparinux, although some are in the pipeline.

Four-factor prothrombin complex concentrate (4-PCC) is licensed for use only in warfarin reversal because the four coagulation factors II, VII, IX and X which are present in 4-PCC are lacking in patients who are on warfarin. There are no data to support the use of 4-PCC in actively bleeding patients on DOACs. Logically, it will not work as DOACs are inhibitors to coagulation factor II or X and will only neutralise these factors that are available in 4-PCC. Furthermore, it is associated with an increased risk of thrombosis.

Unlike warfarin, the half-life of DOACs is short between 8 to 12 hours and it is suffice to wait it out while instituting local measures to stop the bleeding i.e. compression or endoscopic intervention.
Bleeding in DOACs are not as severe as in warfarin where haematoma expansion occurs rapidly. Furthermore, all DOAC studies in atrial fibrillation and venous thromboembolism showed a significant reduction in the incidence of intracerebral haemorrhage with DOACs compared to warfarin.

Low molecular weight heparin (LMWH) has a half-life between 4 to 7 hours while fondaparinux has a longer half-life of 18 to 21 hours which makes bridging with fondaparinux difficult during surgeries, increasing the risk of bleeding.

It is important to check the renal function before starting a patient on anticoagulants because drugs which are eliminated through the kidneys will accumulate and increase the risk of bleeding.
Fondaparinux is entirely eliminated through the kidneys, hence its use is not recommended in patients with renal impairment. Of the two LMWHs that are available in Malaysia, enoxaparin is eliminated more through the kidneys compared to tinzaparin, where elimination is mainly through the reticuloendothelial system, which makes it a safer LMWH in patients with renal impairment.

Dabigatran is also excreted mainly through the kidneys compared to rivaroxaban and apixaban. Hence, in renal impairment, apixaban or rivaroxaban is preferred. Dabigatran is the only DOAC that is dialyzable and in the absence of idarucixumab, hemodialysis is used for dabigatran-associated bleeding.
Activated charcoal can reduce the absorption of dabigatran and apixaban only within the first 2 to 3 hours of dabigatran ingestion and within 6 hours for apixaban.

The most important adjunct treatment is the antifibrinolytic, tranexamic acid. Not only it is cheap, it is very effective in reducing haemorrhage as shown in the CRASH trial and the most recent WOMAN trial with no significant increase in thrombosis.

Packed cell transfusions should be reserved for life-threatening anaemia. Fresh frozen plasma as with 4-PCC will not work to stop the bleeding due to DOACs, LMWHs or fondaparinux unless there is associated massive haemorrhage. A very cheap treatment for anaemia is intravenous iron sucrose which is very safe compared to the older high molecular weight iron dextran, imferon.

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

MANAGEMENT OF ACUTE PULMONARY EMBOLISM – THE WAY FORWARD

Paul Corris
Institute of Cellular Medicine, Newcastle University, Newcastle, United Kingdom

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

CASE DISCUSSION 4: CTEPH – AN EASILY MISSED DIAGNOSIS

Pang Yong-Kek
Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia

CTEPH is often considered as a very rare disorder - hence, it is not commonly included in the diagnostic workup. Besides, its manifestations are often quite subtle in the eyes of unsuspicious. Furthermore, diagnostic approach is often confused with that for acute pulmonary embolism.

In this session, 3 cases of CTEPH with different manifestations and comorbidities will be presented. Interactive questions will be posted during the discussion of these cases.

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

INVESTIGATING SUSPECTED CTEPH

Sundari Ampikaipakan
Pantai Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Chronic thromboembolic pulmonary hypertension (CTEPH) is the only form of pulmonary hypertension that is potentially curable. However, without appropriate treatment, CTPEH has an average mortality of 30% at 5 years in patients with mean pulmonary artery pressures (mPAP) of > 40mmHg.

More recently, pulmonary endarterectomy, advances in pharmacotherapy and the advent of newer techniques such as balloon pulmonary angioplasty have resulted in improved outcomes for patients with CTPEH. Hence, early and accurate diagnosis of CTEPH is crucial to ensure that patients receive the best possible treatment options.

This talk will summarise the diagnostic algorithm necessary for patients with CTEPH.

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

MEDICAL INTERVENTION FOR CTEPH – DO THE DRUGS WORK?

David Chew
National Heart Centre, Kuala Lumpur, Malaysia

The definitive management of chronic thromboembolic pulmonary hypertension (CTEPH) is surgical by pulmonary thromboendarterectomy (PTE). However this surgical treatment is not possible in all cases because of co-morbidities, patient's choice, or because of unsuitable anatomy (distal obstructions). Some patients may be treatable by balloon pulmonary angioplasty (BPA). Medical therapy has been used in those patients with CTEPH who are not suitable for PTE or BPA. Also, there may still be residual pulmonary arterial hypertension after PTE or BPA, or recurrent pulmonary hypertension.

Selective pulmonary vasodilators have been used to treat CTEPH. The data on its efficacy is limited. The only drug approved for treatment of CTEPH is riociguat, which is a soluble guanylate cyclase stimulator. It has been shown in the CHEST study that riociguat improves 6 minute walk distance, PVR, WHO functional class and NT Pro BNP levels in patients with CTEPH. Small studies have been carried out with bosentan, sildenafil and prostanoids and these studies suggest that these drugs can be useful for symptomatic improvement.

Medical therapy should not be a replacement for PTE if surgery is possible. Medical therapy may also be useful to stabilize patients before definitively therapy by either PTE or BPA, but should not delay the surgery.

Other treatments that are important in management of CTEPH are anticoagulation with warfarin and anti-failure medications (diuretics and digoxin) to treat right heart failure.

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

BALLOON PULMONARY ANGIOPLASTY

Lim Soo Teik
National Heart Centre Singapore, Singapore

Acute Pulmonary Embolism to Chronic Thromboembolic Pulmonary Hypertension: State of the Art Management

THE SURGICAL APPROACH TO CTEPH

David Jenkins
Papworth Hospital, Cambridge, United Kingdom

This talk will introduce CTEPH as type 4 in the classification of PH and briefly discuss the definition and pathology as it relates to surgery. Pulmonary endarterectomy (PEA) is the guideline recommended treatment based on evidence from large case series. The assessment of operability and selections of patients for surgery will be discussed based on the UK model of designated PH centres and a national referral system with one hospital commissioned to provide surgery.

The operation technique will be explained, including the need for circulatory arrest. Post operative management will be discussed. Treatment of complications including the use of ECMO will be included. Evidence demonstrating improved cognitive function despite circulatory arrest will be included.

The outcome and results of surgery will be covered in details, including in-hospital mortality, haemodynamic and functional improvement and the most recent data about long term survival benefits. The lecture will conclude with a discussion about multimodality therapy as some patients have residual PH despite PEA and may benefit from additional therapies.

PLENARY 1

THE FUTURE OF PULMONARY HYPERTENSION

Paul Corris
Institute of Cellular Medicine, Newcastle University, Newcastle, United Kingdom

Symposium 1

S1A – Occupational and Environmental Lung Disease

THE IMPACT OF ENVIRONMENTAL FACTORS ON LUNG DEFENCES

Roslan Harun
KPJ Ampang Puteri, Selangor, Malaysia

Lung is one of the most important organs exposed to environmental agents. The ability of the lungs to protect themselves by defence mechanisms and the individual's susceptibility to their impact will determine the development of environmentally induced pulmonary diseases. Environmental factors in the outdoor and indoor environment pollutants are potentially hazardous to the airways and lung parenchyma. Main outdoor air pollutants include gaseous chemicals (nitrogen dioxide, ozone, sulphur dioxide), inhaled particulate matter (PM) and aeroallergens. Major constituents of lung defences include luminal defence mechanisms (cough, mucociliary clearances, secretory IgA, lysozymes, defensins), epithelial cells (epithelial barrier, mucin release, cytokines), blood derived inflammatory cells (dendritic cells, lymphocytes, eosinophils and mast cells) and alveolar pneumocytes and macrophages. The first lines of defence are predominantly based on mechanical barriers and several mechanisms related to innate immunity. For example, ozone reduces mucociliary clearance, increases the permeability of epithelial cells, favouring the entry of inhaled allergens, pathogens and toxins into the interstitium. Dendritic cells will process these antigens and generate adaptive immunity. Ozone also induces inflammatory cytokines including interleukin (IL)-1, IL-6, IL-8 and tumour necrosis factor (TNF) that are involved in airway inflammation. Airway inflammation consists of mucus hypersecretion, chemotaxis for inflammatory cells, and release of mediators that are potentially noxious for the airways and lung parenchyma. These changes are often seen in chronic respiratory disease, such as COPD. Airborne PM, a major component of urban air pollution, induces oxidative stress in macrophages and epithelial cells, and increases TNF-beta, IL-6, interferon (IF)-c, transforming growth factor (TGF)-beta and nuclear factor-kB. Viruses are capable to evade lung defences and eventually remain as persistent infections. Innate and adaptive mechanisms, triggered by viruses and other irritants, may amplify several diseases including asthma.

Symposium 1

S1A – Occupational and Environmental Lung Disease

CLIMATE CHANGE AND LUNG DISEASE

Hooi Lai Ngoh
Public Specialist Centre, George Town, Penang, Malaysia

Global temperature has risen markedly in the past 50 years due to an increase in greenhouse gas emissions, largely from anthropogenic sources. The result is an increase in intensity and frequency of extreme events such as heat waves, droughts, floods, thunderstorms and hurricanes. The effects will be greater in urban areas since climate change affects the generation and dispersion of air pollution. Adverse health effects arise from heat-related disorders, respiratory disorders, infectious diseases, food insecurity, and mental health disorders. This presentation aims to summarise the effect of climate change on common respiratory diseases.

Patients with common chronic respiratory conditions such as asthma and COPD will bear a disproportionate burden of disease from climate change related to increased heat, temperature variability, extreme weather events, worsening air pollution and other environmental exposures affected by climate change such as pollen and other aeroallergens. For every 10 C rise in temperature during heat waves, the risk of death in respiratory patients is up to 6 times higher than in the rest of the population. The increase in respiratory mortality (relative risk) is higher than total or cardiovascular mortality. Acute rises in temperature and humidity can trigger asthma symptoms. Air pollution can aggravate asthma resulting in increased medication use, visits to emergency departments and hospitalisation. Weather and air pollution can affect aeroallergens and there have been reports of severe asthma attacks associated with thunderstorms during pollen season.

High temperatures and air pollution interact to cause excess mortality and hospital admissions in patients with COPD i.e., at higher mean temperatures there are more admissions and deaths than would be expected for the level of ambient air pollution. Increased mortality hazard ratios have been also been found for temperature variability. Extreme weather events will disproportionately affect patients with COPD and chronic lung diseases. Natural disasters can increase transmission of communicable diseases including respiratory viruses and bacteria with high mortality rate in this population. Floods are increasing in frequency and intensity; the decreased sanitation and overcrowding can promote spread of infectious respiratory disease and cause damage to healthcare infrastructure including clinics, hospitals and intensive care units. Exposure to particulate matter in outdoor air pollution, which is made worse by climate change, has been shown to increase lung cancer rates and mortality.

Climate change will increase the prevalence of malnutrition, which currently cause 3.1 million deaths every year. A large proportion of global deaths from pneumonia in children < 5 years is attributable to malnutrition. Increased exposure to air pollution in early childhood has been shown to exacerbate both upper and lower respiratory infections and is associated with increased risk of subsequent asthma.

The key determinants of greenhouse gas emissions are energy production, house heating, transportation, agriculture and food production, and waste management. Attempts at mitigating climate change will have to address all these areas.

Symposium 1

S1A – Occupational and Environmental Lung Disease

OCCUPATIONAL ILD

Victor CW Hoe
Centre for Occupational and Environmental Health, Department of Social and Preventive Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia

Interstitial lung diseases (ILDs) are a heterogeneous group of more than 100 diseases of the lung parenchyma. Occupational ILDs can be broadly classified into four categories pneumoconiosis, hypersensitivity pneumonitis or extrinsic allergic alveolitis, other granulomatous diseases and diffuse interstitial fibrosis. Pneumoconiosis are one of the most ancient occupational diseases. The three most important are asbestosis, silicosis and coal workers' pneumoconiosis. These diseases are related to industrial development, silicosis was documented in ancient Egypt by archaeologists, and described by the likes of Hippocrates (460-377 BC), Paracelsus (1493-1541), and Bernardino Ramazzini (1633-1714). Asbestosis and coal workers' pneumoconiosis have a more recent origin, coal workers' pneumoconiosis from the time the modern of industrial revolution and asbestosis more recently, after widespread usage towards the end of the 19th century, due to its unique chemical and physical properties. These diseases still pose health issue in current times, with re-emergency in old industries (Black Lung outbreak in Australia) and from new uses; e.g., silica in garment industries (Turkey), manufactured kitchen counter tops (Italy). In Malaysia, although there are both asbestos usage mainly in building and automotive industries, and exposure to silica from quarry and industries processes, the number of cases diagnosed is still low. The information obtained from the Social Security Organization Annual Report documented the number of pneumoconiosis from 2009-2015, ranged between three and eight cases per-year with a total of 34 cases. In the same period the number of cancer caused by asbestos ranged between one and five cases per-year with a total of 13 cases. The low number may be due to the lack of suspicion or cases being masked by tuberculosis. Pneumoconiosis have no treatment, early diagnosis and prevention of exposure is still the best option. This paper will describe in brief the current issue related to Pneumoconiosis.

Symposium 1

S1B – Ethics & Medicolegal Matters

PALLIATIVE CARE: WHEN, WHERE AND HOW?

Lam Chee Loong
University Malaya Medical Centre, Kuala Lumpur, Malaysia

Palliative care promotes an approach to care that aims to maximise quality of life and reduce suffering, particularly in patients with life limiting illnesses. Like other subspecialities of medicine, respiratory medicine has its own share of incurable conditions that are symptomatically burdensome as well as distressing that warrant the adoption of a palliative approach.

Present data favours the introduction of palliative care at an earlier stage of illness. The delivery of good palliative care and maximising life expectancy are not necessarily mutually exclusive goals and the introduction of services should be based on need rather than prognosis. This overrides the focus on attempting to define precise transition points when curative care should shift to a palliative approach that is often practiced but outdated.

The current lack of trained dedicated palliative care providers from multidisciplinary backgrounds including medical and nursing particularly, proves the main barrier to more widespread adoption and support of patients and their families in both the hospital and the community settings within Malaysia. Innovative approaches and alternative strategies have to be developed to enhance the networks of care delivery for patients with respiratory illnesses. Individualised care that prioritises good honest and open communication, symptom management, psychological and social support as well as advance care planning should be integrated into the routine care delivery for patients with respiratory ailments.

Symposium 1

S1B – Ethics & Medicolegal Matters

IMPLEMENTING A CULTURE OF SAFETY

Vivek Anand
Malaysia Airlines, Malaysia

Symposium 1

S1B – Ethics & Medicolegal Matters

COMBATING PSEUDOSCIENCE

Suhazeli Abdullah
Marang Medical Clinic, Marang, Terengganu, Malaysia

Princeton University historian of science, Michael D. Gordin, adds in his forthcoming book 'The Pseudoscience Wars' (University of Chicago Press, 2012), "No one in the history of the world has ever self-identified as a pseudo-scientist. There is no person who wakes up in the morning and thinks to himself, 'I'll just head into my pseudo-laboratory and perform some pseudo-experiments to try to confirm my pseudo-theories with pseudo-facts.'" As Gordin documents with detailed examples; "individual scientists (as distinct from the monolithic 'scientific community') designate a doctrine as 'pseudoscience' only when they perceive themselves to be threatened—not necessarily by the new ideas themselves but by what those ideas represent in the authority of science, science's access to resources, or some other broader social trends. Science is a set of methods aimed at testing hypotheses and building theories. Meanwhile, Pseudo means false hypotheses and theories. Yet, our public is gullible and believe in it. Pseudoscience consists of statements, beliefs, or practices that are claimed to be scientific and factual in the absence of evidence; gathered and constrained by appropriate scientific methods. False facts and testimonies in medical are more obvious nowadays. It is due to the emergence of social media. Our public has swift access to pseudo-info right into their hands. The health product sellers are also the main influence in the making of pseudoscience. The genuine facts tend be overshadowed by exaggerated testimonials. How do we combat it? Many academicians find it hard to explain facts unveiled in researches in the everyday language. We need a team who shared the same based-ideas in trying to educate the public by simple and understandable medical terms. This team can also run a pop-up stand displaying hands-on models and activities based on research findings. If we are going to dispel myths, we need to improve our ability to communicate with creative approaches such as hands-on activities that encourage self-directed learning. Rather than just trying to stamp out misunderstandings, we need to offer people something else to believe in. The greatest challenge to us now is how to communicate in social media. We need to be passionate about it.

Symposium 1

S1C (Paediatric) – Difficult Asthma in Children

CHILDREN WITH DIFFICULT ASTHMA, WHO ARE THEY?

Dominic Fitzgerald
The Sydney Children's Hospitals Network (Randwick and Westmead), Sydney, Australia

"Difficult asthma" is often a concern in children referred to respiratory paediatricians by their family practitioner. The true incidence of the problem is hard to gauge, but it is reported by centres all over the world. Several groups of children are at risk of having difficult asthma. These include children from disadvantaged social backgrounds, adolescents poorly adherent to preventative medications, obese female tweens and teens with early menarche, and a small subset of non-atopic therapy resistant young people. Patients with difficult asthma have daily symptoms, high [often daily] use of reliever medications, reduced quality of life, limitation of normal daily activities, frequent admissions to hospital and may be harder to manage because they are less able or willing to come for review between exacerbations. Not infrequently, there are psychological issues involving mood and anxiety with overlapping symptoms of dyspnoea and tachypnoea to appreciate in the setting of acute presentations in children with difficult asthma. Difficult asthma, as with any chronic and problematic condition in children, must involve a sound and honest relationship with the family of the child with difficult asthma. There are many considerations in the assessment and management of difficult asthma both at the time of exacerbations and in the longer term with the need to optimise control, improve activity and minimise the risk of side effects of medications, especially corticosteroids. Children with difficult asthma are at risk of severe and potentially fatal asthma exacerbations which reinforces the need for a strong long term relationship with the families.

Symposium 1

S1C (Paediatric) – Difficult Asthma in Children

SEVERE ALLERGIC ASTHMA

Rus Anida Awang
Penang General Hospital, Penang, Malaysia

Majority of patients with asthma have **mild or moderate** disease, and can achieve reasonable asthma control by the regular use of anti-inflammatory and bronchodilating medications. **Severe asthma** is estimated at 5% of the asthmatic population and affects 5–7% of children worldwide. A Global Allergy and Asthma European Network (GA2LEN) Task Force, The Problematic Severe Asthma Initiative, has proposed the term **problematic severe asthma** to define "All children who suffer from chronic symptoms and/or severe exacerbations despite prescription of high doses of ICS with additional LABA and/or LTRA, step 4 and 5 according to GINA". They are at a high risk of asthma related hospitalisation and mortality, impairment in quality of life and increase in economic burden especially with inadequately controlled severe persistent allergic asthma.

Allergic asthma is the commonest asthma phenotype. It is triggered by inhaling allergens like dust mites, pet dander, pollen or mold. These allergens will trigger a response starting in the immune system which subsequently cause the airways to be inflamed and swollen. This will result in coughing, wheezing and other asthma symptoms. Many of the symptoms of allergic and non-allergic asthma are the same. The IgE is raised and there is a positive skin test or in vitro reactivity to common aeroallergen.

Management of severe allergic asthma, if remained uncontrolled with treatment in step 4 and 5 according to GINA, including allergen avoidance may be considered a treatment with omalizumab. Omalizumab is a recombinant DNA-derived humanised IgG monoclonal antibody that selectively binds to human immunoglobulin E (IgE). Omalizumab inhibits binding of IgE to high-affinity IgE receptors on surface of mast cells and basophils. It is indicated as add-on therapy for children above 6 years old to improve asthma control with **severe persistent allergic asthma** who have a positive skin test or in vitro reactivity to a perennial aeroallergen and frequent daytime symptoms or night-time awakenings and who have had multiple documented severe asthma exacerbations despite daily high-dose inhaled corticosteroids, plus a long-acting inhaled beta 2-agonist.

Omalizumab is an effective and safe add-on therapy in uncontrolled severe allergic asthma. Evidence showed those characterised by high IgE production, polysensitisations and/or food allergy were revealed to form a subpopulation of true highly allergic severe asthma, and responded well to omalizumab.

Symposium 1

S1C (Paediatric) – Difficult Asthma in Children

RECOGNIZING AND MANAGING BRITTLE ASTHMA IN CHILDREN

Dominic Fitzgerald
The Sydney Children's Hospitals Network (Randwick and Westmead), Sydney, Australia

There are many challenges in managing children with asthma. They begin with making a definite diagnosis. Not every child who coughs has asthma! Important considerations in assessing the child with brittle or problematic asthma include: The age of the child, presence of other manifestations of atopy, clarification of atopic status on testing, relevant family history, noting of the presence or absence of wheeze from the history. Physical examination findings may be informative, especially when considering alternative diagnoses such as airway malacia, suppurative lung disease, neuromuscular disease, cardiac disease, psychological problems or structural lung abnormalities. With a confident diagnosis of asthma, the key to management of brittle asthmatics centres upon a multi-disciplinary approach. The management approach should optimise basic asthma management with appropriate medications and optimised delivery of medications with the technique of using medications being reviewed as needed. Misunderstanding of treatment regimens or sub-optimal adherence to treatments is the most common explanation for a descriptor of "brittle asthma" in children. Visits from asthma nurses to assess the home environment, removing environmental triggers, providing written asthma management plans, incorporating lung function testing in assessments and addressing poor adherence will improve asthma control significantly in approximately two-thirds of "brittle asthmatics". The remaining third are challenging to manage, endure frequent exacerbations, have other atopic co-morbidities and require frequent review, often further investigations, require the use of long term inhaled and systemic corticosteroid medications and may benefit from anti-IgE medications such as Omalizumab. Very rarely a patient may be "therapy resistant" and require more novel approaches to assessment and management.

Symposium 2

S2A - Tuberculosis I

REVIEW OF NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Mohamad Naim Abdul Kadir

Disease Control Division, Ministry of Health Malaysia, Putrajaya, Malaysia

Tuberculosis (TB) is a major public health problem globally. In 2015, WHO estimated around 10.4 million new TB cases worldwide with 1.4 million of TB deaths. Malaysia is classified as a country with intermediate burden of TB with notification rate of less than 100 cases per 100,000 populations. TB Control Programme in Malaysia has been in place since the year 1961. In 1995, the programme was integrated into the Malaysian Public Health System where the main control activities are being expanded into the peripheral health clinics as well as the hospitals.

In year 1990 the notification rate of TB in Malaysia was 61 cases per 100,000 populations and gradually increasing to 79 cases per 100,000 populations in 2015. Similarly the mortality rate was 4.2 cases per 100,000 populations (year 1990) and 5.5 cases per 100,000 populations in 2015.

A new era for TB monitoring as documented in The End TB Strategy with three high-level indicators are: the TB incidence rate, the absolute number of TB deaths and the percentage of TB patients and their households that experience catastrophic cost as a result of TB disease. Targets for these indicators have been set for 2030 and 2035, with accompanying milestones for 2020 and 2025.

A National Strategic Plan (NSP) For TB Control (2016-2020) was developed with the main goals to decrease the burden of tuberculosis by ensuring universal access to timely and quality diagnosis and treatment of all forms of TB and prevent development of drug resistance TB in the country.

Summary of the NSP vision, goal, target and objectives are as follows:

VISION Malaysia free of TB by year 2035 GOAL The Goal of TB control in Malaysia is to decrease the burden of tuberculosis by ensuring universal access to timely and quality diagnosis and treatment of all forms of TB and prevent development of drug resistance TB in the country. TARGET The targets of TB control by year 2020: 1. TB mortality is reduced by 25% 2. TB notification rate (all case) is increase to 100 per 100,000 population 3. Universal access to diagnosis and treatment of all forms of TB, including MDR-TB and XDR-TB; ➢ At least 90% of MDR-TB cases are successfully treated
Objective 1. Enhance case detection of TB.
Objective 2. To improve control of TB among children.
Objective 3. To decrease the burden of TB/HIV in people at risk of/or affected by both diseases.
Objective 4. Strengthen Programmatic Management of Drug Resistant Tuberculosis (PMDT)
Objective 5. Strengthen laboratory networks to find all TB cases
Objective 6. To strengthen programmatic management of LTBI activities

Objective 7. To enhance BCG vaccination programme
Objective 8. To ensure uninterrupted supply of quality-assured TB drugs
Objective 9. To enable supportive environment and systems for effective TB control
Objective 10. To ensure no households that experience catastrophic cost due to TB
Objective 11. To intensify research and innovation as priority issues in TB control programme

The indicators to measure progress towards achieving these objectives and corresponding targets have been identified. These indicators and expected results need to be adapted according to the unique situation of each states in Malaysia.

Symposium 2

S2A - Tuberculosis I

PATIENT- CENTRED TB CARE

Mildred Fernando
Management Sciences for Health, Philippine Branch, Philippines

Tuberculosis, an ancient disease, continues to claim lives of people globally. In 2016 Global TB report of the World Health Organization, TB remains to be one of the top 10 causes of death worldwide. There are 28,500 people who fell ill from TB everyday and 4,900 people die from it everyday.

Another pressing concern is the emergence of multi-drug resistant (MDR) and extensively drug-resistant TB. Only half of those MDR-TB patients who were placed on treatment were cured. Aside from the long treatment duration for DR-TB cases and toxic anti-TB drugs given to patients, the lack of a patient-centered TB care contributes to the increasing number of patients that were lost to follow-up.

The treatment of tuberculosis does not just work around free diagnostic tests and free medicines. Because if it does, we could have had eliminated TB long before it has evolved to MDR and XDR-TB. The lack of correct information, the circulation of wrong information, untimely diagnosis, misdiagnosed and mismanaged cases, weak healthcare system, poor implementation of policy and protection of human rights, stigma and discrimination- these should be addressed to achieve a patient-centered TB care.

The community and key affected population must have active involvement in developing and improving healthcare systems and patient care. In putting an end to the global TB problem, it is only appropriate to treat TB patients and advocates as an equal partner, an ally, rather than seeing us as a country's problem and a public threat.

Symposium 2

S2A - Tuberculosis I

CONTACT TRACING AND LATENT TB INFECTION IN CHILDREN

Tan Kah Kee
Tuanku Ja'afar Hospital, Seremban, Negeri Sembilan, Malaysia

Tuberculosis (TB) in children is a reflection of exposure to an infectious case of pulmonary tuberculosis, usually from an adult source, and subsequent development of tuberculous disease. 1 million children are ill with tuberculosis each year, and 210 000 children died of TB in 2015, according to recent WHO estimates.

Children represent 10-11% of all TB cases worldwide. Not all children who are exposed to pulmonary TB will develop active tuberculosis. Containment of M. tuberculosis by the child's immune system result in an asymptomatic state, known as latent TB infection (LTBI). Most children identified with LTBI have been infected relatively recently, especially those below 5 years old. Compared to adults, children are at higher risk for progression from infection to TB disease.Most of these cases of LTBI progressed to TB disease within 2-12 months of initial infection. Prompt identification and screening of children at risk of TB are hence important for public health control. Screening methods include contact tracing of children with known exposure to adult household members with documented pulmonary TB and utilising tools such as tuberculin skin testing and interferon-gamma release assays. It is important to note that different recommended screening strategies are not always foolproof in practice and administrative failures can occur, resulting in children being infected. The roles of these different testing modalities, their advantages and disadvantages, and utility of different screening strategies will be discussed and presented.

Symposium 2

S2B – Pulmonary Manifestations of Systemic Disease

SARCOIDOSIS

Anantham Devanand
SingHealth Lung Centre, Singapore General Hospital, Singapore

This is a systemic granulomatous disease primarily affecting the lungs and lymphatics. It requires demonstration of typical lesions and exclusion of other causes of granulomatous pathology. EBUS-TBNA has emerged as an efficient and safe method to diagnose mediastinal/hilar disease and PET-CT is increasingly being used in the evaluation of organ involvement. Although the cause is unknown, the pathology involves antigen presentation; dysregulation of CD4 related immune response; and hypersensitivity mediated by TNF-α. Data from South-East Asia suggest that people of Indian ethnicity are predisposed to developing sarcoidosis.

A tiered approach is recommended in assessing organ involvement. The WASOG Sarcoidosis Organ Assessment Instrument is a useful guide to determine the probability of any particular clinical finding being attributed to the sarcoidosis. Typical organ involvement that is screened for includes the lungs, heart, neurological system, eyes and vitamin D metabolism.

It is postulated that the granulomatous response represents an attempt by the patient's immune system to clear the causative antigen. If the antigen can be cleared, the granulomatous reaction will cease. Therefore, immunosuppressive therapy in sarcoidosis may be a double-edged sword that while eliminating the granulomatous inflammation, interferes with antigen clearance. Therefore, therapy is usually only indicated for progressive pulmonary disease with physiological impairment.

Life threatening neurological and cardiac disease is also treated as is ocular involvement because of the risk of blindness. If systemic prednisolone dose cannot be tapered to below 10 mg/day, then steroid sparing immune suppressants are considered. The most extensive experience is with methotrexate and is the only drug that has equivalence to steroids as a single agent. Infliximab holds much promise because it directly targets TNF-α.

If the radiology is unchanged and if the patient is experiencing worsening breathlessness, considerations include cardiac sarcoidosis, steroid myopathy, WHO Group 5 pulmonary hypertension, endobronchial sarcoidosis and sarcoidosis related fatigue. The fatigue is part of the para-sarcoidosis syndrome that is not attributable to granulomas and so has no response to immunosuppression.

Symposium 2

S2B – Pulmonary Manifestations of Systemic Disease

PLEURAL DISEASE

Fauzi Anshar
Prince Court Medical Centre, Kuala Lumpur, Malaysia

Connective tissue diseases are major causes of pulmonary and pleural complications. Rheumatoid arthritis and systemic lupus erythematous are two of the main diseases that will be discussed in detail. Pleural manifestations include pleural effusion, pleuritis which may also be drug induced, pneumothorax, bronchopleural fistula, empyema, haemothorax, pyopneumothorax and fibrothorax. Chronic pleuritis may lead to lung restriction. Certain systemic diseases such as systemic sclerosis, polymyositis/ dermatomyositis and Sjogren syndrome produce more pulmonary pathology and inflict the pleura less so. Clinical features alone don't allow easy differentiation from other differential diagnoses. The difficulty is further compounded by the fact many patients have multiple co-morbidities muddying the clinical picture. Drugs for the disease and other complications such as cardiac disease may also affect the lungs and pleura. Further investigations are needed to produce a clearer clinical picture for the patient. Choice of investigations range from simple non-invasive procedures to more sophisticated imaging, endoscopic and pulmonary physiology techniques. Some pleural complications respond to treatment of the underlying diseases which others need a more direct intervention.

Professional and recreational SCUBA (Self-Contained Underwater Breathing Apparatus) diving causes 3 main categories of complications: barotrauma, decompression sickness and nitrogen narcosis. Barotrauma complications include pneumothorax, pneumomediastinum and air embolism.

Symposium 2

S2B – Pulmonary Manifestations of Systemic Disease

LUNG-DOMINANT CONNECTIVE TISSUE DISEASE

Raja Jasmin
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Lung disease is an important extra-articular feature of autoimmune rheumatic diseases leading to significant morbidity and mortality. The evaluation of lung disease, interstitial lung disease (ILD) in particular, in patients with connective tissue disease (CTD) is complex and often poses a significant diagnostic and management challenge for the practicing physician. A detailed multidisciplinary evaluation is needed when CTD patients develop ILD or when evaluating ILD patients for the presence of occult CTD and interstitial pneumonia of autoimmune features (IPAF). Although all patients with CTD are at risk of developing ILD, certain CTDs are more frequently associated with ILD and there can be differing patterns of clinical, imaging and histologic presentation. Most definitive studies for CTD-related ILD have been performed in systemic sclerosis (SSc)-associated ILD. At present, the extrapolation of findings in SSc-ILD to the management of other CTD-ILDs can be justified, given its shared pathogenic pathways and the absence of controlled data in the other CTD-ILDs, although the applicability of SSc-ILD treatment data to other CTD-ILDs has not been formally evaluated.

Symposium 2

S2C (Paediatric) – Inherited Metabolic and Genetic Diseases in Children

INHERITED METABOLIC DISEASES: WHAT THE PAEDIATRICIAN SHOULD KNOW?

Ngu Lock Hock

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Inherited metabolic diseases (IMD) are mostly inherited, and occasionally de novo, genetic disorders of the biosynthesis or breakdown of substances within specific cellular biochemical pathways that are recognizable by specific biochemical tests. According to the Society for the Study of Inborn Errors of Metabolism, there are >1,000 IMD. From a pathophysiological perspective, IMD can be divided into three diagnostically useful groups. First group is disorders which give rise to intoxication, including inborn errors of amino acid catabolism (phenylketonuria, maple syrup urine disease, homocystinuria, tyrosinemia etc.), organic acidurias (methylmalonic, propionic, isovaleric etc.), urea cycle defects and sugar intolerances (galactossemia, hereditary fructose intolerance, etc). They present with a symptom-free interval and clinical signs of intoxication, which may be acute (vomiting, coma, liver failure, etc.) or chronic (failure to thrive, developmental delay, cardiomyopathy etc). The diagnosis is straight forward and most commonly relies on plasma amino acid, urine organic acid and dried blood spot acylcarnitines analysis. Most of these disorders are treatable through the removal of the toxin by special diets, cleansing drugs (carnitine, sodium benzoate, etc.) or dialysis. Second group is disorders involving energy metabolism. This includes mitochondrial (respiratory chain disorders, fatty acid oxidation and ketone body defects) and cytoplasmic energy defects (disorders of glycolysis, glycogen metabolism and gluconeogenesis). Diagnosis is difficult and relies on function tests, enzymatic analyses and molecular analyses. Mitochondrial defects are the most severe and are generally untreatable. Fatty acid oxidation and cytoplasmic energy defects are treatable by avoidance of fasting. Third group is disorders of cellular organelles peroxisomes, lysosomes, the endoplasmic reticulum, Golgi apparatus) and includes diseases that disturb the synthesis or the catabolism of complex molecules. Symptoms are permanent, progressive, independent of inter-current events and unrelated to food intake. Treatment option is limited. However enzyme replacement therapy is now available for several lysosomal disorders. Metabolic specialists are the primary physicians in managing IMD patients but the complex phenotypes of patients with IMD require the cooperation of many medical specialties to ensure optimal care.

Symposium 2

S2C (Paediatric) - Inherited Metabolic and Genetic Diseases in Children

INHERITED METABOLIC DISEASES: MANAGEMENT OF RESPIRATORY COMPLICATIONS

Su Siew Choo

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Inherited metabolic diseases are increasingly being diagnosed with a progressive improvement in life expectancy due to new therapeutic strategies. These are systemic disorders with involvement of all organs including the respiratory system.

Respiratory complications can manifest at presentation or as late-onset features. These complications include interstitial lung disease, chronic airway aspiration, upper and/or lower airway disorders, obstructive sleep apnoea syndrome (OSA), pulmonary hypertension and alveolar hypoventilation.

Associated respiratory complications worsen many inherited metabolic disorders leading to increased hospitalizations and mortality. Therefore all patients wih inherited metabolic disease with suspected respiratory complications should undergo a detailed diagnostic work-up. As different types of inherited metabolic diseases are associated with different known respiratory complications, investigations will be tailored to specific diseases as well as to individual presentation. These investigations include chest radiography, high-resolution computed tomography, spirometry, full body pletysmopgraphy, overnight polysomnography and flexible bronchoscopy.

Current treatment for several inherited metabolic diseases (including enzyme replacement therapy, substrate reduction and bone marrow transplantation) may provide significant benefits for associated respiratory disease. Specific respiratory treatment include daily airway toilet for patients at high risk of aspiration, chest physiotherapy, aggressive antimicrobial therapy during lower airway infections, long term oxygen therapy for patients with hypoxaemia, adenotonsillectomy to reduce upper airway obstruction in patients with mucopolysaccharidoses (MPS) as well as continuous positive airway pressure for reducing OSA in MPS.

Early recognition and prompt diagnosis of respiratory complications is crucial, as outcomes of treatment are time-sensitive, with better results being achieved when intervention is initiated before the diseases have progressed.

Symposium 2

S2C (Paediatric) - Inherited Metabolic and Genetic Diseases in Children

CONGENITAL SKELETAL ABNORMALITIES AND RESPIRATORY INSUFFICIENCY

Thong Meow Keong
University Malaya Medical Centre, Kuala Lumpur, Malaysia

Skeletal dysplasias (SD) are associated with abnormalities in the patterning, development, maintenance, and size of the appendicular and axial skeleton. These conditions may result in respiratory insufficiency as a result of deformity of the spine with distortion of the rib cage with both volume and function loss.

Skeletal dysplasia with severe chest wall abnormalities may be detected during antenatal ultrasonography and usually associated with early lethality and morbidity. Examples of these include thanatophoric dwarfism, osteogenesis imperfecta type II and achondrogenesis. Nonlethal types of SDs are increasingly being diagnosed and they may be broadly divided into primary and secondary SDs. While individual SD is rare, there are now over 400 types of SD resulting in an overall birth prevalence of 1 in 5,000.

One of the primary types of 'global' SD is associated with various forms of vertebral and rib cage abnormalities. Examples include spondyloepiphyseal dysplasia, achondroplasia, osteogenesis imperfecta and others. Secondary types of SD may include lysosomal disorders such as mucopolysaccharidosis and hypophosphatasia. Several specific dysplasias affect the thorax predominantly include Jeune syndrome, Jarcho-Levin Syndrome and osteopetrosis.

Most of the above conditions result in thoracic insufficiency syndrome and volume depletion deformities and these lead to the inability of the thorax to support normal respiration or lung growth. Some SDs cause upper airway obstruction, obstructive sleep apnoea syndrome or poor growth as a result of airway or feeding difficulties. Often, cardiac function may also be impaired due to pulmonary hypertension or chronic hypoxia. Spinal cord compression may lead to paralysis and progressive muscle weakness. The investigations and management of these SDs with respiratory insufficiency require a multi-disciplinary care and team approach, including genetic assessment and counselling.

Symposium 3

S3A – Pleural Disease

MALIGNANT PLEURAL EFFUSION: AMPLE TIME OR ASAP?

Gary Lee
Institute for Respiratory Health, University of Western Australia, Perth, Australia

Malignant Pleural Effusions are common.

- can complicate most cancers, esp lung and breast carcinomas and mesothelioma.
- It is associated with a significant healthcare cost and its incidence is rising.

Treatment:

- Three randomized controlled trials (RCTs) have shown that thoracoscopic talc poudrage has no advantage over bedside instillation of talc slurry. One additional trial showed no benefits of talc poudrage over povoiodine instillation.
- Indwelling pleural cathter (IPC) is a new concept that allows ambulatory management of pleural effusions. Results of recent RCTs have shown that IPC management provides at least as good symptom palliation as talc pleurodesis and reduces time spent in hospital in the initial admission as well as throughout the lifetime of the patients. Daily drainages may help promote spontaneous pleurodesis and facilitates early IPC removal. Clinicians need to be able to manage common IPC complications before using this device.
- Hybrid modalities combining IPC and pleurodesis are under investigation, including instillation of talc via IPC, IPC coated with sclerosant and combined use of thoracoscopic poudrage with IPC.
- The LENT score recently identified prognostic predictors for patients newly diagnosed with a malignant pleural effusion.
- Pleural pH and the type of malignancy (esp mesothelioma) predict the need for definitie management of fluid (either by IPC or pleurodesis) in patients first diagnosed with a malignant pleural effusion.

Limitations and future directions:

- Talc poudrage was first published in 1935. No significant advances have been made on patient selection and better application of this therapy.
- Malignant effusions are often treated as a single entity without stratifying patients for their underlying malignancy, staging and comorbidity. It is increasingly recognized that malignant pleural effusions of different primary cancers follow different clinical courses and their optimal management may vary.

Symposium 3

S3A – Pleural Disease

EMPYEMA

Asma Navasakulpong
Prince of Songkla University, Kathu District, Phuket, Thailand

Empyema thoracis is defined as pus in the pleural cavity, is a serious complication of infection adjacent to/or within the chest that rarely resolves without appropriate antibiotic therapy and drainage procedure. It is a common condition that is associated with considerable morbidity and mortality. Rapid recognition of the development of empyema is crucial to successful treatment. Even with appropriate therapeutic attempts, the mortality of patients with empyema is 15–20% and higher in immunocompromised patients.

The American Thoracic Society has described 3 stages of empyema; exudative, fibrinopurulent and organized stages. The exudative phase of empyema, less than 10 mm thick, may be adequately treated with intravenous antibiotics. For the rest, the goals of treatment are to get rid of infection and clear pleural cavity with drainage procedure. The optimal treatment of empyema thoracis, especially in the fibrinopurulent phase, remains controversial so as to whether to go for a non-operative regimen; antibiotics, chest tube drainage with or without fibrinolytic therapy or an operative regimen; VATS (video-assisted thoracoscopic surgery) and decortication. There is no statistically significant difference in mortality between primary operative regimen and non-operative regimen. However, early operative regimen within 11 days of admission results in shorter hospital stay.

Closed chest tube drainage yields satisfactory resulted in approximately 60% of patients with aerobic infections and 25% of patients with anaerobic infection. Morbidity and mortality rates were similar among VATS and decortications. The conversion rate to open thoracotomy was 21%. VATS had a lower post operative hospital stay, shorter duration of chest drainage and greater improvement in dyspnea score. There was insufficient evidence to assess the impact of fibrinolytic therapy.

Symposium 3

S3A – Pleural Disease

VATS – WHEN TO CALL A SURGEON

K.M. John Chan
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Video Assisted Thoracoscopic Surgery (VATS) is the preferred approach for various pleural diseases including recurrent or persistent pneumothorax, recurrent malignant pleural effusions, and persistent empyema, amongst others. Various techniques for achieving pleurodesis are used including talc, pleural abrasion and pleurectomy, amongst others. Successful outcome from VATS and avoidance of a thoracotomy is helped by earlier intervention before the formation of fibrinous adhesions and fibrous cortex on the lung permitting full lung re-expansion once air or fluid is removed from the pleural cavity. VATS is also commonly used when surgery is needed on other structures in the pleural cavity such as sympathectomy for hyperhidrosis.

Symposium 3

S3B – Sleep-Disordered Breathing

OBSTRUCTIVE SLEEP APNOEA AND THE METABOLIC SYNDROME

Ahmad Izuanuddin Ismail
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Obstructive sleep apnoea (OSA) and metabolic syndrome (MS) shared similar mechanistic pathophysiology leading to increased risk of cardiovascular disease development. There has been suggestion that the two conditions should be combined together and named 'Syndrome Z'. Insulin resistance seems to be the main character responsible for the development of both conditions. A major challenge in understanding this complex relationship would be to understand whether OSA is a mere epiphenomenon or an additional burden that exacerbates the metabolic dysfunction predisposing people to MS and diabetes. Studies indicate that OSA promotes metabolic dysfunction, increases the incidence of diabetes and impaired glucose control, thus OSA screening in patients with the MS and diabetes is very important.

Once detected, effective treatment of OSA is paramount for improving cardiovascular risk. A major issue however is the optimal duration for CPAP usage that explains the reason for inconsistent study results in reversing metabolic dysfunction in this group of patients. Combination of lifestyle intervention, especially weight reduction strategy and exercise, in combination with CPAP therapy seem to be the way forward in reducing the cardiometabolic risk.

During my presentation, I will focus on the complex relationship of OSA and MS, and their predisposition to cardiovascular complications. I will touch on the controversies from results in studies using CPAP to reverse cardiovascular effects, and the current treatment strategies to tackle this issue. It is envisage that CPAP alone may not be the answer to achieve reduction in cardiovascular risk.

Symposium 3

S3B – Sleep-Disordered Breathing

WHEN TO CALL A NEUROLOGIST?

Nortina Shahrizaila
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Sleep-disordered breathing (SDB) describes various distinct, occasionally overlapping syndromes, including obstructive sleep apnea, central sleep apnea and hypoventilation.

Sleep disordered breathing is associated with a variety of neurological disorders including a range of neuromuscular disorders. This talk will discuss neurological conditions where sleep is affected and offer measures of recognizing when referral to a Neurologist should be initiated.

Symposium 3

S3B – Sleep-Disordered Breathing

OBESITY HYPOVENTILATION SYNDROME

Lalitha Pereirasamy
Seberang Jaya Hospital, Prai, Penang, Malaysia

Obesity epidemic is one of the most significant health issues facing individuals, local communities, and nations in recent times and Malaysia is of no exception. Malaysia has been quoted as the most obese country in Asia in 2016, based on a report published in The Lancet. The obesity prevalence rates are increasing in an alarming fashion. It is now considered a chronic health condition with low-grade inflammation and is associated with multiple cardiovascular diseases. At the same time, obesity leads to a number of sleep-disordered breathing patterns like obstructive sleep apnea and obesity hypoventilation syndrome (OHS), leading to increased morbidity and mortality with reduced quality of life.

OHS is defined as the combined presence of obesity (BMI>30kg/m^2) with awake arterial hypercapnia ($PaCO_2$ >45mmHg) in the absence of other causes of hypoventilation. Based on the American Academy of Sleep Medicine (AASM), patients with OHS may have obstructive sleep apnea/hypopnea syndrome with hypercapnia, sleep hypoventilation syndrome or a combination of sleep-related breathing disorders. The exact mechanism that leads to hypoventilation in these obese individuals are complex and multifactorial. Current pathophysiology is believed to be an interplay of excessive mechanical load on the respiratory system, blunted central respiratory drive and the underlying sleep disordered breathing.

OHS is distinct from other sleep-related breathing disorders although overlap may exist. However, despite its major impact on health, OHS is under-recognized and under-diagnosed. Available management options include aggressive weight reduction, oxygen therapy and using positive airway pressure techniques. In this review, we will explore the epidemiology, pathophysiology, presentation, diagnosis and management of OHS.

Symposium 3

S3C (Paediatric) – Primary Immunodeficiency Disease (PID) and Respiratory Complications

OVERVIEW OF PRIMARY IMMUNODEFICIENCY DISEASE IN CHILDREN

Lokman Mohd Noh
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Primary Immunodeficiencies (PID) is no longer rare in Malaysia. The most often quoted prevalence is 1: 1,200 per population (R Buckley 2007). With a population of 30 million (2015) Malaysia is expected to harbor at least 25,000 PIDs. About 235 PID were recorded between 1986-2014 through MyPIN (Malaysian Primary Immunodefiociency Network) group. There is a noted increase of 7.4 times in the 10 years ending 2014 (2005-2014) compared to the previous 10 years (1995-2004), 24 patients in the former with 177 in the latter. Combined Immunodeficies is the commonest, forming 35.5% of all PID, followed by predominant antibody defect 30.3%, phagocytic defect 12.3%, other immunodeficiencies 13.5% and other cellular immunodeficies 8.35%. This is at variance with other published reports where predominant antibody defect is the commonest.

Pulmonary infection is the commonest complication in PID especially SCID, followed by XLA (X L agammaglobulinemia) & Hyper IgE syndrome. By the time diagnosis is made, bronchiectasis had developed in 28 % of our XLA (n=18) , 18 % Hyper IgM syndrome (n=11) and 8 % of Chronic Granulomatous Disease (n=12) . The average delay in diagnosis for PID is 3.7 years. Pulmonary complications remains the most common clinical presentation of PID in Malaysia. For Primary antibody deficiency the best therapeutic option is Immunoglobulin replacement therapy (IRT) while SCID (severe combined immunodeficiency), HSCT (hemapoietic stem cell transplant). The first IV immunoglobulin replacement in malaysia was in 1986 in a primary hypogammaglobulinemia patient. The patient is still alive today. We have embarked onto IRT using the subcutaneous route in one patient. His quality of life is better on IRT using the subcutaneous route(IGSC) than when on IV route(IGIV).

Conclusion: Primary immunodeficiency is more likely to be seen by the respiratory physician via its respiratory complications in Malaysia . For Immunoglobulin replacement therapy , due attention should be given to the trough level(pre infusion) of serum IgG making sure it is adequate to ensure a good quality of life for the primary antibody deficient patients.

Symposium 3

S3C (Paediatric) - Primary Immunodeficiency Disease (PID) and Respiratory Complications

LABORATORY INVESTIGATIONS IN PRIMARY IMMUNODEFICIENCY DISEASE

Adiratna Mat Ripen

Primary Immunodeficiency Unit, Institute for Medical Research, Kuala Lumpur, Malaysia

Primary immunodeficiencies (PIDs) are a group of genetically heterogeneous disorders that present with very similar symptoms, complicating definitive diagnosis. More than 300 genes have been associated with PIDs, of which more than 120 were identified in the last 3 years. Given that treatment of PIDs varies by disease gene, early achievement of a molecular diagnosis is likely to enhance treatment decisions and improve patient outcomes. The approach to molecular diagnosis of PIDs, over the past two decades, has included Sanger sequencing of exons or mutation harbouring regions of specific candidate genes. A significant portion of such evaluations does not result in a definitive molecular diagnosis. Genes that can be tested, the traditional approach has been to order serial univariate or small panel genetic tests for genes on the differential diagnosis. This process is complicated by the clinical and genetic heterogeneity and overlap between many of the PIDs. In the past few years, an exponential increase in newly discovered genetic etiology for immunodeficiency disorders has been reported in recent years using next generation sequencing (NGS) as a tool. Whole-exome sequencing (WES) is one of the application of the next-generation technology to determine the variations of all coding regions, or exons, of known genes. WES provides coverage of more than 95% of the exons, which contains 85% of disease-causing mutations in Mendelian disorders and many disease-predisposing SNPs throughout the genome. We share our experience in routine laboratory investigations for PIDs in IMR and report some of our whole-exome sequencing findings in our patients.

Keywords: Primary Immunodeficiencies (PIDs), next generation sequencing (NGS), whole-exome sequencing (WES)

Symposium 3

S3C (Paediatric) - Primary Immunodeficiency Disease (PID) and Respiratory Complications

RESPIRATORY COMPLICATIONS IN PRIMARY IMMUNODEFICIENCY DISEASE

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Primary immunodeficiency diseases (PIDs) predispose to multiple changes in the pulmonary tissue. Respiratory complications present a significant cause of morbidity and also mortality among patients suffering from different forms of PIDs and they are observed both in children and adults.

They can affect primarily either upper airways (e.g., sinusitis and otitis media) or lower respiratory tract [e.g., pneumonia, bronchitis, bronchiectasis, and interstitial lung diseases (ILDs)]. The complications from lower respiratory tract are usually considered to be more important and also more specific for PIDs and they determinate patients' prognosis. The spectrum of the causal pathogens usually demonstrates typical pattern characteristic for each PID category. The respiratory signs of PIDs can be divided into infectious (upper and lower respiratory tract infections and complications) and non-infectious (ILDs, bronchial abnormalities – especially bronchiectasis, malignancies, and benign lymphoproliferation).

Patients with PIDs should be regularly examined for the possible respiratory symptoms and complications. Screening examinations, such as lung function testing (LFT) and High-Resolution Computed Tomography (HRCT) of the chest, should be used to evaluate pulmonary status in PID patients. In general, LFT can be recommended every 6–12 months with repeated chest X-ray. CT examination should be repeated within 5–10 years after initial presentation of PID unless there is a specific indication or changes in clinical status.

Early diagnosis and appropriate therapy can prevent or at least slow down the development and course of respiratory complications of PIDs. In general, due to the raising awareness of PIDs the prognosis of these patients gradually improves.

Symposium 3

S3C (Paediatric) - Primary Immunodeficiency Disease (PID) and Respiratory Complications

OPTIMAL MANAGEMENT FOR CHILDREN WITH PRIMARY IMMUNODEFICIENCY DISEASE

Intan Hakimah Ismail
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Primary immunodeficiencies (PID) refer to a heterogeneous group of disorders characterised by poor or absent function in one or more components of the immune system. Patients with PID have increased susceptibility to recurrent and persistent infections, infections by opportunistic organisms, growth retardation. They are also at high risk of complications and frequent hospitalisations.

It is estimated that 70% of PID patients are undiagnosed. The evaluation of immunological status is therefore essential for the diagnosis of these diseases. Prompt PID diagnosis is essential so that therapeutic measures may be taken quickly, hence results in lower national healthcare costs, help prevent sequelae and allow for quicker referral to therapy.

Management of PID is individualised to patient's underlying diagnosis and clinical conditions. Primary B cell defect is characterised by the reduction in or absence of antibodies or immunoglobulins and/or lack of specific antibody responses against certain pathogens. Immunoglobulin replacement therapy (IRT) is therefore the mainstay of treatment for these conditions. Higher doses of IRT have been shown to be more effective in reducing infections in patients with chronic lung disease or bronchiectasis or even in chronic recurrent sinopulmonary infections. A higher IgG trough level is also associated with reduce rates of recurrent infections and thus better prevent complications such as bronchiectasis.

Use of additional antimicrobial prophylaxis is based on the underlying immune defect and predicted pathogen susceptibilities, as well as a patient's history of infections. Antimicrobial prophylaxis include antibiotics, antifungal or antiviral therapies. Vaccination plays an important role in protecting immunocompromised patients; however, live vaccines are contraindicated in certain PIDs associated with antibody and T cell defects.

Haematopoietic stem cell transplantation (HSCT) is to date indicated as curative treatment in certain patients with B-cell defects associated with cell deficiencies. Prompt HSCT is life-saving for children with SCID, combined immunodeficiency as well as specific innate defects. Gene therapy currently has limited clinical applications, but has significant potential for future use.

With new primary immunodeficiencies being described at an exponential rate and those previously described becoming better understood, it is challenging for health care providers to stay up to date. A gap in knowledge may result in delay diagnosis and treatment, leading to increase morbidity and mortality.

Sunrise Session

EMERGING TREATMENTS FOR BRONCHIECTASIS

Sanjay Chotirmall
Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

Bronchiectasis remains one of the most neglected respiratory diseases of modern times. Consequently, no clear definitions or classification exists and little is known about its true prevalence, particularly in Asia where it appears frequently with an aggressive phenotype. Asian prevalence however is described as four times higher than that in both Europe and the Americas (1). Affected patients may be classified by their radiology, microbiology and/or aetiology. In Asia, large proportions, up to 50% remain idiopathic with other important causes being post-infectious including tuberculosis (TB) and non-tuberculous mycobacterial (NTM) infection. Treatment of adult bronchiectasis has lagged behind other chronic respiratory disease states such as asthma and COPD and has largely reflected practices employed in Cystic Fibrosis (CF). Important evidence focused uniquely on non-CF bronchiectasis is emerging and important treatment aspects of adult bronchiectasis will be discussed at this session including exacerbation prevention, evidence based use of oral, inhaled and intravenous antibiotics in addition to airway clearance and mucolytic treatments.

References

1. Seitz AE, Olivier KN, Adjemian J, Holland SM, Prevots R. Trends in bronchiectasis among medicare beneficiaries in the United States, 2000 to 2007. Chest. 2012;142(2):432-9.

PLENARY 2

LUNG DISEASE OF PREMATURITY AND LONG TERM OUTCOME

Dominic Fitzgerald
The Sydney Children's Hospitals Network (Randwick and Westmead), Sydney, Australia

The consequences of lung disease complicating preterm delivery remain significant throughout life. In developed countries, up to 8% of babies are born prematurely (<37 weeks' gestation). The majority will have a decrement in lung function compared to term equivalent infants. The more preterm an infant is born the greater the impact on respiratory symptoms, lung function and exercise capacity. In addition to worse neurocognitive outcomes than term infants, there are abnormalities in spirometry revealing airflow limitation and abnormalities of lung structure as seen on computed tomography. The "New Bronchopulmonary dysplasia [BPD]" has appeared due to arrested lung development compared to the original BPD patients who were more mature at birth but endured oxygen toxicity and ventilator induced lung damage as described 50 years ago by Northway and colleagues. Many survivors of preterm lung disease are treated for asthma, although the pathophysiology of their airflow limitation is likely to be different. Abnormal ventilator responses and pulmonary hypertension may further complicate management of these patients. Children and adolescents with more severe neonatal disease fail to reach their peak expected lung function by early adulthood and it is anticipated, but unproven, that their lung function trajectory will be one of a progressive decline in middle age and older adulthood. The rate of decline will be influenced by infections, cigarette smoke exposure and environmental exposures. Consequently, the optimal management of the morbidity of preterm delivery will remain an important issue for adult physicians managing this enlarging cohort.

Symposium 4

S4A – Asthma

DIFFICULT ASTHMA: WHAT IS IT AND WHAT TO THINK ABOUT BEFORE ESCALATING TREATMENT?

Martyn Partridge
Respiratory Medicine and Patient-Centred Care, Imperial College, London, United Kingdom

We now understand much better the pathogenetic basis of asthma, the importance of phenotyping and endotyping, and we have better medications available and better delivery mechanisms. For many the potential for good control of their condition now exists but some have severe disease requiring every medicine that is available, and even then symptoms may persist, whilst others have difficult asthma when there is more to it than asthma alone.

A more protocolised approach to asthma at this end of the spectrum has delivered benefits and involves a comprehensive approach to the confirmation of the diagnosis, assessment of compliance, careful assessment of severity and of greatest importance, assessment of co-morbidities which may be the real reason for the asthma appearing to be problematical. Despite such approaches having been proposed for many years there is evidence that such rigorous approaches are not always being implemented, sometimes because of non availability of the full range of health professionals.

References:

1) *ERS Taskforce on Difficult/Therapy-Resistant Asthma, Difficult/Therapy-Resistant Asthma, Eur Respir J, 1999:13; 1198-1208*
2) *Robinson DS, Campbell DA, Durham SR, Pheffer J, Barnes PJ & Chung LF, Systematic assessment of difficult to treat asthma, Eur Respir J, 2003:22; 478-483.*

3) *Roberts NJ, Robinson DS & Partridge MR How is difficult asthma managed? Eur Respir J 2006; 28(5): 968-973*
4) *O'neill, Stephen, et al. "The cost of treating severe refractory asthma in the UK: an economic analysis from the British Thoracic Society Difficult Asthma Registry." Thorax (2014): thoraxjnl-2013.*

Symposium 4

S4A – Asthma

THE ROLE OF BIOMAKERS IN ASTHMA MANAGEMENT

Hilmi Lockman
Prince Court Medical Centre, Kuala Lumpur, Malaysia

Asthma is a chronic inflammatory heterogenous airways disease. In recent years biomarkers is getting a more prominent role in asthma management especially in phenotyping and treatment options. This can help avoid unnecessary morbidity from high-dose corticosteroid therapy and allow the most appropriate and cost-effective use of targeted therapies.
The biomarkers come from a variety of sources which include the airway, blood and exhaled breath. Exhaled nitrous oxide (FeNO) and eosinophils (serum and exhaled) have been used but more recently serum periostin and galectin-3 have shown promise as well. We might see the management of asthma change in the near future.

References

1. *Chiappori et al. Biomarkers and severe asthma: A critical appraisal. Clin Mol Allergy (2015) 13:20.*
2. *Baines et al. The role of biomarkers in the management of airways disease. Int J Tuberc Lung Dis. 18(11):1264–1268.*
3. *Pavord et al. The current and future role of biomarkers in type 2 cytokine-mediated asthma management. Clinical & Experimental Allergy, 2017 (47) 148–160.*

Symposium 4

S4A – Asthma

IMPROVING PATIENT OUTCOMES IN ASTHMA

Helmy Haja Mydin
Pantai Hospital, Kuala Lumpur, Malaysia

The United Kingdom's National Review of Asthma Deaths report, 'Why asthma still kills', highlighted the fact that the majority of people who died from asthma were on suboptimal treatment. Additionally, more than half were not recorded as being under specialist supervision during the 12 months prior to death.

Asthma also leads to significant morbidity with subsequent high rates of absenteeism and rising healthcare costs.

This talk aims to highlight the challenges we face in treating patients with asthma within the Malaysian healthcare setting and suggestions on improving patient outcome.

Symposium 4

S4B – Non-Invasive Ventilation

THE ROLE OF TRANSNASAL INSUFFLATION

Sewa Duu Wen
Department of Respiratory and Critical Care Medicine, Singapore General Hospital, Singapore

Transnasal insufflation or high-flow nasal cannula oxygen (HFNC) has seen a recent explosion in medical literature exploring its use in adults with severe respiratory disease. These studies suggest that HFNC provided better or comparable oxygenation when compared with conventional face masks and low flow nasal cannula systems. it is considered to have a number of physiological advantages
compared with other standard oxygen therapies, including reduced anatomical dead space, PEEP, constant FIO2 , and good humidification. HFNC has been tried for multiple indications, including hypoxemic respiratory failure, cardiogenic pulmonary oedema, post surgery respiratory failure, prophylactic treatment post extubation and apnoeic ventilation during intubation. More studies are need to compare HFNC with non invasive ventilation.

Symposium 4

S4B – Non-Invasive Ventilation

HOME BiPAP IN THE MANAGEMENT OF COPD

Kow Ken Siong
Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia

Chronic obstructive pulmonary disease (COPD) is a major health issue worldwide with significant disease burden, healthcare cost, morbidity and mortality rates that are increasing for both male and female patients.

Non-invasive positive pressure ventilation (NPPV) is increasingly used in stable hypercapnic COPD with a number of positive effects having been observed during treatment with NPPV. We discuss some of these positive effect including reduction in hypercapnia and improvement in hypoxaemia, improvements in quality of life (QOL), and reduction is hospital admission and improved benefit from pulmonary rehabilitation by looking at the evidence available to us presently.

The effect of NPPV in COPD in routine management remains to be determined and is subject to ongoing research because of the heterogeneity of the subjects studied thus far. But an accumulating body of evidence suggests that NPPV has a role in the long term management of stable hypercapnic COPD.

Symposium 4

S4B – Non-Invasive Ventilation

NEUROMUSCULAR DISEASES

Asiah Kassim
Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Main respiratory functions are to maintain normal oxgenation and Carbon dioxide. In Neuromuscular disease (NMD) patients, this function is affected due to poor in breathing control and ventilation. Usually the perfusion and diffusion are intact.

Respiratory failure in NMD is due to pump failure and sometimes mixed of pump and lung failure. Pump failure can be contributed by respiratory muscle weakness, control breathing abnormality and chest wall deformity. NMD includes diseases of the motor nerves/anterior horn, neuro-muscular junction and muscle (myopathies). 3 main group of muscles involves are inspiratory respiratory muscles, expiratory respiratory muscles and oro-pharyngeal muscles that leads to poor swallowing, coughing and ventilation.

Roles of Non-invasive ventilation (NIV) in NMD include in upper airway obstruction, ventilator dysfunction and cough dysfunction. Polysomnography is required to distinguish between upper airway obstruction or ventilator dysfunction whch determined the type of respiratory support required for the patient.

Symposium 4

S4C (Paediatric) – Current Childhood Asthma Phenotypes

ASTHMA PHENOTYPES IN CHILDREN

Jessie Anne de Bruyne
University of Malaya Medical Centre, Kuala Lumpur, Malaysia

Asthma, if one calls it that, is one of the commonest conditions in childhood. It is characterised by intermittent wheezing and reversible airway obstruction. However with its great clinical variability it is increasingly recognised as not a single disease but many resting under a common umbrella. The concept of phenotypes attempts to make sense of this to help in understanding the disease and personalising management.

The term phenotype refers to "any observable properties or traits of an organism". Disease phenotypes are described by clinical characteristics including biochemical and other measured variables as well as physical features without reference to an underlying pathophysiological process. Endotypes describe disease subtypes based on distinct pathological mechanisms oftentimes depending on the response of a genotype to the environment. Hence, a phenotype may have several endotypes and various endotypes may contribute to a phenotype.

Childhood asthma phenotypes have evolved from temporal classifications (e.g. transient early, late onset, persistent) based on birth cohort studies like the Tucson study to trigger based classifications (episodic viral wheeze and multiple trigger wheeze) as described by the European Respiratory Society Task Force. Statistical analyses, particularly multidimensional clustering techniques, have described several more phenotypes showing some overlap with previously described phenotypes. This overlap and apparent changing of phenotypes over time can confuse our understanding of the disease process and response to management in the individual child.

The long appreciated association between atopy and asthma, the increasingly observed association between obesity and asthma and other described entities such as protracted bacterial bronchitis have also impacted on our understanding of asthma and its phenotypes. Only one thing is clear – the story evolves.

Symposium 4

S4C (Paediatric) - Current Childhood Asthma Phenotypes

GENETICS IN CHILDHOOD ASTHMA

Alison Ting Yih Hua
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Asthma is a complex heterogeneous disease of the respiratory tract. It is highly prevalent and is associated with significant morbidity, mortality and cost in health care expenditures worldwide. Underlying aetiology and pathophysiology are complex and there is marked clinical disease heterogeneity. This heterogeneity of wheezing phenotypes may account for some of the variation in clinical responses to treatment and clinical outcomes. Recognition of asthma as distinct wheezing phenotypes attempts to address the clinically relevant aspects of the disease to guide management, taking into consideration the individual's genetics and their surrounding environment. Phenotypic characteristics may include easily recognisable asthma syndromes that are induced by viral infections or exercise. Persistent and late onset wheezing groups and asthma that involve frequent clinical exacerbations are also recognised. More complex asthma phenotyping include further characterisation by blood eosinophilia, IgE, cellular or biochemical markers in induced sputum or bronchoalveolar lavage. It is noteworthy that there may be overlaps in manifest phenotypes and that phenotype characterisation may change over time in response to changes in the environment which adds further to the complexity of asthma management. This has led to a drive towards further classification by asthma endotypes linking outwardly observable clinical characteristics with key biologic mechanisms underlying these observable disease characteristics. Ultimately the challenge of asthma management will not only be to improve treatment outcomes but also to impact on the natural history of asthma moving us forward towards a more personalised approach to therapy and precision medicine.

Symposium 4

S4C (Paediatric) - Current Childhood Asthma Phenotypes

PHENOTYPE FOCUSED MANAGEMENT, IS IT PRACTICAL?

Dominic Fitzgerald
The Sydney Children's Hospitals Network (Randwick and Westmead), Sydney, Australia

Asthma remains a complex and heterogeneous disease. To date there have been many attempts to categorise asthma into phenotypes with limited success. Basic clinical descriptors of patterns of wheezing have been used to define categories of wheezing in early childhood, giving rise to transient early wheezers as a distinct pattern that differs from atopic wheezers. More recently, the phenotype of non-atopic wheeze in obese girls with early menarche has been described. All of these phenotypes have been descriptive of the clinical course seen over time. Other attempts to generate phenotypes have used questionnaire data rather than diagnostic testing in a bid to generate larger numbers of patients for analysis. However, longitudinal assessments of large cohorts have confirmed some fluidity in the phenotypes, however they have been derived, particularly those who present with wheeze in early childhood. Further attempts to define phenotypes using genetic markers for airway receptors, atopic status and bronchial hyper-responsiveness have yet to present concrete outcomes. Phenotyping using biomarkers show promise for gathering further data to be assessed on large numbers of patients with well categorised patterns of asthma control and severity using more complex statistical tests such as latent class analysis. At present, phenotype focussed asthma holds promise but practical, day-to day clinical management remains centred upon standard asthma guidelines.

Symposium 5

S5A – Lung Cancer

LUNG CANCER SCREENING

Anantham Devanand
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Lung nodules: How to find them and what to do with them?

Lung cancer screening aims to effect a 'stage shift' in lung cancer diagnosis from advanced stage to a stage where surgical resection is possible. The processes utilizes annual low dose CT scans in patients aged 55 to 80 years with at least a 30 pack-year smoking history. If former smokers are to be screened, they should have quit within the last 15 years. Low dose CT involves 0.65-1.5 mSv of radiation, which is the equivalent to 6 months of environmental radiation exposure. Intravenous contrast is not used. The NLST data showed a 20% reduction in cancer mortality and 6.7% reduction in all-cause mortality.

The risks of screening include false positives. These false positive CT results can exceed 25% per screen in the targeted population. Over diagnosis is the term used when a condition is diagnosed that would otherwise not go on to cause symptoms or death. Over diagnosis is also a concern from lung cancer screening and its magnitude has not been currently quantified. In addition, any screening program must be prepared to handle the incidental findings such as thyroid nodules and renal cysts that will arise. The way forward for lung cancer screening is shared decision making in high-risk patients coupled with aggressive smoking cessation interventions.

Lung nodules can be classified as solid, nonsolid and part solid. A guideline based approach to dealing with nodules results in fewer investigations and complications. Asian cancer patients have certain characteristics: they are younger, have more non-smokers and have more driver oncogenic mutations like EGFR. Therefore, traditional risk calculators developed in non-Asian patients fail to provide accurate predictions. PET scans should also be used carefully because of high prevalence of false positives (granulomatous disease) and false negatives (adenocarcinoma in situ). Longer periods (> 3 years) of radiological surveillance should be considered in nonsolid nodules because of the long doubling times involved. Other recommendations are multidisciplinary input and eliciting preferences of care including family input where appropriate.

Symposium 5

S5A – Lung Cancer

RE-BIOPSIES IN KNOWN CASES OF LUNG CANCER

Pathmanathan Rajadurai
Subang Jaya Medical Centre, Subang Jaya, Selangor, Malaysia

Lung cancer is the leading cause of cancer death worldwide, and a sad truism is that most cases present at a late stage, when the disease is inoperable. Over the last ten years, a subset of patients with advanced non-small cell lung cancer (NSCLC) harbouring known driver mutations have profited from targeted therapy. For example, patients with an activating mutation in the *EGFR* gene, such as an exon 19 deletion or L858R substitution, have experienced a dramatic and sometimes prolonged benefit from first-line epidermal growth factor receptor (EGFR) tyrosine kinase inhibitors (TKIs), such as erlotinib and gefitinib, or second-generation EGFR TKIs, such as afatinib.

However, eventually most patients develop acquired resistance and disease progression develops, usually after a median of 9-13 months. A variety of resistance mechanisms have been identified, the most common of which is the development of a secondary T790M mutation on exon 20, in roughly half of all patients.

Repeat biopsies in the recurrent lung cancer setting has not generally been performed for a number of reasons. The development of precision medicine, allowing genetic analysis of tumour tissue and characterisation of other resistance mutations, and the development of new drugs that target these resistant clones has resulted in a renewed interest in performing re-biopsies. Transition to small cell histology with acquired resistance, has been reported in about 5%-14% of patients, and this morphological diagnosis cannot be made without a tissue diagnosis.

Liquid biopsies hold considerable promise for the future, and despite the high level of concordance, tissue biopsies continue to remain the gold standard for the time being. Additionally, some tumour driver and resistance mutations and even assays of checkpoint inhibitors cannot be performed on liquid biopsies reliably at this time.

Advances in minimally invasive biopsy techniques are becoming increasing safe in expert hands, and when combined with on-site evaluation for specimen adequacy can be a safe procedure, while ensuring that sufficient lesional tissue is obtained for higher level testing. Molecular analytical techniques such as digital PCR and next generation sequencing are becoming increasing sensitive and the cellular yield from samples derived from minimally invasive procedures are becoming increasingly adequate for molecular testing.

For these reasons, re-biopsy is a growing trend in oncology, and represents a critical modality to ascertain the presence of specific morphological and molecular transformations, and to determine the continued presence or the loss of an initial sensitizing mutation in patient developing progressive disease.

Symposium 5

S5A – Lung Cancer

IMMUNOTHERAPHY IN LUNG CANCER

Liam Chong Kin
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Immunotherapeutic approaches are based upon the premise that the immune system plays a key role in surveillance and eradication of malignancy, and that tumours evolve ways to evade the immune system. Immune checkpoints are inhibitory pathways that result in immune tolerance of the tumour and subsequent progression of the malignancy. Immunotherapeutic agents used to relieve suppression of anti-tumour immunity have emerged as powerful tools in the management of advanced non-small cell lung cancer (NSCLC). Checkpoint inhibitors that have been approved for the treatment of advanced NSCLC include monoclonal antibodies to programmed death receptor 1 (PD-1) (nivolumab and pembrolizumab) and programmed death ligand 1 (PD-L1) (atezolizumab).

For patients with advanced NSCLC that do not harbour an *EGFR* mutation or *ALK* translocation and who have not received systemic therapy and lack contraindications to immunotherapy (eg, an active autoimmune condition requiring immunosuppressive treatment), pembrolizumab is recommended as first-line treatment if at least 50% of the tumour cells stain positive for PD-L1 (using the Dako 22C3 PD-L1 assay). For patients without a driver mutation who have progressed on prior chemotherapy for advanced NSCLC, immunotherapy with either an anti-PD-1 (nivolumab or pembrolizumab) or anti-PD-L1 (atezolizumab) antibody may be used. In the second or further line setting either nivolumab or atezolizumab are options (regardless of tumour PD-L1 expression). If tumour PD-L1 has been identified on $\geq$1% of tumour cells (using the Dako 22C3 PD-L1 assay), pembrolizumab is also a treatment option.

All 3 immune checkpoint inhibitors improve overall survival by approximately 3 months compared to docetaxel. All 3 drugs are better tolerated than docetaxel. Although PD-1 and PD-L1 inhibitors do have immune-related adverse effects, these tend to be mostly grade 1 and mild grade 2.

Multiple immune checkpoint inhibitors are currently in clinical development either as monotherapy or in combination with other immunotherapies (such as CTLA-4), chemotherapy, targeted therapy, or radiation. In May 2017, the US FDA has approved the use of pembrolizumab in combination with pemetrexed and carboplatin for patients with untreated (i.e., first-line setting) metastatic non-squamous NSCLC, irrespective of PD-L1 expression. The approval was based on results of a cohort from KEYNOTE-021, an open-label, multi-cohort trial.

Symposium 5

S5B – Respiratory Infections

MDRO IN THE CRITICALLY ILL

Mahiran Mustafa
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Emerging multidrug resistant organisms in critically ill patients is reversing the miracles of antibiotics that leads to limited, expensive and some cases, non-existent treatment option to the patients. This include many different types of pathogens including bacteria, viruses, parasites and fungus. Many modern medical procedures such as organ transplants depends so much on our ability to treat bacterial infections that may arise as post-surgical complications. Patients in ICU required intensive management but have the highest risk of HCAI due to MDROs. CDC estimates that drug resistant bacteria cause 2 million illness and approximately 23,000 deaths each year in United States alone. No data is available for our country.

Our responsibilities are to prevent, detect and control illness and death related to infection caused by MDRO pathogens by implementing measures to mitigate the emergence and spraed of MDRO pathogens. Good infection control practice and appropriate use of antibiotics are 2 crucial measures that can limit MDROs presence and spread in our critically ill patients. New antibiotic development is very limited in the pipeline especially for gram negative bacteria.

Symposium 5

S5B – Respiratory Infections

ME, MYSELF AND MY MICROBES: A PRECISION MEDICINE APPROACH TO THE LUNG MICROBIOME

Sanjay Chotirmall
Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

In precision medicine, the focus is on the identification of effective approaches for particular patients based on their genetic, lifestyle and environmental factors. Asian phenotypes of respiratory disease and infection are unique and therefore require such precision. While such approaches have been successfully employed to investigate contrasting clinical phenotypes; and by disease trajectories, little is known about 'precision through microbes' [1].

Using bronchiectasis, a permanent irreversible dilatation of the airway of high prevalence in Asia in a proof-of-concept study, we have detected that precision medicine can be applied to the lung microbiome that

includes both bacteria and fungi. These 'microbial fingerprints' permit patient stratification in combination with immunology and sputum metabolomics. We can identify particular disease phenotypes associated to clinical outcomes that may be amenable to precision and individualized interventions. It is clear that our microbes tell us something about disease, something representing a target for clinical intervention. This presentation will summarize our work in this fledging field and how we can bring the importance of the microbiome from the bench to the bedside

References

1. Yii AC, Tan JH, Lapperre TS, Chan AK, Low SY, Ong TH, Tan KL, Chotirmall SH, Sterk PJ, Koh MS: Long-term future risk of severe exacerbations: distinct 5-year trajectories of problematic asthma. Allergy 2017.

2. Chotirmall SH, Gellatly SL, Budden KF, Mac Aogain M, Shukla SD, Wood DL, Hugenholtz P, Pethe K, Hansbro PM: Microbiomes in respiratory health and disease: An Asia-Pacific perspective. Respirology (Carlton, Vic) 2017, 22(2):240-250.

3. Leung JM, Tiew, P.Y., Mac Aogáin, M., Budden, K.F., Yong, V.F.L., Thomas, S.S., Pethe, K., Hansbro, P.M. and Chotirmall, S.H. : The role of acute and chronic respiratory colonizations and infections in the pathogenesis of COPD. . Respirology (Carlton, Vic) 2017.

Symposium 5

S5B – Respiratory Infections

PREPARING FOR THE NEXT FLU PANDEMIC

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The Next Flu Pandemic Is A Certainty But The Timing Is The Uncertainty!

Today, we are more connected with each another as we were a century ago. Through borderless travelling, an infectious disease can spread worldwide within days. History has shown that the next pandemic is imminent, and most likely it is influenza pandemic, however, the timing of the occurrence is the only uncertainty. Overtime, we have better understanding of the influenza, nonetheless, due to its inherent ability for antigenic drift and antigenic shift, it remains a constant threat to human population. As consensus agreed that influenza vaccination is the way forward, nevertheless, global uptake of seasonal influenza vaccination is still at undesirable level. Besides implementing the standard control measures, we are also enhancing the regional and international collaborations, in order to better prepare ourselves for the next influenza pandemic. So are we prepared for next influenza pandemic?

Symposium 5

S5C (Paediatric) – Congenital Airway and Diaphragmatic Defect in Children

CONGENITAL AIRWAY AND DIAPHRAGM DEFECT: FROM COMMON TO RARE

Dato Zakaria Zahari
Paediatric Surgery Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Symposium 5

S5C (Paediatric) – Congenital Airway and Diaphragmatic Defect in Children

MANAGEMENT OF CONGENITAL DIAPHRAGMATIC HERNIA

Lucy CS Lum
University Malaya Medical Centre, Kuala Lumpur, Malaysia

Congenital diaphragmatic hernia (CDH) is an uncommon heterogeneous anomaly with a wide spectrum of severity. In the absence of other serious congenital defects, the outcome of CDH is determined by the severity of the ipsilateral pulmonary hypoplasia and its attendant pulmonary hypertension. This understanding has led us to treat CDH as an emergency of disturbed physiology rather than that of anatomy. Preductal arterial oxygen content or pulse oximetry represents the neonatal lung's potential for meaningful respiratory gas exchange and oxygen delivery and, monitoring this rather than post-ductal blood gas analysis avoids excessive use of fractional inspired oxygen as well as overdistension of lungs. The latter is associated with barotrauma as well as worsening of pulmonary hypertension. Gut decompression has to be pursued actively, to enable optimal lung recruitment. Gentle rather than aggressive ventilation strategies is being used to achieve gradual lung recruitment which in turn, will lead to a progressive decrease in pulmonary vascular resistance and more stable haemodynamics. Surgery is usually delayed until this haemodynamic stability is achieved with minimal inotropes and relatively low ventilation pressures. Post-surgical repair may be accompanied by a varying period of cardio-respiratory instability due to changes in respiratory mechanics. However, this usually settles after a few days.

Symposium 5

S5C (Paediatric) – Congenital Airway and Diaphragmatic Defect in Children

INTERMEDIATE AND LONG TERM COMPLICATIONS OF DIAPHRAGMATIC DEFECTS

Surendran Thavagnanam
University Malaya Medical Centre, Kuala Lumpur, Malaysia

Over the last 10-15 years, the average survival of children with severe CDH has improved to 90% but the CDH-associated complications have increased. The leading cause of CDH-related morbidity and mortality is respiratory failure that results from pulmonary hypoplasia and pulmonary hypertension (PH). Due to the altered lung structure and prolonged ventilation, lung function is also impaired. These pulmonary sequelae may result in hypoxemia, which can cause cognitive impairment and neurodevelopmental problems. Gastro-oesophageal reflux disease (GORD) is also an important contributor to overall morbidity, although the underlying mechanism has not been fully understood yet. In many CDH patients, a clinical history compatible with GORD is lacking, which may result in missing patients with pathologic reflux disease. Prolonged unrecognized GORD may eventually result in failure to thrive. CDH-survivors also have an increased risk for chest wall deformities and scoliosis.

Which predictors can identify CDH-patients for these complications? Prenatal diagnoses as well as an earlier gestational age at diagnosis, right-sided CDH, low birth weight and congenital anomalies are all associated with a poor prognosis. Lung to head ratio measured prenatally as well as the prenatal position of the fetal liver and the size of diaphragmatic defect correlates negatively with outcome.

Recently, it has been shown that management of CDH patients in specialised centers improves survival outcomes. Affected children may benefit from prospective identification and ongoing interventions. Therefore, it is highly recommended that these children be evaluated periodically in a protocolised multidisciplinary setting to minimize short-term and to assess for long-term co-morbidities.

PLENARY 3

THE NATIONAL STRATEGIC PLAN FOR TOBACCO CONTROL

Noraryana Hassan
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Global NCD Target has placed 9 indicators that must be achieved by the year 2025 and this target aiming to reduce smoking prevalence to 30%. In order to achieve the target, Ministry of Health must draw up 2 main programmes covering the preventive measures to prevent non-smokers from being affected and ensuring at least 3% smokers quit each year. Malaysia has been a signatory party to the WHO Framework Convention on Tobacco Control (FCTC) since 2005. The Framework Convention has given the opportunity for Malaysia to plan a comprehensive tobacco control programme in the aspect of reducing demand of tobacco and tobacco products and reducing the supply of tobacco and tobacco products.
In line with the obligation of the FCTC treaty and the commitments of the Global NCD Target by 2025, the Ministry of Health has come out with the National Strategic Plan for Tobacco Control. Further discussion on the implementation of tobacco control activities will be elaborated. Challenges in combating tobacco will be shared in due course.

Symposium 6

S6A – Tuberculosis II

DRUG-RESISTANT TB

Maria Tarcela Gler
Otsuka Manila Research Centre, Metro Manila, Philippines

A staggering 1.8 million people died from tuberculosis in 2015. This is much higher than the death tolls of years of insurgencies or natural tragedies. The emergence of drug-resistant tuberculosis has proven to be a threat to tuberculosis control globally. This most frequently results from poor TB treatment and transmission of untreated drug resistant TB infections. In 2015, an estimated 580, 000 people were infected with MDR-TB globally and an estimated 9.5% of these cases are XDR-TB.

For almost two decades, tuberculosis has been successfully treated with the "standard regimen" which is a combination of four anti-tuberculosis drugs isoniazid, rifampicin, pyrazinamide and ethambutol (HRZE). It had a 98% cure rate if compliance is ensured and a Direct Observation Treatment protocol aimed to ensure adherence. Multi-drug resistant tuberculosis (MDR-TB) or a TB strain that has resistance to at least INH and Rifampicin, the two most potent drugs in the HRZE combination has been given especial attention because the treatment is more difficult and requires prolonged exposure to toxic and less efficacious drugs. And with the roll-out of treatment of MDR-TB, the extensively drug resistant strains has emerged which is a TB strain that is resistant to at least 4 of the core MDR-TB drugs – INH, Rifampicin and the addition of fluoroquinolone and injectable agents (kanamycin. Amikacin, and capreomycin). This strain has more limited treatment options and requires longer treatment duration. Because of the limited options for treatment, the success rates from treatment of drug-resistant TB are dismally low.

Like the susceptible TB, the key to the control of drug resistant TB infections is early recognition and early initiation of treatment. Recently, several new tools have been introduced for rapid diagnosis of these infections. The next talk will discuss the new treatment options for drug-resistant TB.

Symposium 6

S6A – Tuberculosis II

HIV/TB CO-INFECTION

Leong Kar Nim
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Symposium 6

S6A – Tuberculosis II

NEW DRUGS AND REGIMENS FOR TB TREATMENT

Maria Tarcela Gler
Otsuka Manila Research Centre, Metro Manila, Philippines

The treatment of tuberculosis relies on a combination of bactericidal and sterilizing drugs administered for a sufficient period of time to ensure synergy of action to achieve cure and prevent the selection of drug-resistant mutants (Grosset, 1980). The current standard regimen including isoniazid, rifampicin, pyrazinamide, and ethambutol was an excellent combination until the development of rifampicin and multiple drug resistance. Combinations of toxic and less efficacious drugs administered for 8-24 months were then used treat multi-drug resistant tuberculosis (MDR-TB). Limited information about the efficacy of these regimens for the treatment of drug resistant TB is available.

During the past 5 years, 2 new tuberculosis drugs have been approved for TB treatment after a long hiatus in drug development. Delamanid is a nitro-imidazole which inhibits mycolic acid synthesis and has a favorable safety profile. Bedaquiline is a diarylquinoline anti-tuberculosis drug that inhibits mycobacterial ATP synthase. Both drugs have been recommended for use by the WHO as an additional drug to be added to an MDR-TB regimen, especially for patients with resistance or intolerance to second-line drugs. Several other anti-tuberculosis drugs including pretomanid, sutezolid are in and advanced clinical testing.

WHO has recently recommended a shorter 9 month regimen (often called the Bangladesh regimen) for the treatment of MDR-TB that includes second-line (moxifloxacin,kanamycin,prothionamide) as well as repurposed antibiotics (clofazamine, ethambutol, high dose INH and pyrazinamide). The recommendation was based on the results of several large cohort studies. A clinical trial testing this regimen has been completed; results are pending in late 2017-early 2018. These new drugs and regimens are much needed tools in the fight against tuberculosis.

Symposium 6

S6B – Interventional Respiratory Techniques

ELECTROMAGNETIC NAVIGATIONAL BRONCHOSCOPY: CURRENT AND FUTURE APPLICATIONS

Tidi Hassan
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The incidence of pulmonary nodules and lung cancer is increasing in prevalence. The histopathological shift to lung adenocarcinoma, lung cancer screening and advanced imaging modalities are factors for the increased incidence of peripheral nodules and masses. Electromagnetic navigational bronchoscopy (ENB) is an emerging tool for the diagnosis of peripheral lung nodules used. Although the technology is expensive and not widely available here, this tool is recommended for a successful screening programme to enable tissue sampling that is safe and effective. This is especially important as two-thirds of lung nodules are located in the periphery that are inaccessible with conventional bronchoscopies. With an average diagnostic yield of over 80%, ENB is also safer than CT-guided biopsies as the pneumothorax incidence is less than 2%. Other potential applications include the placement of fiducial markers, guidance for trans-tracheal and trans-bronchial biopsy and bronchoscopic pleural dye marking for localization of lesions pre-surgery.

Symposium 6

S6B – Interventional Respiratory Techniques

PLEURAL INTERVENTIONS

Gary Lee
Institute for Respiratory Health, University of Western Australia, Perth, Australia

Pleural interventions - Background

- Recent years have seen major advances in pleural medicine to the extent that it has become a subspecialty in its own rights. Together with better clinical practice there are more pleural interventions and growing recognition of the need to ensure procedural safety. These procedures are better managed by pleural specialists with advanced training in the field.

Pleural ultrasound: Pleural procedural complications are common and underreported. Pleural ultrasound is avoidable, available, and can significantly enhance the safety of procedures. It is now a mandatory part of respiratory training in the UK and should be used prior to all pleural interventions.

Indwelling pleural cathter (IPC): IPC is a new concept that allows ambulatory management of recurrent (esp malignant) pleural effusions. Results of recent RCTs have shown its superiority over conventional talc pleurodesis. Clinicians need to be able to manage common IPC complications before using this device.

Intrapleural therapy for Pleural Infection: The use of tPA and DNase intrapleural therapy has transformed the management algorithm of pleural infection. The therapy is now adopted around the world. However, the treatment remains new and optimization of the best delivery regime, proof of long term safety and the best timing of its use etc are hot topics of management. The therapy requires medical and nursing expertise and is best delivered in units under a dedicated pleural service.

Pleuroscopy (Medical Thoracoscopy): Although pleuroscopy has a role in the diagnosis and management of pleural effusion, the role is diminishing especially in developed countries. The advances in diagnostic pathological techniques now allow cytological diagnoses in the majority of malignant effusions. The advances of imaging including CT and PET now allow accurate guided tissue sampling more focussed than open biopsies. Pleuroscopy remains important in patients with an undiagnosed effusion who has no suitable sites for imaging guided biopsies. The advances of IPC mean that it increasingly takes over the role of pleuroscopy for talc poudrage.

Future directions:

- Like most other specialities/subspecialties, pleural disease management is marching towards less invasive procedures with better safety profile. The coming years will see even more changes towards that goal.

Symposium 6

S6B – Interventional Respiratory Techniques

AIRWAY STENTING

How Soon Hin
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Airway stenting is part of interventional pulmonology, which is rapidly growing in Malaysia. It is commonly used to treat tracheobronchial disorders either due to malignant or benign tumors, extrinsic compression, post-TB stenosis, post-intubation tracheal stenosis, and etc. Tracheobronchial prostheses, also known as airway stents, are used to palliate the effects of large airway obstruction. There are two main types of airway stents, silicone and expandable metallic stents. Silicone stents are usually placed using a rigid bronchoscope while the patient is under general anesthesia. Unlike silicone stents, metal stents can be placed with a flexible bronchoscope. The indications for airway stenting, types of stents, insertion technique, and potential complications will be reviewed.

Symposium 6

S6C (Paediatrics) – Craniofacial Deformity and Its Impact on the Respiratory System

COMMON CRANIOFACIAL SYNDROMES AND THEIR COMORBIDITIES

Mohd Ali Mat Zain
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Symposium 6

S6C (Paediatrics) - Craniofacial Deformity and Its Impact on the Respiratory System

MANAGEMENT OF AIRWAY COMPLICATIONS IN CRANIOFACIAL SYNDROMES

Anna Marie Nathan
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Craniosynostosis(CS) is defined as partial or complete premature fusion of the cranial sutures and it's prevalence is about 1 in 2100 to 2500 live births with the sagittal suture (40–55%) is being most commonly affected. The associated midface hypoplasia predisposes to sleep disordered breathing(SDB), the commonest respiratory complication which occurs in about 68% of children. Interestingly, OSA can be present regardless of presence of midface hypoplasia. Severity of OSA has been reported to be mild (76%) in majority of cases. Raised intracranial pressure(ICP) has been linked with severity of OSA too and ICP may reduce with treatment of OSA. Unfortunately, treatment is challenging as tonsillar-adenoidectomy is not curative and CPAP/BiPAP is poorly tolerated. Nasopharyngeal airway (NPA) is an effective first-line treatment modality in the management of OSA in children with CS, although it is usually not curative in terms of OSA, especially in children with moderate to severe OSA. Mid-facial advancement is currently in vogue and surgical techniques are constantly being modified. A recent systematic review of upper airway outcomes post midface distraction osteogenesis has reported favourable outcomes in cephalometry, sleep study outcomes and decannulation rates. However, some studies have shown that not all children improve, depending on their cephalometry before surgery. Finally, central apnoeas are common in children with CS and may be linked to pressure on the respiratory centre from an underlying Chiari malformation or to narrowing of the craniocervical junction. However, there are suggestions that hind brain compression may be associated with OSA as well, and hence the controversies as to the best treatment for children with significant CA's i.e. posterior fossa decompression versus oxygen therapy or BiPAP/CPAP treatment.

References:

1. *Craniofacial Syndromes and Sleep-Related Breathing Disorders Hui-Leng Tan, Leila Kheirandish-Gozal, François Abel, and David Gozal. Sleep Med Rev. 2016 June ; 27: 74–88. doi:10.1016/j.smrv.2015.05.010*

Symposium 6

S6C (Paediatrics) - Craniofacial Deformity and Its Impact on the Respiratory System

MANAGEMENT OF OTHER CO-MORBIDITIES IN CRANIOFACIAL SYNDROMES

Azmi Alias
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Craniofacial abnormalities occur as a result of interruption of normal embryologic growth and differentiation of the face and skull. The clinical course is variable and influenced by many factors including biochemical mechanisms and specific genetic abnormalities.

Syndromic craniosynostosis commonly associated with multiple synostoses, hypoplasia of the maxillary bone and other skeletal developmental deformities, occurring only in approximately 5–15% of all cases of craniosynostosis.

The abnormal development of skull and facial bone causing distortion and compression of the intracranial cerebrospinal (CSF) fluid spaces, neurovascular structures and venous outflow.

Syndromic craniosynostosis frequently lead to severe cranial stenosis and progressive craniocerebral disproportion, increase intracranial pressure, CSF dynamic disorders, venous hypertension, secondary Chiari Malformation with chronic tonsillar herniation and overcrowding of the foramen magnum.

Skull base abnormalities combined with hypoplastic maxillary bone lead to upper airways obstruction and, in addition contribute to increase in the intracranial pressure.

Ocular abnormalities, such as exophthalmos, strabismus and ptosis are often observed in syndromic craniosynostosis-Severe exophthalmos may cause corneal ulceration, occular dislocation and might cause visual loss.

Untreated chronic raised intracranial pressure will restrict the growth of the developing brain and lead to retardation and permanent brain damage. Surgical decompression is therefore necessary at the early course. Various surgical techniques can be used ranging from suturectomy, cranial vault reshaping and cranial expansion depending on the complexity of the cranial stenosis, age and timing of surgery.

Management of craniofacial sydromes require multidcisplinary approach tailored to the need of the individual patient. Understanding the pathophysiology and clinical presentation of children with complex craniofacial syndrome is therefore important to improve treatment outcome.

ORAL PRESENTATIONS

OP1 ADIPOSE BIOMARKERS IN OBESE CHILDREN WITH OBSTRUCTIVE SLEEP APNOEA SYNDROME

N Gnanasegaran[1], S Golbabapour[2], AM Nathan[2,3], JA deBruyne[2,3], MY Jalaluddin[2,3], AA Zaini[2,3], S Thavagnanam[2,3]

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OP2 THE IMPACT OF SOUTHEAST ASIAN HAZE ON RESPIRATORY ADMISSIONS

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OP3 A RANDOMIZED, SINGLE-BLIND, CONTROLLED STUDY TO EVALUATE THE SAFETY, TOLERABILITY AND EFFICACY OF LEGA-KID COMPARED TO CONVENTIONAL CHEST PHYSIOTHERAPY IN CHILDREN

YL Hue[1], LCS Lum[2], SH Ahmad[3], SS Tan[1], SL Chuah[2], F Abdul Aziz[2], JA de Bruyne[2], Nathan AM[2], KP Eg[2], CS Gan[2], S Thavagnanam[2], AK Manjit Singh[3], N Haron[3]

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OP4 RADIAL ENDOBRONCHIAL ULTRASOUND WITH GUIDE SHEATH (EBUS-GS) FOR DIAGNOSIS OF PERIPHERAL PULMONARY LESION – AN EARLY EXPERIENCE IN MALAYSIA

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OP5 VAPING KNOWLEDGE, ATTITUDE AND PRACTICE AMONGST GENERAL PUBLIC IN SELANGOR

AN Musa[1], KS Ibrahim[1], D Katiman[1], CW Lim[1], JR Ismail[1], NYC Chua[1], R Najme Khir[1], E Abdul Rahman[1], MK Arshad[1], HA Abidin[1], ZO Ibrahim[1], SS Kasim[1], AI Ismail[1]

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OP1

ADIPOSE BIOMARKERS IN OBESE CHILDREN WITH OBSTRUCTIVE SLEEP APNOEA SYNDROME

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Introduction: Obstructive sleep apnoea syndrome (OSAS) is strongly associated with obesity, which is an important reversible risk factor. With the increasing prevalence of obesity, secretion of adipocytokines is gaining research interest. These biomarkers may affect glucose and lipid metabolism and present pro-inflammatory properties, which may be involved in the pathobiochemistry of OSAS.

Objectives: The aim of this study was to investigate the adipocytokines in obese children with OSAS and their association with clinical and polysomnographic (PSG) variables.

Methods: In this cross-sectional study, 51 obese children (BMI >95th centile) with symptoms of sleep-disordered breathing (SDB) based on OSA-18 questionnaire and 27 thin controls with no SDB were enrolled. Bloods for adipocytokines was obtained and all obese patients underwent a PSG to determine the severity of OSAS as per the American Academy of Sleep Medicine 2012. Effects of severity of OSA defined by apnoea hypopnea index (AHI) on adipocytokines were analysed.

Outcomes/measures: 60 (77%) children were male and the ages were similar between groups. Following the PSG, 31 (60%) obese children had OSAS: 13 with mild OSAS and 18 with mod to severe OSAS. Resistin, adipsin, leptin, insulin, glucagon-like peptide 1 (GLP1) and plasminogen activator inhibitor-1 (PAI-1) levels were significantly higher in OSAS children as compared to healthy children ($p<0.05$).

Results: The adipocytokine levels correlated with OSAS severity. No relationships were observed between blood visfatin, adiponectin, c-peptide, glucagon levels and AHI values.

Conclusion: The changes in the plasma levels of adipocytokines may be a direct consequence of hypoxia or oxidative stress due to OSAS. The use of these biomarkers may be a novel and less expensive diagnostic method that would facilitate screening of obese children for OSAS. Further studies are needed to clarify the complex relation among OSAS, obesity and adipocytokines.

OP2

THE IMPACT OF SOUTHEAST ASIAN HAZE ON RESPIRATORY ADMISSIONS

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Introduction: The Southeast Asia haze is an annual problem and at its worst could produce respirable particles of concentrations up to 500 μg/m3 (5 times the level considered as 'unhealthy'). However, there are limited reports examining the direct clinical impact of the annual haze.

Objectives: We study the impact of the haze on respiratory admissions in a single institution.

Methods: Our study population included all respiratory admissions in Universiti Kebangsaan Malaysia Medical Centre (UKMMC) from 1st January 2014 to 31st December 2015. Data were collected retrospectively from chart reviews. 32 weeks of haze period had been formally dated by the Department of Environment using the definition of weather phenomenon leading to atmospheric visibility of less than 10 kilometres. Multivariable regression analyses were performed to estimate rate ratios and 95% confidence intervals (CI). Adjusted hazard ratio (HR) was also calculated.

Outcomes/measures: There were 1968 subjects admitted for respiratory admissions in UKMMC during the study period. Incidence rates per week were significantly different between the two groups with an excess of 27.6 cases per week during the haze versus 15.7 cases per week during the non-haze period ($p<0.01$). The rate ratio of ICU admission was 3.92 (95% CI 1.12-4.3) compared to 1.2 (95% CI 0.7-3.6)($p=0.048$) for haze versus non-haze periods respectively

Results: There were no significant differences between age, C-reactive protein, clinical presentation and death between the periods. The HR for subjects with underlying cardiac disease was 2.41 (95% CI 1.8-3.1) ($p=0.03$) during the haze period.

Conclusion: Our data reports for the first time that the annual Southeast Asia haze is associated with increased respiratory and ICU admission. Underlying cardiac disease is a risk factor for respiratory admission during these periods.

Reference

Koplitz Shannon, et al. Public health impacts of the severe haze in Equatorial Asia in September–October 2015. *Environmental Research Letters* 2016. 11;9; 094023

OP3

A RANDOMIZED, SINGLE-BLIND, CONTROLLED STUDY TO EVALUATE THE SAFETY, TOLERABILITY AND EFFICACY OF LEGA-KID COMPARED TO CONVENTIONAL CHEST PHYSIOTHERAPY IN CHILDREN

YL Hue[1], LCS Lum[2], SH Ahmad[3], SS Tan[1], SL Chuah[2], F Abdul Aziz[2], JA de Bruyne[2], Nathan AM[2], KP Eg[2], CS Gan[2], S Thavagnanam[2], AK Manjit Singh[3], N Haron[3]

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Introduction: Lower respiratory tract infection [LRTI] is a leading cause of hospital admissions in children below 5-years. LRTI results in production of thick sputum that obstructs the narrow airway causing respiratory distress. Chest physiotherapy (CPT) is beneficial but its' effect is technique dependent. A mechanical percussor device, LEGA-kid is available as a CPT aid but there are no efficacy data.

Objectives: Therefore, the aim of this study is to compare the safety, tolerability and efficacy between LEGA-kid and manual CPT in children with LRTI.

Methods: Thirty children, 5-months to 5-years admitted to University Malaya Medical Centre with a LRTI between January to April 2017 were randomized to either manual CPT or LEGA-kid.

Outcomes/measures: The outcomes measured include respiratory rate (RR), oxygen saturation, modified Respiratory Distress Assessment Instrument (mRDAI) score, feeding and sleep behaviour and worsening respiratory distress.

Results: All children improved after CPT with significant reduction in RR and mRDAI score. The mean reduction in RR was 4 breaths per minute (95% CI, 1.45 to 5.71; p=0.002) and 7 breaths per minute (95% CI, 4.90 to 9.05; p=0.0001) in manual and LEGA-kid groups respectively. Children in the LEGA-kid group had significantly lower RR 60 minutes after CPT as compared to the manual group, p=0.024. Decrease in mean mRDAI score by 2.96 (95% CI, 2.32 to 3.59; p=0.0001) and 3.62 (95% CI, 2.97 to 4.27; p=0.0001) was observed in manual and LEGA-kid groups respectively. Children in LEGA-kid group had increased oxygen saturations by 0.88% (95% CI, -1.56 to 0.20; p=0.013) compared to manual group 0.56% (95% CI, -1.27 - 0.16; p=0.123). Patients experienced improved feeding and sleep after 1 session of CPT. No adverse events or worsening respiratory distress after CPT was observed throughout hospitalisation.

Conclusion: LEGA-kid is superior if not comparable to manual CPT done by an experienced chest physiotherapist.

OP4

RADIAL ENDOBRONCHIAL ULTRASOUND WITH GUIDE SHEATH (EBUS-GS) FOR DIAGNOSIS OF PERIPHERAL PULMONARY LESION – AN EARLY EXPERIENCE IN MALAYSIA

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Introduction: Role of flexible bronchoscopy in diagnosing peripheral pulmonary lesion (PPL) is limited with overall yield of 45%[1]. Majority of patients will undergo CT guided transthoracic needle biopsy with risk of pneumothorax of up to 69%[1]. The use of radial endobronchial ultrasound with guide sheath (EBUS-GS) for diagnosis of PPL is a novel technique with diagnostic yield of 70.6% with good safety profile[2].

Objectives:

Methods: This study is a single institution retrospective review of our early experience with radial EBUS-GS in diagnosing PPL at Respiratory Medicine Unit, Sarawak General Hospital over six months duration from October 2016 to April 2017.

Outcomes/measures: Our study cohort comprised of 65 patients with 68 target lesions. 46 (67.6%) cases were performed as outpatient day case while 22 (32.4%) cases were inpatient. Up to 46 (67.6%) cases will undergone CT guided transthoracic needle biopsy if without Radial EBUS-GS. 36 (52.9%) cases were performed with fluoroscopy guidance and 3 (4.4%) with electromagnetic navigational bronchoscopy. Majority of lesions were located in upper lobe with 23 (33.9%) and 13 (19.2%) at right and left upper lobe respectively. All cases were performed under conscious sedation with mean procedural time of 37 minutes, using flexible therapeutic bronchoscope.

Results: Overall diagnostic yield is 63.8% (37/58) with 20 (54.1%) cases of malignancy, 11 (29.7%) cases of tuberculosis and 6 (16.2%) cases of infection. Mean size for conclusive lesion is 3.87cm with 89.2% of lesion demonstrate Type A Bronchus Sign on CT and a concentric (62.2%) or eccentric (35.1%) orientation on Radial EBUS examination. Only 1 (1.5%) patient develops pneumothorax, which was treated conservatively without chest tube drainage.

Conclusion: Radial EBUS-GS is an effective tool to guide biopsy during peripheral bronchoscopy with low complication rate. Despite various limitations, our early experience with Radial EBUS-GS shown promising result and our center anticipates further experiences with this technique in the future.

Reference

1. DP Steinfort, YH Khor and LB Irving. Radial probe endobronchial ultrasound for the diagnosis of peripheral lung cancer: systematic review and meta-analysis. ***Eur Respir J*** 2011; 37:902-910
2. MS Ali, W Trick, BI MBA et al. Radial endobronchial ultrasound for the diagnosis of peripheral pulmonary lesions: a systematic review and meta-analysis. ***Respirology*** 2017; 22:443-453

OP5

VAPING KNOWLEDGE, ATTITUDE AND PRACTICE AMONGST GENERAL PUBLIC IN SELANGOR

AN Musa[1], KS Ibrahim[1], D Katiman[1], CW Lim[1], JR Ismail[1], NYC Chua[1], R Najme Khir[1], E Abdul Rahman[1], MK Arshad[1], HA Abidin[1], ZO Ibrahim[1], SS Kasim[1], AI Ismail[1]

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Introduction: E-cigarette or vaping has gained the attention not only in Malaysian but worldwide, yet data on it is scarce. It's marketed as smoking cessation device due to its ability to simulate smoking and deliver nicotine but recent data is veering towards its harmful effect to health.

Objectives: This study was conducted to assess the prevalence and understand the knowledge, attitude and practice towards vaping in Selangor.

Methods: This is a cross-sectional questionnaire based study of general population in Selangor. The questionnaire is designed to assess knowledge, attitude and practice towards vaping.

Outcomes/measures: 1129 responded with majority being female (61.5%) and Malay (77.8%). Mean age of respondents were 27.5±9.0 year old. The prevalence of vaping with or without smoking cigarettes was 8.1%. 70.3% uses nicotine cartridge of 6mg. 9.5% of respondents were ex-vapers/smokers. Median age of first start vaping was 23 (IQR 4) with mean of 4.2 ± 12.4 catridge usage per day. Most rate their vapping addiction as moderate (29.9% as 5/10 and 14.9% as 6/10).

Results: 34.4% feel that vaping is less harmful than smoking cigarette while 65.6% do not know whether it is less harmful or not. A proportion responded that vaping is less addictive than cigarette (27.3%), less expensive (17.2%) and is a tool to quit smoking (28.4%). 44.8% have the intention to reduce vaping while 31.3% were trying to stop vaping. 46.3% received advice from healthcare professional to quit smoking but only 20.7% received help on quit smoking by healthcare professional.

Conclusion: Despite the low prevalence of smoking, the rate of addiction to vaping is high and so was the intention to stop vaping. However the awareness on harmful effects of vaping was still low within the general public in Selangor.

POSTER PRESENTATIONS

PP1 PAEDIATRIC ASTHMA CLINICAL PATHWAY: IMPACT ON COST AND QUALITY OF CARE

Shakirah M.S.[1], Jamalludin A.R.[2], Hasniah A.L.[3], Rus Anida A.[4], Mariana D.[5], Ahmad Fadzil A.[6], Dayang Zuraini S.[7], Siew Choo Su[8], Ramli Z.[9], Samsinah H.[10], Norzila M.Z.[1]

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PP2 FACTORS AFFECTING SLEEP DURATION IN PRIMARY SCHOOL CHILDREN – A PILOT STUDY

MI Ishak[1], Hasniah AL[1], Asiah K[2]

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PP3 DISCORDANCE BETWEEN ASTHMA CONTROL AND PERCEIVED SYMPTOMS IN PATIENTS WITH ASTHMA

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PP4 DEPRESSIVE SYMPTOMS IN NEWLY DIAGNOSED LUNG CARCINOMA: PREVALENCE AND ASSOCIATED RISK FACTORS

Shahedah Koya Kutty[1], Prof How Soon Hin[1], AP Jamalludin Abd Rahman[2] Dr Mohd Faiz Tahir[2] Dr Ong Choon Khoon[3] Dr Kuan Yeh Choon [3]

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PP5 EFFECT OF *SILDENAFIL* ON PULMONARY FUNCTION TEST PARAMETERS IN ASTHMATIC ADULT PATIENTS

Said Y Khatib[1], Fawaz Alfawaz[1], Hani Lababidi[2], Maher Moazen[3].

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PP6 EPIDEMIOLOGY STUDY OF BRONCHIOLITIS OBLITERANS AND HOME OXYGEN PROGRAMME IN SARAWAK GENERAL HOSPITAL, KUCHING.

Hannah PK Tan[1], YK Chor[1] , Alison YH Ting[1]

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PP7 OUTDOOR AIR POLLUTION AND RISK OF LUNG ADENOCARCINOMA AMONG LUNG CANCER PATIENTS DIAGNOSED IN A SINGLE INSTITUTION

Sopian AW[1], Andrea Ban YL[1], Norashikin M[1], Mohammad Faisal AH[1], Mohd Talib L[2], Roslina AM[1], Tidi MH[1]

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PP8 ANNUAL SOUTHEAST ASIAN HAZE AFFECTS LUNG CANCER DIAGNOSIS AND SURVIVAL

Sopian AW[1], Latif MT[2], Soo CI[1], Faisal AH[1], Roslina AM[1], Ban Andrea YL[1], Tidi MH[1]

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PP9 SLEEP DISORDERED BREATHING IN OVERWEIGHT AND OBESE CHILDREN REFERRED TO HOSPITAL PULAU PINANG

BE Cheah, Monisha Pria S, Rus Anida A

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PP10 A CASE SERIES ON THE DIAGNOSTICS AND MANAGEMENT OF TRACHEOBRONCHIAL ANOMALIES IN CHILDREN

Hai Liang Tan[1], Zuraini Sulaiman[1], Siti Hajar Tubirin[1], Kah Peng Eg[1,2], Anna Marie Nathan[1,2], Jessie Anne de Bruyne[1,2], Surendran Thavagnanam[1,2]

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PP11 ASSESSMENT OF ASTHMA CONTROL LEVEL (ASCORE) AT 2 TERTIARY CARE CENTERS IN MALAYSIA

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PP12 ANTI IgE MONOCLONAL ANTIBODY (OMALIZUMAB) IN SEVERE ALLERGIC ASTHMA IN CHILDREN: CASE SERIES

Fazila Mat Arifin, Noor Ain Affendi, Asiah Kassim, Norzila Mohamed Zainudin

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PP13 PREDICTORS FOR MODERATE TO SEVERE SLEEP APNEA IN THE MOST OBESE COUNTRY IN ASIA: A SINGLE CENTRE STUDY

MC Yong, SS Kho, SK Chan, ST Tie

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PP14 CASE SERIES OF TRACHEOBRONCHOMALACIA IN POST CARDIAC SURGERY CHILDREN: SERDANG HOSPITAL'S EXPERIENCE

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PP15 SLEEP RELATED DISORDERS IN CHILDREN WITH CHRONIC ILLNESS AND DISABILITIES.

Nadzzatul Natrah Mohd Mahyuddin[1], Nabilah Iffah Md. Arif[1], Kah Peng Eg[2,3], Anna Marie Nathan[2,3], Jessie Anne de Bruyne[2,3], Surendran Thavagnanam[2,3]

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PP16 PATERNAL VERSUS MATERNAL COPING STRATEGIES IN CHILDREN WITH LONG-TERM ILLNESS AND DISABILITIES

Nabilah Iffah Md. Arif[1], Nadzzatul Natrah Mohd Mahyuddin[1], Kah Peng Eg[2,3], Anna Marie Nathan[2,3], Jessie Anne de Bruyne[2,3], Surendran Thavagnanam[2,3]

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PP17 LEVEL OF PARENTS' SUPERVISION ON THE USE OF DAILY PREVENTER MEDICATION IN CHILDREN WITH PERSISTENT ASTHMA AND THE ASSOCIATION WITH ASTHMA CONTROL

Celia Low Fang Ying[1] Ong Kyle Lee[1], Anna Marie Nathan[2], Eg Kah Peng[2], Surendran Thavagnanam[2], Jessie de Bruyne[2]

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PP18 THE QUALITY OF LIFE OF CARE GIVERS AND CHILDREN WITH HOME VENTILATION THERAPY IN THE DEPARTMENT OF PAEDIATRICS OF HOSPITAL MELAKA IN 2017

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PP19 A RETROSPECTIVE OBSERVATIONAL STUDY ON RISK FACTORS FOR SEVERE COMMUNITY-ACQUIRED PNEUMONIA REQUIRING VENTILATION AMONG HOSPITALISED PAEDIATRIC PATIENT AGED 1 MONTH TO 12 YEARS OLD IN HOSPITAL SEBERANG JAYA FROM JANUARY 2014 TO DECEMBER 2014

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PP20 WHICH IS THE MOST APPROPRIATE SPIROMETRY REFERENCE EQUATION? A COMPARISON BETWEEN FEV1 AND FVC SUM OF RESIDUALS FROM VARIOUS POPULATION REFERENCES

SK Chan, YF Ho, SS Kho, MC Yong, ST Tie
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PP21 USAGE OF CONTINUOUS DIGITAL THORACIC SUCTION (CDTS) VS CONVENTIONAL THORACIC WALL SUCTION (CTWS) IN PATIENTS POST BULLECTOMY AND PLEURODESIS SURGERY: A RETROSPECTIVE STUDY

Sivasangaran G[1], Fauzi J[1]
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PP22 BRONCHIECTASIS PROFILING IN A TEACHING HOSPITAL IN MALAYSIA.

Anez Aslan[1], Ashivini Renault[1], Andrea Ban Yu-Lin[1], Norashikin Mohammad[1] Mohammad Faisal Abdul Hamid[1], Roslina Abdul Manap[1], Tidi Hassan[1]
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PP23 PLEURAL FLUID LACTATE LEVEL IN TUBERCULOUS PLEURAL EFFUSION AND THE RELATIONSHIP TO PARAPNEUMONIC PLEURAL EFFUSION IN HIGH TUBERCULOSIS SETTING – A PROSPECTIVE OBSERVATIONAL STUDY

SS Kho, MC Yong, SK Chan, ST Tie
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PP24 LIQUID BIOPSY VERSUS TISSUE BIOPSY BIOMARKERS DETECTION FOR DIAGNOSIS IN NON-SMALL CELL LUNG CANCER

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PP25 VIRUSES ISOLATED IN CHILDREN UNDER FIVE YEARS OF AGE WITH ACUTE RESPIRATORY INFECTION

Chin Sien Tee[1], Kah Peng Eg[1,2], Anna Marie Nathan[1,2], Surendran Thavagnanam[1,2], Jessie Anne de Bruyne[1,2]
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PP26 HYPERSENSITIVITY PNEUMONITIS CASE SERIES

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PP27 SARCOIDOSIS CASE SERIES: SINGLE CENTER EXPERIENCE

Syazatul Syakirin SA[1], **Aniqah Shamimi J**[1], Abdul Razak M[1]
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PP28 MULTIDRUG-RESISTANT TUBERCULOSIS TREATMENT OUTCOME: TERTIARY CENTER EXPERIENCE

[1]Syazatul Syakirin SA, [2]Rosmadi I, [1]Nager Devi V, [1] Ming-Yi K, [1] Zamzurina AB,[1] Abdul Razak M
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PP29 SMOKING AND BEHAVIOUR AMONG SECONDARY SCHOOL STUDENTS IN PENINSULAR MALAYSIA

NA Yunus[1], NB Jamak[1], NF Hamdan[1], AK Sulaiman Shah[1], MF Ahmad[1], SK Othman[1], a Musa[1], MA Mohd Zim[1], AI Ismail[1]
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PP30 MEDICAL THORACOSCOPY VERSUS BLIND PLEURAL BIOPSY IN UNDIAGNOSED EXUDATIVE PLEURAL EFFUSIONS – SERIES OF 22 CASES

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PP31 ASSESSMENT OF KNOWLEDGE AND ATTITUDE OF BRONCHIAL ASTHMA AMONG FINAL YEAR UNDERGRADUATE PHARMACY STUDENTS

Sohail Ahmad[1], Yeap Boon Jing[1], Irene Wong Xiang Bing[1], Chow Cher Qian[1], Wong Yii Zhi[1], Muhammad Qamar[1], Faiz Ahmed Shaikh[1], Ahmad Izuanuddin Ismail[2]
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PP32 RESPIRATORY OUTCOMES OF CHILDREN AND ADOLESCENTS WITH PERSISTENT SEVERE ALLERGIC ASTHMA TREATED WITH ANTI-IGE (OMALIZUMAB) THERAPY

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PP33 UNFORTUNATE CASES OF ATYPICAL MYCOBACTERIUM INFECTION IN DISTRICT HOSPITAL: A CASE SERIES

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PP34 FACTORS ASSOCIATED WITH DYSGLYCEMIA IN COPD PATIENTS WITH AND WITHOUT EXACERBATIONS

Khairil KZ[1], Fatimah ZMS[1], Rohana AG[1], AI Ismail[1]
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PP35 PREVALENCE OF UNDIAGNOSED DIABETES MELLITUS AND PRE-DIABETES IN PATIENTS WITH COPD

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PP36 THE UTILITY OF PLEUROSCOPY IN DIAGNOSING TUBERCULOSIS AND LUNG CANCER: A MALAYSIAN TERTIARY HOSPITAL'S EXPERIENCE

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PP37 HYPERSENSITIVITY PNEUMONITIS – A CASE SERIES

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PP38 THE QUALITY OF LIVE OF PARENTS CARING FOR CHILDREN ON ASSISTED VENTILATION

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PP39 POLYSOMNOGRAPHY STUDIES AMONG PAEDIATRIC PATIENTS, A SINGLE CENTRE EXPERIENCE

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PP1

PAEDIATRIC ASTHMA CLINICAL PATHWAY: IMPACT ON COST AND QUALITY OF CARE

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Introduction:
Uncontrolled asthma may cause an increase in healthcare utilisation, hospital admission and productivity loss. With the increasing burden of asthma in Malaysia, strategies aimed at reducing cost of care should be explored.

Objective:
This study aims to determine if a clinical pathway (CPW) developed by paediatric respiratory physicians for management of inpatient paediatric asthma would reduce hospital costs, length of stay (LOS) and eventually improve quality of care.

Methods:
A quasi-experimental, pre-post study was used to evaluate the CPW effectiveness. All inpatients aged 5-18 years old, admitted to paediatric ward, Hospital Taiping, Perak for acute asthma exacerbation from September 2015 to April 2016 were prospectively recruited in the study. Retrospective data from paediatric asthma patients admitted from January-July 2015 were used as control. CPW Training was carried out in August 2015 using standardized modules developed by the research team. Direct admission cost for inpatient management from the provider's prospective was calculated. Comparisons were made between the control and intervention group to look at any differences in LOS, cost, and readmission within 28 days of discharge

Results:
The average LOS is higher in the CPW group by 0.18 days (Mean=2.38, SD±1.35) compared to the control group, however the difference is not statistically significant. None of the patients in the CPW group had readmissions within 28 days of discharge. Mean cost of treatment for patients in the intervention group is higher at RM843.39 (SD ±48.99).

Conclusion:
This study found no significant differences between inpatient management with a CPW compared to usual care, however, further studies will be needed to explore CPW's impact in asthma management in smaller hospitals from the emergency treatment to hospital discharge.

PP2

FACTORS AFFECTING SLEEP DURATION IN PRIMARY SCHOOL CHILDREN – A PILOT STUDY

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Introduction:
Sleep duration of <9 hours for children aged 6-12 years old is considered inadequate. Predictors of sleep duration are mainly obtained from Western countries but limited in Asian countries with different culture and seasons.

Objective:
To determine sleep duration among Malaysian children, predictors for inadequate sleep duration and parental perception towards children's sleep time.

Methods:
Cross sectional study was conducted involving 980 school children aged 6-12 year old. Data collected using structured questionnaires on child's sleep duration and pattern, socioeconomic status, home environment, pre-sleep activities, sleep hygiene, parental sleep pattern and perception of children's sleep duration, anthropometric measurements and tonsillar size.

Results:
Mean sleep duration was 8.50 hours (SD 1.14) for weekdays and 9.20 hours (SD 1.34) for weekends. Inadequate sleep was found in 66.9% of children during weekdays, 33.4% during weekends and 30.2% of these children had inadequate sleep throughout the week. Multivariate logistic regression showed significant predictors for inadequate sleep duration for weekdays were: age >9 years old [OR 5.95, 95% CI 4.22-8.39], poor sleep hygiene [OR 1.49, 95% CI 1.07-2.08], inadequate students' sleep duration on weekend [OR 6.95, 95% CI 4.43-10.90], low total household income [OR 0.49, 95% CI 0.35-0.68], inadequate parents' sleeping duration [OR 1.42, 95% CI 1.01-1.98] and wrong perception on child's sleep duration [OR 1.80, 95% CI 1.21-2.65]. About 80% of parents have inadequate sleep (<7 hours) and 81.9% of parents have wrong perception on child's sleep adequacy.

Conclusion:
Inadequate sleep duration for Malaysian children are predicted by age, sleep hygiene, household income, parental sleep duration and perception of adequate sleep. This highlighted need for collaboration between paediatricians, parents and teachers focusing on education and promoting good sleep practices.

PP3

DISCORDANCE BETWEEN ASTHMA CONTROL AND PERCEIVED SYMPTOMS IN PATIENTS WITH ASTHMA

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Introduction:
A study was conducted at UiTM Respiratory clinic in Selayang campus and Sg Buloh campus to assess and classify asthma by levels of control based on Asthma Control Test (ACT) score.

Objective:
The secondary objective was to identify those patients whose control were optimal and suboptimal

Methods:
A total of 165 patients were included in this study between 1st April 2016 and 30th November 2016 during recruitment for S-WAAP study (Symptoms-Written Asthma Action Plan study). Asthma Control Test (ACT) questionnaires were used to classify asthma and levels of control. Baseline patient characteristic during recruitment visits were also recorded. All data were analyzed using SPSS version 22

Results:
The study showed that 50.6% of the patients were classified as having controlled asthma (ACT 20-25), 26.5% had asthma that was partly controlled (ACT 16-19) and 22.9% of the patients had uncontrolled asthma (ACT <16). There was a significant difference between by patient perceived asthma control and ACT score (p 0.001) with a trend to overestimate their asthma symptoms. However, there are no differences in demography and asthma related morbidities between good and poor control asthma patients

Conclusion:
These findings demonstrate the need to assess objectively asthma control and to explore beyond established risk factors for suboptimal asthma control.

PP4

DEPRESSIVE SYMPTOMS IN NEWLY DIAGNOSED LUNG CARCINOMA: PREVALENCE AND ASSOCIATED RISK FACTORS

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Introduction:

Depression is a recognized complication of lung cancer that is underreported in Malaysia, despite of its high prevalence in comparison with other cancer type in western country. Treating and identifying depression in cancer patient is proven to increase survival and quality of life. Therefore we report the prevalence of depressive symptoms in lung cancer else well as examining the relationship between depression and influence factors of lung cancer patient to increase awareness among physician in this country.

Objective:

To study prevalence of depressive symptoms in newly diagnosed lung carcinoma and study the relationship of depressive symptoms severity with other socio demographic data in Malaysia.

Methods:

A two year, cross sectional study from February, 2015 to February, 2017, was conducted in Hospital Tengku Ampuan Afzan(HTAA), and Penang General Hospital. One hundred and three patients (103) newly diagnosed, biopsy confirmed primary lung carcinoma was recruited. Self-rated Patient's identifications sheet, validated Centre Depression of epidemiology score (CESD) and Dukes university Religion Index (DUREL) score from three different main languages were used.

Results:

The point prevalence of current depressive symptoms (CES-D total score > 16) is 37.9%. The result suggests prevalence of those at high risk of moderate to major depression which may need treatment (Radloff, L.S.1977).Multivariate analysis shows ECOG or performance status, Marital Status and Intrinsic Religiosity (IR) have good association with depressive symptoms. The analysis suggests good ECOG factor, being married and having intrinsic religiosity (IR) reduce depression symptoms.

Conclusion:

Lung carcinoma patients are at long term risk for first depression, clinicians should be aware that the risk is highest in those with poor performance status, being single and poor IR. We suggest routine screening of depressive symptoms as it is feasible to be done during regular clinic visit with immediate referral to psychiatrist when indicated.

Keyword: Lung Cancer, Depression, CES-D, DUREL.

PP5

EFFECT OF *SILDENAFIL* ON PULMONARY FUNCTION TEST PARAMETERS IN ASTHMATIC ADULT PATIENTS

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Introduction:
This study shows the effect/s of Sildenafil "phosphodiesterase-5 inhibitor" (Sild), on PFT parameters in asthmatic patients. Sild significantly relaxed tracheal muscle in rabbit, which was previously contracted by Carbachol, Khatib et al 2009). In healthy human it produced changes in PFT, favoring a decrease in pulmonary vascular resistance (ATS 2011). Pretreatment with Sild inhibited airway hypersensitivity and reduced airway inflammation in animal models. In this study we present changes in PFT parameters of six asthmatic adult patients produced by 100 mg of Sild.

Methods:
PFT was performed on six asthmatic patients (3 males, 3 females) age 24 – 42 year-old (FEV1/FVC < 54%), before and 2 hours after Sild ingestion (100 mg, Fitzer - Germany). IRB approved by the study and written consent was obtained. The patients stopped bronchodilator drugs at least 12 hours before the test. The percentage changes in PFT parameters were calculated as follows: (Value after Sild - baseline value) / baseline value before Sild)

Results:
The average percentage increases as % produced by 100 mg in FEV1 11.8 %, MMEF 25/75, 29.6 %, FVC 7.4 %, FEV1/FVC, 4.6 %, PEF 10.9 % and PIF 13.4 %.

Conclusion:
The results show improvement in the all parameters of the PFT, however, it is too early to draw solid conclusions from six cases, but it suggests some beneficial effects of Sild on lung function. The scientific basis for using Sild in airway flow limitation comes from the fact that cGMP mediates relaxation of airway smooth muscle via protein kinase/protein phosphorylation cascade mechanisms. Since Sild increases the tissue levels of cGMP. So it has potential to relief the bronchoconstriction in asthmatic patients. Therefore it would be reasonable to find whether bronchoconstriction amongst users of the Sild, is improved or not in a clinical study.

PP6

EPIDEMIOLOGY STUDY OF BRONCHIOLITIS OBLITERANS AND HOME OXYGEN PROGRAMME IN SARAWAK GENERAL HOSPITAL, KUCHING.

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Bronchiolitis obliterans is a chronic devastating and life limiting disease which is characterized by bronchiolar inflammation with submucosal peribronchial fibrosis associated with luminal stenosis and occlusion with absence of diffuse parenchymal inflammation. It has various etiologies, the commonest among paediatric population being post infectious. The diagnosis of bronchiolitis obliterans is based on High Resolution CT Thorax (HRCT). Chest x-ray findings may be normal or non specific and therefore can be misdiagnosed as asthma or pneumonia.

Obtaining an accurate diagnosis of bronchiolitis obliterans can prove to be challenging in hospitals whereby HRCT is not easily available and hence, diagnosis would be made on clinical suspicion alone.

In 2013, following a local surge of incidence of adenovirus infection, a higher occurrence of post-infectious bronchiolitis obliterans in paediatric patients from lower and middle income families were noted. A high number of patients were admitted with severe bronchiolitis or viral pneumonia associated with prolonged wheezing, respiratory distress and significant hepatitis with prolong fever. Many of them will end up with prolonged wheeze and respiratory distress requiring prolonged oxygen supplement and subsequently home oxygen therapy.

We describe our experience and incidence of patients with suspected and HRCT diagnosed bronchiolitis obliterans in Sarawak General Hospital, Kuching.

PP7

OUTDOOR AIR POLLUTION AND RISK OF LUNG ADENOCARCINOMA AMONG LUNG CANCER PATIENTS DIAGNOSED IN A SINGLE INSTITUTION

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Introduction:
Lung adenocarcinoma is increasing in incidence especially among non-smokers. The World Health Organization has recently established air pollution as a carcinogen to humans. We investigate outdoor particulate matter and air pollution risk such as occupation and mode of transportation, to examine their relationships with risk of lung adenocarcinoma.

Methods:
We conducted a case-control study in UniversitiKebangsaan Malaysia Medical Centre (UKMMC), consisting of 514 patients diagnosed from 1 January 2010 to 31 December 2016. Demographic and air pollution risk data were prospectively collected using face-to-face interviews and telephone calls. Outdoor annual particulate matter PM 2.5 concentrations were derived using monitoring data for the past 10 years from the Department of Environment. Unconditional logistic regression models were used to calculate odds ratios (ORs) and 95 % confidence intervals after adjusting for age, education, annual income, and smoking.

Results:
Sixty-seven percent of the subjects diagnosed with lung cancers were the adenocarcinoma histology subtype. The likelihood for lung adenocarcinoma for subjects exposed to outdoor air pollution PM2.5 levels was twice as high as compared to other type of lung cancers; OR 2.24 (95%CI 0.37-13.4)($p=0.03$). Occupation and mode of transportations associated with more than 4 hours outdoor exposure are also associated with increased risk for lung adenocarcinoma as well (OR 2.12 (95%CI 0.52-9.2)($p=0.02$). Lung adenocarcinoma risk increased for ethnic and gender factors as well (Chinese; OR 4.12 (95%CI 0.12-19.4)($p<0.01$) and females;OR 1.89 (95%CI 0.14-3.4)($p=0.05$). There were no differences in the odd ratios for age, smoking and level of education.

Conclusion:
Outdoor air pollution and length of exposure to outdoor air pollution play an important role in the development of lung adenocarcinoma which is increasing in prevalence.

PP8

ANNUAL SOUTHEAST ASIAN HAZE AFFECTS LUNG CANCER DIAGNOSIS AND SURVIVAL

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Introduction:
Lung cancer remains the most common cause of cancer death in Malaysia. The Southeast Asia haze is an annual geopolitical problem with limited reports examining the direct impact of the haze in Southeast Asia on clinical health.We aim to examine the impact of the annual Southeast Asia haze on lung cancer presentation and survival.

Methods:
Our study population included all lung cancer cases diagnosed in UniversitiKebangsaan Malaysia Medical Centre (UKMMC) from 1st January 2010 to 31th October 2015. Data were collected retrospectively from chart reviews and the hospital's electronic database.Seven haze periods from 2010-2015 have been formally dated by the Department of Environment (DOE) using the definition of weather phenomenon leading to atmospheric visibility of less than 10 kilometres.

Results:
A total of 493 subjects were diagnosed with lung cancer in UKMMC during the study period.Incidence rates per week were significantly different between the two groups with an excess diagnosis of 4.5 cases per week during the haze compared to 1.8 cases per week during the non-haze period ($p<0.01$).The median survival time for the total population was 7.3 months. However, median survival for subjects presenting during the haze was 5.2 months compared to 8.1 months for the non-haze period ($p<0.05$). The 6-month survival rate was 47.1% with a significantly decreased overall survival for subjects presenting during the haze compared to the non-haze period (39.1% versus 57.4%)($p<0.05$). The 1-year survival rate for the total population was 34.1% however, diagnosis during haze compared to non-haze period were not significantly different (32.1% versus 35.5%)($p>0.05$).

Conclusions:
This study suggests that the regional Southeast Asia haze is another important geopolitical and modifiable determinant of survival in lung cancer.

PP9

SLEEP DISORDERED BREATHING IN OVERWEIGHT AND OBESE CHILDREN REFERRED TO HOSPITAL PULAU PINANG

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Introduction:
Sleep disordered breathing (SDB) covered a spectrum of presentations from primary snoring, upper airway resistance syndrome, obstructive hypopnea syndrome and obstructive sleep apnea syndrome (OSAS) which are associated with many complications. SDB among children results from adenotonsillar hypertrophy, obesity, neuromuscular diseases or craniofacial abnormalities.

Objectives:
To analyse SDB among overweight and obese children and its management and outcome.

Methods:
1. A retrospective analysis of polysomnography (PSG) results of children referred to Hospital Pulau Pinang (HPP) from 1st January 2015 to 31st December 2015.
2. The clinic files of the overweight and obese children who undergone PSG were retrieved and reviewed.

Results:
A total of 153 PSG had been performed for 144 children [97 males (67.4%), 47 females (32.6%)] aged ranging from 1.08 to 18.4 years old (mean 8.7 years old). Based on CDC 2000 Body Mass Index chart, our study population were categorised into obese and overweight in 79 (54.9%), normal in 36 (25%) and underweight in 29 children (20.1%). Among these 79 obese and overweight children, there were 53 males (67%) and 26 females (33%) giving a M: F ratio of 2:1. Majority of them (68/79, 86%) had moderate to severe OSAS which need intervention. There were only 60 out of 79 records available for analysis (75.95%). Common presentations were snoring which account for 91.5% of cases, followed by restlessness (59.5%), nocturnal enuresis (52.9%), tiredness (35%), apnoea (34%), hypersomnolence (31%) and hyperactive (5%). Tonsillar hypertrophies were seen among 46 (76.7%) children whereby 21 (45.6%) had undergone adenotonsillectomy and 6 (13%) were planned for surgical resection. The remaining 19 patients (31.6%) were subjected to non-invasive ventilation (NIV). Another 13 children (21.7%) had moderate to severe residual OSAS with AHI ranging from 6-49 except for one child who had mild residual OSAS (undergone repeat polysomnography post adenotonsillectomy) which required ongoing weight reduction and NIV.

Conclusion:
Most of obese children who snore will have moderate to severe OSAS regardless of other symptoms and those with severe OSAS, the majority will still have residual OSAS which need further intervention like the use of nocturnal CPAP or BiPAP on top of ongoing weight reduction programme.

PP10

A CASE SERIES ON THE DIAGNOSTICS AND MANAGEMENT OF TRACHEOBRONCHIAL ANOMALIES IN CHILDREN

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Introduction:
Tracheobronchial anomalies (TBA) in children are rare and present in varied ways. Large discordance exists between the referral and final diagnoses thereby raising challenging management issues. The aim of this case series is to identify characteristics of TBA and describe the outcomes of these children.

Methods:
We conducted a retrospective chart review of patients who underwent flexible bronchoscopy for clinical suspicion of TBA at University Malaya Medical Centre from January 2014 to April 2017. Twenty-seven children were identified and clinical and demographic data were obtained from the electronic medical records.

Results:
The majority were Malay (78%) and the gender distribution was equal. Eight children had underlying syndromes. The median age was 9 (IQR: 4 to 20) months and symptoms at presentation included failure to thrive (48%), stridor (44%), wet cough (26%), wheeze (19%), recurrent lower respiratory tract infection (19%), cyanosis (11%), failed extubation (7%) and acute life-threatening episode (4%). Fifteen (56%) children had congenital lesions and most children with acquired lesions (67%) had a post-infectious cause.

Final diagnoses for TBA in our study included tracheomalacia (n=17), bronchomalacia (n=4), tracheal stenosis (n=3), subglottic stenosis (n=2) and carcinoid endobronchial tumour (n=1). All diagnoses were made by bronchoscopy and 10 children had radiological confirmation. Ten children underwent surgery; tracheostomy (n=4), tracheoplasty (n=2), tumour resection (n=1), corrective vascular surgery (n=1) and surgery for subglottic stenosis (n=2). The median length of hospital stay was 25 (IQR: 9 to 40) days. All children were discharged home well and 6 needed non-invasive ventilatory support. Only one child succumbed 12-months after discharge.

Conclusion:
There should be a high index of suspicion for TBA in infants who present in the early months of life with failure to thrive, noisy breathing and a wet cough. Bronchoscopy is essential for diagnosis and management includes surgery and non-invasive ventilation.

PP11

ASSESSMENT OF ASTHMA CONTROL LEVEL (ASCORE) AT 2 TERTIARY CARE CENTERS IN MALAYSIA

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Introduction:
The prevalence of asthma in Malaysia is estimated to be 6.3% (more than 2 million patients), which imposes a significant burden on patients, their families, and the community. Despite the availability of Global Initiative for Asthma (GINA) guideline on asthma management, which is widely referred by healthcare providers in Malaysia, the control of asthma is still a critical challenge.

Objective:
To assess the level of GINA-defined asthma control and the potential risk factors for uncontrolled disease in patients with asthma, in real-life clinical practice in Malaysia.

Methods:
This was a retrospective, observational study involving outpatients with GINA-defined clinical diagnosis of asthma, seen and treated by physicians at the two tertiary care centers in Malaysia, from January to August 2016. Patient demographics, GINA-defined levels of asthma control, Asthma Control Test (ACT) scores, and medications for preventive therapy were documented.

Results:
Of the 398 patients, only 46.7% of the patients had GINA-defined well-controlled asthma, while 38.7% and 14.1% patients had partially controlled and uncontrolled asthma, respectively. Cough (79.9%) was the most commonly reported symptom. Based on ACT scoring criteria, more than half of the patients (63.8%) were categorized to have well-controlled asthma, while 14.8% of patients had very poorly controlled asthma. Inhaled corticosteroids (ICS) (94%) and short-acting β-agonist (93.7%) were the most frequently used treatment for asthma control. Allergen exposure (33.2%), uncontrolled asthma symptoms (24.9%), poor adherence (19.3%), low FEV_1 (<60% predicted) (13.6%), and incorrect inhaler technique (11.1%) were some of the risk factors for poor asthma control as assessed by physicians

Conclusion:
The majority of the patients did not have GINA-defined controlled asthma. Furthermore, there is a need to change patients' perception that SABA usage helps in keeping their asthma under control as suggested by the findings.

PP12

ANTI IgE MONOCLONAL ANTIBODY (OMALIZUMAB) IN SEVERE ALLERGIC ASTHMA IN CHILDREN: CASE SERIES

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Severe asthma is a very significant morbidity and high risk of asthma mortality. Most of the asthma are atopic in nature, with trigger for acute exacerbation and chronic worsening of inflammation is allergens inducing, IgE mediated response. The GINA guidelines define severe asthma as those who requires step 4 / step 5 treatment to maintain symptom control or asthma that remains uncontrolled despite this treatment.

An Anti-IgE monoclonal antibody, Omalizumab is recommended as one of the option for an add on therapy in step 5 Malaysian Clinical Practice Guidelines (2014). We presented three cases in our center who were treated with Omalizumab. All of the cases have severe uncontrolled asthma symptoms with high IgE level. All of them also have allergic rhinitis. Prior to start Omalizumab all of them are in step 4 treatment, which is still poorly controlled. Two of them showed improvement with treatment and one have developed side effect.

We should aware even though Omalizumab is one of drug of choice in treating severe allergic asthma, but it is not without the side effects.

PP13

PREDICTORS FOR MODERATE TO SEVERE SLEEP APNEA IN THE MOST OBESE COUNTRY IN ASIA: A SINGLE CENTRE STUDY

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Introduction:
Laboratory polysomnography (PSG) is recommended for patients suspected of moderate to severe obstructive sleep apnea (OSA). However, PSG utilization is limited in developing countries due to high cost, difficult access, labour intensity and long waiting times.

Objective:
The study aimed to identify predictors for moderate to severe OSA.

Methods:
We conducted a retrospective study among patients who underwent laboratory PSG in Sarawak General Hospital from 1 January 2015 to 31 December 2016. Baseline data was compared between patients with moderate to severe OSA, and patients with no or mild OSA (control).

Result:
A total of 159 subjects were recruited, with 126 patients with moderate to severe OSA and 33 patients in the control group. The mean age, gender, neck circumference, Epworth Sleepiness Score, hypertension, dyslipidemia and smoking status of the two groups were statistically not significantly different. Mean BMI ($39.62 kg/m^2$ vs $32.62 kg/m^2$, $p<0.001$), body weight (100.39kg vs 81.43kg, $p<0.001$), and incidence of diabetes mellitus (65.1% vs 36.0%, $p=0.008$) were significantly higher in patients with moderate to severe OSA. Baseline oxygen saturation was significantly lower in patients with moderate to severe OSA (94.8% vs 97.2%, $p<0.001$). However, multivariate logistic regression showed that BMI$\geq 40 kg/m^2$ was the only independent predictor for moderate to severe OSA (adjusted Odds Ratio 12.156, $p=0.045$, 95%CI 1.061, 139.291).

The ROC curve for BMI to predict moderate to severe OSA has an AUC of 0.698 ($p<0.001$, 95%CI 0.602, 0.794). BMI≥40kg/m^2 has a specificity of 87.9%, PPV of 93.1%, sensitivity of 44.3% and NPV of 29.9% in predicting moderate to severe OSA.

Conclusion:
Among patients suspected of OSA, BMI≥40kg/m^2 is good predictor for moderate to severe OSA. This group of patients could be prioritized for earlier laboratory PSG, for timely diagnosis and treatment.

PP14

CASE SERIES OF TRACHEOBRONCHOMALACIA IN POST CARDIAC SURGERY CHILDREN: SERDANG HOSPITAL'S EXPERIENCE.

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Background:
Tracheobronchomalacia in congenital heart disease is closely interrelated with significant morbidity and mortality but little is known about how best to manage these conditions or determine their prognosis.

Objective:
To describe our experience in managing children with tracheobroncomalacia post cardiac surgery and their outcomes and treatment modalities.

Methods:
Patients with tracheobronchomalacia post cardiac surgery in Paediatric Unit, Hospital Serdang were identified between January 2013 till May 2017.They were diagnosed via bronchoscopy either pre or post-operatively whom we manage with invasive and non-invasive ventilation. Outcomes including intensive care duration, recurrent lung infections, growth and weaning from the support were reported.

Results:
The study comprised of six boys and seven girls (n=12); age ranging 3- 12 months, median age 6 months. 84% were term and 16% were preterm with 46 % were children with Down syndrome. The heart lesions were (n=4) in both AVSD and PDA, TGA (n=2), TOF (n=1), VSD (n=1), PAPVD (n=1).The common airway abnormality were LB (n = 5), followed by BM (n = 4), RM (n=3) and LTBM (n=1). Three (n=3) patient discharged with trache bipap and (n=10) with home cpap. One patient was off the trache bipap and 5 patients off the cpap. Outcome measured were recurrent infections (n=1) with icu stay was ranging from between 30- 120 days with mean stay was 47.5 days and median was 60days. All the patient's thriving according to standard WHO growth chart. Two (n=2) patients defaulted and one (n=1) patient deceased after the cardiac surgery due to sepsis.

Conclusion:
This case series showed that malacic airway is closely interrelated with post cardiac surgery patient.The outcome varies depending on their cardiac lesion and severity of the airway lesion. From our case series we concluded that both syndromic and non syndromic shows good outcome if intervene early with right modalities of treatment.

PP15

SLEEP RELATED DISORDERS IN CHILDREN WITH CHRONIC ILLNESS AND DISABILITIES.

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Background:
Sleep problems occur in 25-40% of healthy children but little is known about sleep-related disordered breathing (SRDB) in children with chronic illness and disability. The aim of this study is to assess the presence of SRDB amongst Malaysian children with chronic illness and disability.

Methods:
A cross-sectional study was performed from 1st January 2015 till 1st March 2015 at University Malaya Medical Centre (UMMC) and WQ Park Health and Rehabilitation Centre. Eighty-three children with chronic illnesses and disabilities [CID] (62.9%) and forty-nine typically developed [TD] children (37.1%) aged matched 2-18 years were recruited. A questionnaire investigating SRDB (sleep disordered breathing (SDB), restless legs syndrome (RLS), insomnia, parasomnias, and excessive daytime sleepiness (EDS)) was performed.

Results:
The patients mean ages were similar. Children with chronic illness had an increased SDB score compared to typically developed children, p=0.1. The composite insomnia (INS) scores were significantly higher amongst children with chronic illness (p=0.003). Children with chronic illness also had an OR of 4.1(1.13-14.67) for restless leg syndrome (p=0.02). There was also an increased evidence of parasomnias such as bruxism, sleep talking and sleep walking in our chronic illness and disabled children.

Conclusion:
Survey-reported symptoms of insomnia, restless leg and parasomnias were significantly higher than that reported in the general pediatric population. These symptoms may contribute to the overall well being of the children with chronic illness and disabilities. These findings suggests that more research is needed to clarify the relationship between sleep related disorders and children with chronic illness and disability.

PP16

PATERNAL VERSUS MATERNAL COPING STRATEGIES IN CHILDREN WITH LONG-TERM ILLNESS AND DISABILITIES

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Background:

Caring for children with chronic illness can result in challenges above usual parenting because of illness-specific demands. Aim of this study was to assess coping strategies of mothers and fathers of children with chronic illness.

Methods:

Seventy-four mothers and forty-nine fathers of children with chronic illness from University Malaya Medical Centre (UMMC) as well as WQPark Rehabilitation Centre participated in the study. The Reaction to Diagnosis Interview (RDI), the Paediatric Quality of Life™ (PedsQL™) Family Impact Module as well as the Depression Anxiety Stress Scale (DASS) was administered to both parents at the same setting. From the PedsQL™ Family Impact Module, the scores of each dimension were further calculated into three total scores which were the Total Impact Score (36 items), the parent Health Related Quality of Life (HRQOL) Summary Score (20 items) and the Family Functioning Summary Score (8 items).

Results:

Most parents had a minimum secondary education, were financially stable and married. Almost all parents had only one child with long-term illness. There were no significant differences between the mothers and fathers with respect to the demographic data. Both mothers and fathers scored the highest in the stress domain with a mean of 9.51 ±7.95 and 10.63 ±8.69 (p=0.48) respectively for DASS. The mean Total Impact score were similar in mothers: 74.3 ±18.3 and fathers: 74.0 ±18.5 (p=0.93) and mean HRQOL summary scores in mothers: 75.0 ±17.9 and in fathers: 74.5 ±20.4 (p=0.89) respectively. The mean Family Functioning summary score was 78.3 ±22.0 and 79.7 ±21.0 (p=0.73) for mothers and fathers respectively.

Conclusion:

There were no gender differences seen in the coping strategies between parents with children with chronic illness. Our parents have adapted well to the stressful experience of looking after their child with chronic illness

PP17

LEVEL OF PARENTS' SUPERVISION ON THE USE OF DAILY PREVENTER MEDICATION IN CHILDREN WITH PERSISTENT ASTHMA AND THE ASSOCIATION WITH ASTHMA CONTROL

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Objectives:

To investigate the level of supervision of daily use of preventer medication in children with persistent asthma and its impact on asthma control.

Methods:

Cross sectional study in all children with asthma and requiring daily use of inhaled corticosteroids, attending the Paediatric Asthma clinic, UMMC. Level of supervision was reported as either always, sometimes or never supervised. Asthma control was assessed using the GINA guidelines.

Results:

Eighty-six patients with a median (range) age of 9.00 (5.00-12.25) years were interviewed, with a male predominance (M: F=55: 31). Only 24.4% (n=21) of mothers were home makers. Children were always supervised in 54.4% (N=43), sometimes in 27.8% (N=22) and not supervised in 30.4% (N=24.4). Median (range) age of children not supervised was 14 (10-22) years while median (range) age of children always supervised was 5(1-18) years old. Older age correlated significantly with lack of supervision ($r=0.69$, $p<0.001$). As for asthma control, 54.7% (N=47) of had well controlled asthma, 39.5% (N=34) had partly controlled asthma and only 5% (N=5.8) of them had poorly controlled asthma. Children who were supervised missed their medication on fewer occasions compared to those who were not ($r=0.24$, $p=0.024$). There was no significance difference between the level of parents' supervision and the asthma control ($p=0.442$, OR=1.42, 95% CI (0.54, 4.05).

Conclusion:

Only 50% of young children were supervised when taking their inhaled preventer medication. Older children were more likely to be not supervised and children not supervised were more likely to miss their medication. However, there was no significant association between level of supervision and asthma control.

PP18

THE QUALITY OF LIFE OF CARE GIVERS AND CHILDREN WITH HOME VENTILATION THERAPY IN THE DEPARTMENT OF PAEDIATRICS OF HOSPITAL MELAKA IN 2017

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With the advancement of technology in the field of paediatrics pulmonary, the life span of children with chronic respiratory illnesses have improved in recent years. In this study, we would like to assess the quality of life of home ventilated children and their caregivers with emphasis on their social and economic burdens. These families were enrolled from the Paediatrics Respiratory Clinic of Hospital Melaka from January to May 2017. Data were collected using the Pediatric Quality of Life Inventory™ (PedsQL™) questionnaire. This study concludes that the quality of life of children and their caregivers remains good though there are much socioeconomic burdens and, till a certain extent, emotional strains in caring for them. The bulk of the burden lies in cost of medical supply, especially, with a limited financial income. In conclusion, the socioeconomic aspect and psychological impact should also be addressed in the care of these children to ensure a more holistic and multidisciplinary approach.

PP19

A RETROSPECTIVE OBSERVATIONAL STUDY ON RISK FACTORS FOR SEVERE COMMUNITY-ACQUIRED PNEUMONIA REQUIRING VENTILATION AMONG HOSPITALISED PAEDIATRIC PATIENT AGED 1 MONTH TO 12 YEARS OLD IN HOSPITAL SEBERANG JAYA FROM JANUARY 2014 TO DECEMBER 2014

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Pneumonia is one of the leading causes of mortality among under five children in most developing countries. In Malaysia, the prevalence of pneumonia in children under five is between 28% and 39%. It is fifth highest cause of death in Malaysia children, contributing 4% of death under age of 5 years. Our study aimed to estimate demographic data of hospitalised patients with community acquired pneumonia and to identify the risk factors that associated with severe community acquired pneumonia required ventilation and therefore to risk stratified all patient and optimal the care and early management strategies, including transferring high risk patients to higher level of care or hospital setting with available intensive care unit. A retrospective study was carried out among all the patients who were admitted in the paediatric ward of Hospital Seberang Jaya diagnosed with community-acquired pneumonia from 1st January 2014 till 31st December 2014. Data were collected from medical records in the data collection sheet. Data are analysed using SPSS window version 22. A p value <0.05 was considered statistically significant. 242 patients were recruited into the study. There were 20 patients among these 242 patients (8.2%) required ventilation. Certain group of patients including history of low birth weight (p 0.000), prematurity (p 0.017), previous history of hospitalization (p 0.043) and pneumonia (p 0.026), previous history of ventilation (p 0.000) and underlying chronic lung disease (p 0.009) were significantly associated with severe pneumonia which required ventilation. Patient who had seizure episodes (p 0.048), lethargic (p 0.000), drowsiness upon admission (p 0.000), tachypneic with higher respiratory rate (p 0.000), chest wall indrawing (p 0.001) , grunting (p 0.000), presence of bronchial breathing (p 0.002) and lobar changes in cxray (p 0.000) and lower saturation under room air (p 0.000) were also significantly associated with poorer outcome.

PP20

WHICH IS THE MOST APPROPRIATE SPIROMETRY REFERENCE EQUATION? A COMPARISON BETWEEN FEV1 AND FVC SUM OF RESIDUALS FROM VARIOUS POPULATION REFERENCES

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Introduction:
Spirometry plays an integral role in assessment of various lung diseases. The percentage predicted values of FEV1 and FVC help guide management decisions.

Objectives:
We evaluated the sum of residuals (SR) between observed FVC and FEV1 and those computed from selected prediction equations, to derive the most appropriate population reference to utilize for our lab.

Methods:
Pneumotachograph spirometry was performed in 105 non-asthmatic, never-smoking hospital staff, aged 23-61years, meeting ATS quality criteria.

Results:
Knudson at Asian race adjustment of 0.94 gave average FVC SR -5.10%, and FEV1 SR of -3.8%, whereas at 0.88 adjustment, gave FVC SR 1.6% and FEV1 SR 2.9%. NHANES III population at 0.94 adjustment, gave FVC SR -12.9% with FEV1 SR -9.3%, while at 0.88 gave better FVC SR of -5.7% and FEV1 SR of -2.6% ($p<0.001$). Gnanou's Malaysian population underestimated our sample volumes, with large FVC SR 13.9% and FEV1 SR 9.3%. Chin's Singaporean data gave a good FVC SR 4.1% and FEV1 SR 2.0%.

Discussion:
From this small study, the Singaporean predictions, and Knudson at 0.88 race adjustment, gave SRs closest to zero. However, our limitation is that staff aged twenties to thirties were grossly over-represented, while ages past retirement were not captured, and the cohort effect of Knudson's outdated 1983 population may become evident in these older age groups. As Chin's population offered race-specific prediction equations for Chinese, Malays and Indians, it is unsurprising that it gave us good SRs.

Conclusion:
Inappropriate population references may result in misclassification of disease. Race-specific prediction equations are important in our multi-ethnic population. Larger local populations studies involving older age groups are sorely needed. When using Caucasian reference populations – which are more readily available in most spirometers, race adjustments of 0.88 rather than 0.94, brings our SRs closer to zero.

PP21

USAGE OF CONTINUOUS DIGITAL THORACIC SUCTION (CDTS) VS CONVENTIONAL THORACIC WALL SUCTION (CTWS) IN PATIENTS POST BULLECTOMY AND PLEURODESIS SURGERY: A RETROSPECTIVE STUDY

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Introduction:
This study was designed to compare retrospectively the CDTS against CTWS with primary endpoint of length of stay in hospital and number of chest x-rays being done for the patients.

Methods:
Retrospective study with data collection done from surgery census, digital thoracic suction record book and from the admissions records. Decision to put on CDTS or CTWS was done by a single thoracic surgeon. Sample size were all patients whom underwent VATS or thoracotomy, bullectomy and pleurodesis from 1st October 2016 till 30th April 2017.

Conclusion:
The patients CDTS had significantly shorter hospital stay and also required less chest x-rays prior to discharge. This reduces cost as well as morbidity for patients.

PP22

BRONCHIECTASIS PROFILING IN A TEACHING HOSPITAL IN MALAYSIA.

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Background:
The aetiologies and profile of bronchiectasis in Malaysia as a high-TB endemic area are unknown. We investigate the aetiologies and clinical characteristics of bronchiectasis attending the respiratory clinic in a large teaching hospital in Malaysia.

Methods:
This prospective study enrolled adult patients diagnosed with bronchiectasis as confirmed by high-resolution computed tomography (HRCT) at the National University of Malaysia Medical Centre (UKMMC) for a period of 6 months (November2016 to April 2017). Aetiologies of bronchiectasis were determined by clinical history and auxiliary examinations including serum immunoglobulin levels, total immunoglobulin E (IgE) and Aspergillus fumigatus specific IgG measurement). Spirometry, HRCT and microbiological profiling were also assessed.

Results:
We enrolled 115 patients (64.2 ±14.5 years, 72 females). Post-infectious (32.8%), post-tuberculosis (28.8%), idiopathic (25.8%) and immunodeficiency (3.2%) were the most common aetiologies. Only 4.8% were smokers. The right lower lobe is the most commonly involved site (48.8%), followed by the left upper lobe (40.0%), right upper lobe (36.0%), right middle lobe (36.8%) and left lower lobe (34.4%). The mean FEV1/FVC ratio is 0.77±0.14, with FEV/FVC ratio <0.7 in 19.7% of patients. The microbiologic profiling revealed no growth in 15.4%, *Candida sp.* In 20.4%, *Pseudomonas sp.* (3.2%), *Haemophilus influenza* (1.6%), *Staphyloccus aureus* (1.6%), *Streptococcus pneumonia* (1.6%) and *Klebsiella pneumonia* (3.2%). Sixty-seven percent of patients reported exacerbations over the past 12 months with a mean rate of 4.65±3.43 per year.

Conclusions:
Post-infectious, post-tuberculosis and idiopathic constitute the majority of the aetiologies of bronchiectasis. The prevalence of *Pseudomonas* in sputum as a severity marker for the disease is 3.2%. The mean rate of exacerbations per year was high indicating high burden of disease for the healthcare system.

Reference

Gao TH et al. Aetiology of bronchiectasis in adults. A systematic literature review. Respirology. 2016 Nov 2; 21(8):1376-1383

PP23

PLEURAL FLUID LACTATE LEVEL IN TUBERCULOUS PLEURAL EFFUSION AND THE RELATIONSHIP TO PARAPNEUMONIC PLEURAL EFFUSION IN HIGH TUBERCULOSIS SETTING – A PROSPECTIVE OBSERVATIONAL STUDY

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Background:
Tuberculous pleural effusion (TBE) and parapneumonic effusion (PPE) can present acutely. This leads to difficulty in initial management, as drainage remains the key of PPE management while TBE commonly requires pleural biopsy. Pleural fluid lactate is higher in PPE, but data in TBE is limited. We postulate that pleural fluid lactate will be lower in TBE as delayed hypersensitivity is the pathogenesis while PPE is secondary to pleural infection. Aim to evaluate pleural fluid lactate in TBE and its relationship to PPE, complicated (CPPE) and uncomplicated (UPPE) PPE; define an optimal lactate level to discriminate TBE from CPPE, to aid clinician in biopsy decision during initial management.

Methods:
Single institution study of all patients with pleural effusion that required diagnostic thoracocentesis over 18 month's duration.

Result:
180 patients were included with 47 (26.1%) PPE, 56 (31.1%) TBE, 66 (36.7%) malignant and 11 (6.1%) transudative pleural effusion. 50 (89.3%) TBE were diagnosed histologically. Pleural fluid lactate for PPE and CPPE is significantly higher than TBE (8.29mmol/l and 11.09mmol/l in PPE and CPPE vs. 3.89mmol/l in TBE, $p<0.001$). No difference between TBE and UPPE ($p=0.149$). In a subgroup analysis of CPPE and TBE whose pleural fluid pH was less than 7.2 and glucose of less than 2.6mmol/l, we found that pleural fluid lactate was significant higher in CPPE group ($p<0.001$). Pleural fluid lactate of more than 7.5mmol/l had a sensitivity of 79.3%, specificity of 100%, positive predictive value of 100% and negative predictive value of 90.3% in discriminating CPPE from TBE (AUC 0.942, $p<0.001$, 95% CI 0.89-0.99).

Conclusion:
When suspecting TBE and CPPE, pleural fluid lactate is significantly lower in TBE compared to CPPE, even if pleural pH and glucose is low. Pleural fluid lactate of more than 7.5mmol/l can potentially aid clinician in discriminating CPPE from TBE, avoiding biopsy in this group of patient.

PP24

LIQUID BIOPSY VERSUS TISSUE BIOPSY BIOMARKERS DETECTION FOR DIAGNOSIS IN NON-SMALL CELL LUNG CANCER

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Introduction:
Lung cancer is the leading cause of cancer-related death worldwide. Non-small cell lung cancer (NSCLC) is the prevalent subtype of lung cancer often diagnosed at the advanced stage. Molecular testing of EGFR in NSCLC patients requires invasive procedures to obtain tissue biopsies but insufficient samples, low rate tumor sample collection and limited repeat sampling is technically challenging.
In this light, circulating cell-free DNA (ccf-DNA) has become a target of interest. Changes in the level of ccf-DNA have been associated with tumour burden and progression. Since ccf-DNA in cancer patients often carries similar genetic alterations to the tumour, there is evidence that the ccf-DNA originates from the tumour.
The fact that ccf-DNA is easily obtainable from blood, ccf-DNA could serve as "liquid biopsy" which minimizes tumour tissue biopsies.

Objective:
We aim to evaluate the newly developed PANAMutyperTM EGFR genotyping test kit to assess its sensitivity, specificity, reproducibility and validity in NSCLC clinical sample

Methods:
Tissue biopsies are collected from NSCLC patients from the division of Respiratory Medicine, UMMC for routine EGFR mutation testing using Panagene PNAClampTM EGFR Mutation Kit; additionally and concurrently blood samples are also drawn for mutation studies using PANAMutyperTM EGFR test kit

Results:
A total of 30 patients with confirmed NSCLC was recruited.Overall a concordance between tissue and ccf-DNA was about 70%, with blood test sensitivity of 70% and specificity of 90% using the PANAMutyperTM EGFR test kit based on real-time PCR clamping

Conclusions:
The high specificity seen is promising; however, the low sensitivity suggests that tissue-based testing will remain the standard of care. However, there are scenarios when tissue testing is not plausible leaving plasma testing as the only choice

PP25

VIRUSES ISOLATED IN CHILDREN UNDER FIVE YEARS OF AGE WITH ACUTE RESPIRATORY INFECTION

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Introduction:
Acute respiratory infection (ARI) is a leading cause of morbidity and mortality in children below 5 years old. We aimed to determine the prevalence of viral pathogens in children under five presenting with ARI and to evaluate the association between types of infection and clinical disease severity.

Methods:
A cross-sectional study was conducted at the Paediatric Emergency Unit, University Malaya Medical Centre between December 2014 and March 2016. Clinical data was obtained and nasopharyngeal samples from consenting eligible patjents were analysed using a qualitative multiple PCR-based respiratory panel (xTAG RVP fast kit). Samples from hospitalised patients only were also sent for viral immunofluorescence and culture and bacterial culture. Disease severity was determined according to the Paediatric Respiratory Severity Score (PRESS).

Results:
Sixty-three children were recruited with a median age of 12 (IQR: 7-12) months. Viruses were detected in 93.7% of patients and included Human Rhinoviruses (hRV) 46%, Respiratory Syncytial Virus (RSV) 30.2% and Parainfluenza virus 11.1%. Viral Co-infections of RSV/hRV was the most common seen (45%). Children with RSV infection had an increased hospital admission rate and more severe PRESS score as compared to hRV. There was significantly higher mean PRESS score (4.19) in patients with bacterial and viral co-infection as compared to single viral infection or viral co-infection ($p < 0.001$). Co-infection of RSV and *Streptococcus pneumoniae* was associated with increased oxygen requirement and hospital stay.

Conclusions:
Single viral infection with RSV and RSV/ *Streptococcus pneumoniae* co-infection had more severe clinical presentation. The PRESS scoring system is a useful clinical tool to determine disease severity in patients with ARI.

PP26

HYPERSENSITIVITY PNEUMONITIS CASE SERIES

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Introduction:
Hypersensitivity pneumonitis is a granulomatous, inflammatory disease of lungs caused by inhalation of antigenic organic particles or fumes. Diagnosis can be challenging between imaging and pathological features of usual interstitial pneumonia/fibrotic non-specific interstitial pneumonia.

Methods:
A retrospective study on 10 cases diagnosed with hypersensitivity pneumonitis December 2016 to April 2017. The aim is to look at the means of diagnosis and the treatment.

Findings:
10 cases of hypersensitivity pneumonitis consist of 4-male and 7 female patients with a mean age of 53.8 years diagnosed in our institution. There were 5 Malay, 1 Chinese and 4 Indian patients. From the history taking, almost all patients had a history of exposure; 5 to birds and chicken, 4 to possible mold/fungal and 1 to talc powder (exposure at workplace). All cases had moderate to severe reduction in diffusion capacity in carbon monoxide (DLco) with average of 40%. The high resolution computed tomography (HRCT) changes revealed 1 case with subacute hypersensitivity pneumonitis, the rest with indefinite usual interstitial pneumonia and mosaic attenuation. Only 2 cases underwent biopsy which histologically showed multinucleated giant cells and granuloma that consistent with hypersensitivity pneumonitis. All cases received steroid treatment and 2 had steroid sparing agents (Azathioprine).

Conclusion:
A thorough history taking on environment and occupation is crucial to identify the possible exposure and specific changes on HRCT in-order to establish the diagnosis of hypersensitivity pneumonitis. A lung biopsy may be helpful in making diagnosis especially when the case is in doubt or non-steroid responder. Another additional test that might be useful will be serum precipitants and bronchial alveolar lavage which demonstrating the predominant lymphocytosis.

PP27

SARCOIDOSIS CASE SERIES: SINGLE CENTER EXPERIENCE

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Introduction:
Sarcoidosis is a chronic inflammatory granulomatous disease that primarily affects the lungs, although multi-organ involvement is common. Once thought to be rare especially in our country. It can affect people of any age, race, or gender; however, the prevalence is highest among adults between the ages of 20 and 40 and in African Americans and people of the West.

Methods:
The data of sarcoidosis patient, who followed-up between June 2011 and December 2016, were retrospectively reviewed. The aim is to look at the demographic data and the treatment received.

Findings:
10 cases of sarcoidosis, all were biopsy proven consist of 4-male and 6 female patients with a mean age of 44.9 years. There were 2 Malay, 7 Indian patients and 1 Nigerian. About 4 patients with solely pulmonary sarcoidosis (Stage 2) and the rest with extra-pulmonary involvement. Extra-pulmonary manifestations which includes; 4 with cutaneous involvement, 1 with hepatosplenomegaly and 1 with cardiac involvement. A routine check on serum and urine calcium noted 1 patient had hypercalcemia and 1 with hypercalciuria. Only 2 patients just received topical steroid treatment for cutaneous manifestation and they remained asymptomatic. The rest received oral steroid therapy. 3 patients with disease relapse/progression which were started on steroid sparing agent (2 with Methotrexate and 1 with Cyclosporin). 1 case had 4 pulmonary relapses, 1 case with cutaneous relapse and another case progressed with cardiac involvement.

Conclusion:
Sarcoidosis has various clinical manifestations. The diagnosis is made by a constellation of clinical, radiological, and histopathologic findings. The treatment of systemic corticosteroids is only meant for those who are symptomatic. The patients should be regularly monitor in-order to follow the course of disease. U Costable 1999

PP28

MULTIDRUG-RESISTANT TUBERCULOSIS TREATMENT OUTCOME: TERTIARY CENTER EXPERIENCE

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Introduction:
WHO reports increasing numbers of multidrug resistant tuberculosis (MDR-TB) cases worldwide over the years. These pose huge public health threats and major obstacles to the clinicians due to their complicated and long treatment duration with high mortality rate as compared to pan susceptible tuberculosis (TB).

Methods:
A retrospective study of MDRTB patients treated between January 2011 and December 2014. The aim is to study the demographic characteristic and describe the outcome of MDRTB treatment.

Results:
84 MDRTB cases were being diagnosed in the period of 4 years in our center. There were 36 patients cured/completed treatment, 8 passed away, 28 defaulted treatment and 12 patients were transferred out. Treatment success rate was 42.8%. Majority was male patient, 27 (61.4%) and foreigner (Myanmar majority) about 50%. Diabetic patient around 40.9% among treated MDR TB cases. Around 36.2% were active and former smoker. Primary MDR TB being diagnosed around 59.1%. All patients were started on conventional MDR TB regimen with injectable drug for period of 20 to 24 months. Side effects from treatment; hypothyroidism (25%) followed by neurological side effect mainly psychosis (15.9%) and others were renal failure, ototoxicity, rashes, joint pan and gynecomastia. Only 6 patients required change of regime due to side effects. We found significant correlation in advanced radiological changes ($p=0.012$) poor nutrition in term of low albumin ($p<=0.021$) and Malaysian citizen ($p=0.045$)

Conclusion:
Our result demonstrated that majority of MDRTB cases were primary and foreign borne patients. Advanced radiological findings, poor nutrition and Malaysian citizen were associated with poor outcome and there is trend noted in older age with poor outcome. G Gunther 2016

PP29

SMOKING AND BEHAVIOUR AMONG SECONDARY SCHOOL STUDENTS IN PENINSULAR MALAYSIA

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Introduction:
Smoking prevalence is high in Malaysia especially among male population and usually starts at teenagers' age. This study was done to assess smoking beliefs, knowledge, attitude and practices among secondary school students.

Methods:
This was a cross-sectional questionnaire based study conducted among 600 secondary school students from rural and urban areas in Johor, Melaka, Kedah, Selangor and Terengganu done by consecutive sampling in July 2016. The questionnaire consisted of four domains: demographic details, attitude, beliefs and knowledge about smoking. Data were collected and analysed using SPSS software version 23.

Results:
Majority of respondents were male (54.8%) and Malay (86.3%). 70.8% were never-smoker, 11.7% puffers, 9.1% experimenters, 7.7% current smokers and 0.7% former smokers. There were significantly higher proportion of ever-smoked males (50.2%) compared to females (3.7%), odds ratio of 26.3 (p-value < 0.001). There were no statistically significant difference of smokers between rural and urban area (p-value=0.653) and between races (p=0.616). Majority belief that smoking is disgusting (47.3%) and do not agree with the belief of smoking is a sign of modernity (73.2%), makes young people look mature (70.5%) or helps to control weight (69.2%). Assessing the social acceptability of smoking, majority do not think that smoking is acceptable for young men (63.8%) or young women (79.7%); associated with popularity (46.5%); and feels that society disapproves smoking (59%). Majority (>84%) had good knowledge on smoking. 28.8% of students had tried vaping. There was also a significant association between smoking and vaping (p<0.001). Majority disagree that vaping is better than smoking (68.7%), helps in smoking cessation (70%), acceptable for teenagers (78.5%) and less disgusting than smoking (60.8%).

Conclusion:
The smoking prevalence was low within secondary school students and majority were male students. This study demonstrated good knowledge, attitude and beliefs on smoking amongst secondary school students.

PP30

MEDICAL THORACOSCOPY VERSUS BLIND PLEURAL BIOPSY IN UNDIAGNOSED EXUDATIVE PLEURAL EFFUSIONS – SERIES OF 22 CASES

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Introduction:
Medical thoracoscopy (MT) has a great diagnostic yield, quoted to be 93.2% vs 84.5% with blind pleural biopsy (BPB) by Muturu et.al (2015). We aim to look at the outcome of MT versus BPB.

Methods:
This is a retrospective analysis of patients with pleural procedures for undiagnosed pleural effusions (UPE) done by single operator.

Results:
A total of 22 patients presented with UPE were studied (9 had BPB and 13 had MT). The mean age was 48.4 and 48.2 years old respectively. There were seven males and two females in the BPB group, nine males and four females in the MT group. Bedside ultrasound was used to guide the procedures. Majority of procedures were done for suspected pleural tuberculosis while the rest were done to rule out carcinoma. The diagnostic yield from BPB was 55.6% (one had unsatisfactory result due to presence of fat cells only and three had unremarkable results). The diagnostic yield of MT was higher, 76.9% (two patients had inconclusive findings due to crushed samples and one had unremarkable results). Pleural tuberculosis and carcinoma were diagnosed in three and two patients respectively through BPP. Pleural tuberculosis and carcinoma were diagnosed in eight and two patients respectively though MT. The macroscopic appearance from MT findings was generally nodular-looking pleura. There were no peri-procedural complications or mortality reported.

Conclusion:
MT is associated with higher diagnostic rates compared to BPB in investigating exudative effusions, hence should be the procedure of choice. However, in circumstances where MT is not feasible, BPB should still be performed prior to starting empirical treatment. These procedures are generally safe. The diagnostic yield can be further enhanced by the use of bedside ultrasound.

PP31

ASSESSMENT OF KNOWLEDGE AND ATTITUDE OF BRONCHIAL ASTHMA AMONG FINAL YEAR UNDERGRADUATE PHARMACY STUDENTS

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Introduction:

Asthma is a serious public health in Malaysia. Asthmatic patients need to proactively self-manage their condition with the support of healthcare providers. In a number of countries, including Malaysia, the community pharmacists are the last link in the asthma therapy chain and usually give information to the asthmatic patients about the use of asthma medications.

Objective:

The main objective of this study was to assess the knowledge of asthma and attitude of final year pharmacy students.

Methods:

This cross-sectional study recruited a total sample of 111 final year undergraduate pharmacy students from two private sector universities situated in Selangor state, Malaysia. After obtaining permission to use the questionnaire from the corresponding author, the data were collected on a self-administered questionnaire by using the convenience sampling method. The questionnaire composed of three sections. In first section, the participants' socio-demographic data were recorded; whereas, in section two and three the knowledge and attitude of asthma were assessed, respectively. The extracted data were analyzed using the Statistical Package for the Social Sciences (SPSS)®.

Results:

The questionnaire showed the good reliability values of 0.87 and 0.81 for knowledge and attitude of asthma, respectively. The mean (±SD) score of knowledge 16.49 (±2.28) and attitude 37.63 (±4.79) suggested that the enrolled students possessed moderate level of knowledge and good attitude of asthma. There was a weak statistically significant positive correlation between the overall knowledge and attitude score ($r=0.159$, $p=0.04$). The findings of Chi-Square test (χ^2) suggested no statistically significant association between the knowledge and attitude of asthma score and socio-demographic characteristics of the respondents.

Conclusion:

The enrolled students possessed moderate level of knowledge and good attitude of bronchial asthma. The future pharmacists' role in preparing written asthma action plans for patients, using software to monitor medication adherence and prescribe on-going medication can be optimized only by educating the pharmacy students.

PP32

RESPIRATORY OUTCOMES OF CHILDREN AND ADOLESCENTS WITH PERSISTENT SEVERE ALLERGIC ASTHMA TREATED WITH ANTI-IGE (OMALIZUMAB) THERAPY

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Introduction:
Severe asthma has many significant consequences with serious respiratory morbidity and increased healthcare expenditures. Omalizumab is an established anti-IgE therapy for add on treatment of persistent severe allergic asthma.

Objective:
To evaluate respiratory outcomes at 52 weeks of anti IgE treatment.

Methods:
A descriptive analysis of children and adolescents aged ≥6 to <18 years old with persistent severe allergic asthma, uncontrolled symptoms despite GINA step 5 (on add-on oral corticosteroid) were added Omalizumab 300mg-600 mg every 2-4 weekly from August 2012 until May 2017 at HRPZ 2, Kelantan. Data on asthma control (GINA classification), asthma control test (ACT), spirometry, severe asthma exacerbations and unscheduled healthcare utilization at 52 weeks of treatment were obtained.

Results:
Six patients with equal male to female ratio were analysed. The median age of starting Omalizumab was 11.06 years (IQR: 4.64) and the median duration of Omalizumab treatment was 2.34 years (IQR: 2.72). The mean total IgE level was 1,959.8 kU/L. Despite being treated with high-dose inhaled corticosteroids and long- acting b2-agonists, leukotriene modifiers and oral prednisolone, all patients experienced frequent symptoms and had exacerbations in the past year, and reduced FEV1. At 52 weeks of treatment, 83% of them have controlled asthma (GINA classification), asthma control test (ACT) becoming good control, and free from severe asthma exacerbations. 67% of them were able to cease oral steroids and 83% had normal FEV1 by 52 weeks. Significant reductions in unscheduled healthcare utilization compared to the one year prior to treatment were noted and there was no anaphylaxis.

Conclusion:
Omalizumab has been showed to improve asthma control, reduced exacerbation rates and unscheduled healthcare utilization, and improvement of FEV1. Omalizumab is effective as add-on therapy in the treatment of patients with persistent severe allergic asthma.

PP33

UNFORTUNATE CASES OF ATYPICAL MYCOBACTERIUM INFECTION IN DISTRICT HOSPITAL: A CASE SERIES

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A typical, or Non-Tuberculous Mycobacteria (NTM) are ubiquitous in the environment with large concentration in soil and water sources. Majority have doubtful clinical significance with not many studies done to date. We reported a case series of NTM pulmonary infection among healthcare providers detected during contact-tracing exercise of a confirmed tuberculosis (TB) patient. The first case was a healthy 25-year-old pharmacist with no reported symptom. She was found to have strong positive acid fast bacilli (AFB) smear. Other investigations were negative, including skin tuberculin test and chest radiography. The sputum culture grew Runyon Group IV M. fortuitum chelonei. She tolerated anti-TB medication and completed it after 6 months.

The second case was a 46 years old assistant pharmacist at the same healthcare centre with known type 2 diabetes and hypertension, as well as bronchial asthma on regular inhaled corticosteroid. She reported no constitutional symptoms, but had prolonged, non-productive cough for a year. As her sputum AFB smear showed scanty organism, anti-TB treatment was started based on suspicious symptom, and by radiographic changes at right upper and lower lobes. Her cough subsided, which was also attributed to poor asthmatic control. Sputum culture later grew Runyon Group IV not M. fortuitum chelonei complex. NTM constitutes about 11% of mycobacterium isolated in Malaysia, majority (83%) are rapid growers Runyon IV (YF Ngeow 2015). Cross-reactivity has never been reported (SH Park 2008). While NTM are low grade pathogens and person-to-person transmission is very unusual (D Griffith 2007), this case series would be the first to report cross-reaction among immunocompetent healthcare workers. It illustrates a high possibility of an air-borne transmission. Although data for NTM treatment are still lacking, current consensus is by clinical progress and negative sample collection, and not requires the standard 6-month therapy.

PP34

FACTORS ASSOCIATED WITH DYSGLYCEMIA IN COPD PATIENTS WITH AND WITHOUT EXACERBATIONS

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Diabetes mellitus (DM) and pre-diabetes are common comorbid of COPD. Data comparing COPD exacerbation with incidence of dysglycemia is scarce. Hence, we aim to identify any association between them. Patients with established COPD above the age of 30 (n=186) attending Universiti Teknologi MARA Respiratory clinic were recruited in a cross-sectional study. Those on long-term corticosteroid therapy, active malignancy or in peripartum periods were excluded. They were divided into those with or without hospital admission for exacerbation in the past year. All participants had glycated hemoglobin level assessment, and patients with no prior DM underwent oral glucose tolerance test (OGTT). We found 76 patients (40.9%) had history of admission for COPD exacerbation, 27 (35.5%) of them were known DM. Among stable COPD patients, 29 (26.4%) were known diabetics. Mean age was 67.85±9.08 years, mean body mass index of 25.17±6.08 kg/m^2, and majority was male (95.2%). Baseline HbA1c in the exacerbation group was higher at 6.51±1.48mmol/l compared to 6.22±1.01mmol/l in the stable group (p=0.135). Among patients subjected to OGTT (n=130), mean fasting blood glucose was 5.43±1.05mmol/l with no difference between groups. 2-hour post prandial (PP) level was higher in the exacerbation group at 7.91±3.79 mmol/l compared to 7.35±2.82 mmol/l in the stable group (p=0.333). The incidence of new dysglycemia was 40.8 %(n=20) and 34.6 %(n=28) respectively (p=0.574). Cumulative days of admission ≥6 days/year (OR 4.76, CI 1.47-15.45) and weight ≥65 kg (OR 4.17, CI 1.39-12.50) identified as predictors for dysglycemia in COPD. We conclude that those with dysglycemia had more frequent admission (0.78±1.01 vs. 0.49±0.74 time/year, p=0.032) and stayed longer – 8 days versus 5 days in the stable group (p=0.019). Recent exacerbation of COPD may have a negative effect on glycemia with higher trends of HbA1c, 2-hour PP and percentages of newly diagnosed dysglycemia. Higher-powered future studies with bigger samples are proposed.

PP35

PREVALENCE OF UNDIAGNOSED DIABETES MELLITUS AND PRE-DIABETES IN PATIENTS WITH COPD

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Dysglycemia, consisting of diabetes mellitus (DM) and pre-diabetes conditions - impaired glucose tolerance and impaired fasting glucose - have high prevalence in COPD population. However, no data yet that looked at undiagnosed dysglycemia among our local cases. We set to determine the glycemic status among established COPD with unknown DM and performed cross-sectional study involving COPD patients aged 30 years and above (n=130) attending Universiti Teknologi MARA Respiratory clinic. Those with known DM, on long-term corticosteroid therapy, recent acute exacerbation of less than 6 weeks or active malignancy were excluded. Subjects underwent oral glucose tolerance test (OGTT) and glycated hemoglobin (HbA1c) assessment, and diagnoses were made according to the latest 2015 Malaysian Clinical Practice Guidelines. The mean age was 66.96±9.13 years, mean body mass index 23.89±5.57 kg/m^2 and majority were male (96.3%). Median duration of diagnosis of COPD was 3 years and majority (72.3%) belonged to COPD GOLD C and D stages, with mean predicted FEV1of 51.0±20.9%. Sixteen (12.3%) had newly diagnosed type 2 DM and thirty-two (24.6%) were newly pre-diabetics, making the overall proportion of undiagnosed dysglycemia at 36.9%. Mean fasting blood glucose (FBG) and 2-hour post prandial (PP) level among newly diagnosed dysglycemia were 5.96±1.50 mmol/l and 10.64±3.30 mmol/l respectively. Their mean HbA1c was 6.36±1.11% against 5.66±0.43% in normoglycemics (p=<0.001). Our study demonstrates a high prevalence of undiagnosed DM and pre-diabetes among COPD patients. Concurring with previous studies done abroad, our significantly higher findings correlate with the high incidence of DM in general population of Malaysia at 17.5% (NHMS 2015). 2-hour PP is more effective in diagnosing dysglycemia compared to FBG level. It is therefore important to emphasize on optimal control of COPD, and to screen COPD patients for dysglycemia especially those with unsatisfactory control.

PP36

THE UTILITY OF PLEUROSCOPY IN DIAGNOSING TUBERCULOSIS AND LUNG CANCER: A MALAYSIAN TERTIARY HOSPITAL'S EXPERIENCE

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Introduction:
Pleuroscopy has received renewed interest from Malaysian pulmonologist in the recent past. However, data regarding the diagnostic yield, sensitivity and specificity of pleuroscopic findings in Malaysian population are still scarce especially in diagnosing Tuberculosis (TB) and lung cancer

Objective:
The aim of this study was to explore the validity of pleuroscopy in assisting the diagnosis of TB and Lung cancer, and to determine the specificity, sensitivity, positive predictive value and negative predictive value of pleuroscopic findings and biopsies in a Malaysian Tertiary Hospital setting.

Methods:
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. The diagnoses were: Lung cancer (n=56), tuberculosis (n=67), empyema (n=7), parapneumonic effusion (n=1), normal pleura (n=3), abandoned procedures (n=9). The pleuroscopic diagnostic yield was 96.5%. The pleuroscopic findings were mainly described as multi loculated effusion with adhesion (n=30), 'sago'-seed (n=23), pleural mass (n=5), multiple pleural nodules (n=63), diseased pleura (n=8) and normal pleura (n=5). Pleuroscopic findings of 'Sago-seed' appearance and multiloculated effusion are highly specific for diagnosis of TB (97.2% and 94.2%), while pleural nodules and peural mass are highly specific for malignancy (79.5% and 98.9%). However, they were not sensitive.

Conclusion:
Pleuroscopy is a valid and valuable tool in the diagnosis of Tuberculosis and lung cancer. However, further and larger studies are needed to verify the validity, sensitivity and specificity of pleuroscopic findings, hence they may be incorporated as part of the prediction model or diagnostic criteria for TB and lung cancer.

PP37

HYPERSENSITIVITY PNEUMONITIS – A CASE SERIES

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Chronic hypersensitivity pneumonitis (HP) is caused by repetitive inhalation of antigenic antigens. We report four cases of chronic HP.

Case 1: 50-year-old lady had progressive breathlessness with cough for 4 months and significant exposure to mercury and acids. Examination revealed bibasal fine crepitations. CT Thorax showed features of NSIP. BAL cytology showed mixed inflammatory cells with increased eosinophils. Lung biopsy showed mixed histological pattern of NSIP. She improved clinically once started on oral and inhaled corticosteroids with azathioprine.

Case 2: 58-year-old man with asthma presented with cough for 3 years and significant exposure to carbon, fiberglass, glue and paint thinner. Examination revealed fine left basal crepitations. HRCT showed features of possible UIP or NSIP fibrotic type pattern. Lung biopsy showed mixed histological pattern of NSIP with non caseating granuloma. Plethysmography showed air-trapping. Symptoms resolved after starting on inhaled LABA/ICS only.

Case 3: 70-year-old lady diabetic presented with cough for 6 months with significant exposure to detergents. Examination revealed finger clubbing and bilateral lower zone fine crepitations. CT Thorax was suggestive of chronic HP and plethysmography confirmed restrictive lung disease. She improved on oral prednisolone and azathioprine.

Case 4: 44-year-old man with underlying CTEPH presented with breathlessness for 6 months and significant chlorine exposure. He was hypoxic and had fine bibasal crepitations. HRCT Thorax was suggestive of chronic HP and he was started on LTOT and oral prednisolone but only responded well initially but became resistant after.

These highlights that diagnosis of chronic HP requires thorough history, CT imaging with or without lung biopsy. Patients with chronic HP often responds to steroids (case 1 and 3) but can be resistant (case 4) or has some other diagnosis causing their symptoms (case 2).

PP38

THE QUALITY OF LIVE OF PARENTS CARING FOR CHILDREN ON ASSISTED VENTILATION.

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Introduction:

Increasing numbers of children are discharged on home ventilation (HV). Hhowever little is known about the quality of life and social burden of the caregivers. The aim of this study is to explore the emotional impact onf parents caring for children on HV.

Methods:

We studied 18 parents enrolled in the paediatric home ventilation service at University Malaya Medical Centre prior to discharge with regards to their emotional states of caring for a child requiring HV. HV includes children on home oxygen and/or noninvasive ventilation. We recorded the demographic information and measured the severity of symptoms such as depression, anxiety and stress using a standardised DASS-21 questionnaire before and 3-6 months after initiation of HV. Quality of life of the caregiver using the PedsQOL questionnaire was performed at follow-up.

Results:

Most were Malay (72%) and the mothers answered all of the questionnaires. The mean (SD) age of initiating HV was 15.4 (± 35.4) months, total income was RM5767 (± 3336) and expenditure was RM 836 (± 504.90). Most mothers suffered mild-tomoderate anxiety and mild stress however no differences in the mean (SD) scores for DASS-Depression (p=0.38), DASS-Anxiety (p=0.26) and DASS-Stress (p=0.47) were noted before and after HV initiation. Most mothers (83%) did not have difficulties in caring towards for their child's needs.

Conclusion:

Home ventilation of complex children places significant strain on the primary caregiver. The initial transfer home was highlighted as the most stressful part of the process but upon recognising the needs of their children, the parents were more accepting and coped better. Specific attention to the physical and mental health of the caregivers should be an integral part in the management of home-ventilated children.

PP39

POLYSOMNOGRAPHY STUDIES AMONG PAEDIATRIC PATIENTS, A SINGLE CENTRE EXPERIENCE.

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Introduction:
Polysomnography is a gold standard tool in diagnosing sleep disorder breathing. This centre started its polysomnography service in 2010. Objective: To identify common indications, problems and results of polysomnography studies among paediatric patients.

Methods:
A retrospective analysis of polysomnographic studies among paediatric patients from 2010 till 2016.

Results:
There were 287 polysomnography studies done among and 18% of the subjects were syndromic. They were predominantly Malays (75%) and male (63%). The main indication for the polysomnography study was to look for obstructive sleep apnoea (59.9%). 50.2% had snoring symptoms and 18.8% had neuromuscular diseases. Other diseases include obesity, scoliosis and infant with apnea. The two main problems during the recording of the studies were poor transcutaneous carbon dioxide monitoring (22.4%) and poor sleep recodings (18.5%). Other problems include poor EEG signals, poor nasal flow, poor nasal pressure and poor end tidal carbon dioxide. Sleep efficiency was generally poor. The two main results of the polysomnography studies were normal (38%) and OSAS (42.5%). Other results include hypoventilation and mix obstructive with hypoventilation. About 10% were inconclusive studies.

Conclusion:
Polysomnography is a feasible test in pediatric patients from various age and diagnosis with several technical problems and limitations

CASE REPORTS

CR1 BORN WITH CHILD – A CASE REPORT ON CHILDHOOD INTERSTITIAL LUNG DISEASE

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CR2 MEDIASTINAL NEUROENDOCRINE TUMOR PRESENTING WITH SUPERIOR VENA CAVA SYNDROME: A CASE REPORT

Suat Yee Lim[1], Yang Liang Boo[1], Hon Shen P'ng[1], Wai Seng Cheong[1]
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CR3 A CASE STUDY OF ECTOPIC THYMOMA: AN INCIDENTAL FINDING IN A POST TRAUMA PATIENT

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CR4 MASSIVE HEMOPTYSIS DUE TO RASMAUSEN ANEURYSM IN A PATIENT WITH PULMONARY ASPERGILLOMA, SUCCESSFULLY CONTROLLED WITH TRANSPULMONARY ARTERY CATHETERIZATION AND COIL EMBOLIZATION

MC Yong[1], NL Martin Wong[2], SS Kho[1], SK Chan[1], ST Tie[1]
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[2] *Paediatric Cardiology Department, Sarawak General Hospital Heart Center, Kota Samarahan, Sarawak*

CR5 GIANT MEDIASTINAL THYMIC CYST MIMICKING MEDIASTINAL TERATOMA

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CR6 CURING ADVANCED LUNG CANCER: NEOADJUVAT CHEMOTHERAPY WITH CONCURRENT CHEMO RADIOTHERAPY FOLLOWED BY EPIDERMAL GROWTH FACTOR VACCINE.

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CR7 DISSEMINATED PENICILLIOSIS (NON-P. MARNEFFEI) IN AN IMMUNO-COMPETENT INDIVIDUAL IN MALAYSIA

LD Zainudin[1], REF Raja Shariff[1], R Mohd Noh[1], Y Yuhana[1], SR Chidambaram[2], AI Ismail[1]
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CR8 MYCOBACTERIUM FORFUITUM PULMONARY INFECTION TREATED WITH A NOVEL APPROACH USING AEROSOLIZED AMIKACIN

Mohd Khairul MK[1], Andrea Ban YL[1]
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CR9 NITRIC OXIDE IN ASTHMA MANAGEMENT - HELPING TURNS TO CONFUSING

MR Mohd Said[1], N Mohammad[2], CI Soo[1], MFA Hamid[1], RA Manap[1], TM Hassan[1], AB Yu-Lin[1]
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CR10 MALIGNANT CENTRAL AIRWAY OBSTRUCTION MASQUERADING AS BRONCHIAL ASTHMA CAUSING BALL VALVE EFFECT

Kho Sze Shyang[1], Yong Mei Ching[1], Chan Swee Kim[1], Voon Pei Jye[2], Tie Siew Teck[1]
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CR11 DILEMMA IN THE DIAGNOSIS AND TREATMENT OF INTRAABDOMINAL TUBERCULOSIS – IS EMPIRICAL THERAPY EVER JUSTIFIED?

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CR12 BREATHLESSNESS IN A LIVER DISEASE PATIENT

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CR13 MULTIPLE PULMONARY RHEUMATOID NODULES

Nasheeda Saeed[1], Tidi M. Hassan[1], Mohamed Faisal[1], Chun Ian Soo[1], Roslina Abdul Manap[1], Andrea Y LBan[1]
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CR14 PULMONARY SARCOIDOSIS WITH HEERFORDT'S SYNDROME AND DIABETES INSIPIDUS

Nasheeda Saeed[1], Tidi M. Hassan[1], Mohamed Faisal[1], Chun Ian Soo[1], Roslina Abdul Manap[1], Andrea Y L Ban[1]
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CR15 BRONCHOPLEURAL FISTULA SUCCESSFULLY TREATED WITH ENDOBRONCHIAL WATANABE SPIGOT (EWS)

CS Chai[1], SS Kho[1], MC Yong[1], SK Chan[1], ST Tie[1]
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CR16 SUCCESSFUL RESOLUTION OF BLEOMYCIN-INDUCED LUNG INJURY WITH PULSE METHYLPREDNISOLONE: A CASE REPORT

Ezyan Othman[1], Kah Peng Eg[1,2], Anna Marie Nathan[1,2], Surendran Thavagnanam[1,2], Jessie Anne de Bruyne[1,2]
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CR17 A CASE OF ASKIN TUMOUR?

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CR18 WHEN LEFT IS RIGHT, AND RIGHT IS LEFT: A CASE REPORT OF KARTAGENER SYNDROME

Kamal Muniandy, Siew Choo Su
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CR19 LUNG ADENOCARCINOMA WITH MIXED SOLID AND CRAZY PAVING APPEARANCES ON COMPUTED TOMOGRAPHY (CT) SCANS

M Hanafiah Kreah[1], LD Zainudin[1], B Johari[1], D Katiman[1]
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CR20 A RARE CASE OF HAEMORRHAGIC TUBERCULOUS EFFUSION

Shivaanand Letcheminan [1], Hema Yamini [1], Namasemayam SK [1], Kunji Kannan SK [1]
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CR21 PULMONARY PARAGONIMIASIS MIMICKING LUNG MALIGNANCY: A CONFOUNDING DIAGNOSTIC ENTITY

Muhammad NA[1], Che Sayuti S[1], Leong CL[2], K Thomas George GJ[3], Mohd Marzuki N[1]
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CR22 ENDOSCOPIC ULTRASOUND GUIDED FINE NEEDLE ASPIRATION AS A DIAGNOSTIC TOOL FOR LUNG LESION

Nurul Majidah AR[1], Termizy HM[1], Norhaya MR[1].
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CR23 THORACIC ACTINOMYCOSIS WITH ENDOBRONCHIAL INVOLVEMENT

Wan Mohd Hafez[1], Nurul Majidah AR[1], Termizy HM[1], Norhaya MR[1].
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CR24 UNDIAGNOSED PULMONARY ARTERIOVENOUS MALFORMATION – IN PATIENT WITH POLYCYTHAEMIA AND CLUBBING

Intan Aaroni MI[1], Nurul Majidah AR[1], Termizy HM[1], Norhaya MR[1].
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CR25 AMYLASE PRODUCING NON SMALL CELL LUNG CARCINOMA

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CR26 A BREATHLESS SARCOID

Syazatul Syakirin SA[1], Aniqah Shamimi J[1], Abdul Razak AM[1]
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CR27 INTERSTITIAL PNEUMONIA WITH AUTOIMMUNE FEATURES: A CASE REPORT

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CR28 ORGANISING PNEUMONIA SECONDARY TO ETANERCEPT

Syazatul Syakirin SA[1], Sabrina AHA[1], Zamzurina AB[1]
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CR29 STERNAL PLATING IN UNSTABLE STERNAL FRACTURES – A CASE REPORT

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CR30 WEGENER'S GRANULOMATOSIS - THE CHALLENGES IN ITS REVELATION AND TRIBULATION ON TREATMENT

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CR31 A CHALLENGING CASE OF CONCURRENT PULMONARY TUBERCULOSIS WITH EPIDERMAL GROWTH FACTOR RECEPTOR (EGFR) POSITIVE- METASTATIC ADENOCARCINOMA OF LUNG

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CR32 OCULATED EMPYEMATOUS CHYLOTHORAX SUCCESSFULLY TREATED WITH TPA WITHOUT DNASE: A CASE REPORT

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CR33 PULMONARY SCLEROSING PNEUMOCYTOMA MIMICKING ADENOCARCINOMA

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CR35 THE BLOODY SHABU: DIFFUSE ALVEOLAR HAEMMORRHAGE SECONDARY TO METHAMPHETAMINE

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N Nordin[1], KN Mohd Hirmizi[1], AN Musa[1], MA Ibrahim[1], MA Mohd Zim[1], AI Ismail[1]
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Che Sayuti Suzila[1], Muhammad Noorul Afidza[2] Mohd Marzuki Nurhayati[3]
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LD Zainudin[1], **MY Zamri**[1], **M Hanafiah Kreah**[1], **MA Mohd Zim**[1]
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CR40 CONGENITAL CEREBROSPINAL FLUID RHINORRHEA

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CR41 TITLE CASE: ORGANIZING PNEUMONIA: TWO CASE REPORTS

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CR44 IS IT A RESPI OR GYNAE CASE A COMPLICATED CASE OF ENDOMETRIAL TUBERCULOSIS PRESENTING AS IRREGULAR MENSTRUAL BLEEDING

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CR45 A CASE OF IDIOPATHIC BRONCHIOLITIS OBLITERANS

AN Musa[1], MA Ibrahim[1], B Johari[1], MH Kreah[1], MA Mohd Zim[1], AI Ismail[1]
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CR46 SATISFACTORY OUTCOME OF BLOOD PATCH PLEURODESIS TO RESOLVE A PERSISTENT PNEUMOTHORAX IN A PATIENT WITH ADENOCARCINOMA OF THE LUNG

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CR47 TITLE CASE: CASE SERIES OF INTRAPLEURAL ALTEPLASE (WITHOUT DEOXYRIBONUCLEASE) IN COMPLICATED PARAPNEUMONIC EFFUSION, OUR FIRST EXPERIENCE

Carol Lai[1], Mohamed Faisal Abdul Hamid[1], Dr Nurashikin Mohammad[1], Andrea YL Ban[1], Tidi Maharani Hassan[1]
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CR48 PULMONARY INVASIVE MUCINOUS ADENOCARCINOMA IN A YOUNG ASYMPTOMATIC PATIENT

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CR49 CHILDHOOD INTERSTITIAL LUNG DISEASE (CHILD): A RARE DISEASE WITH SEVERE PRESENTATION

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CR50 TREATMENT OF SUBCUTANEOUS EMPHYSEMA WITH SUBCUTANEOUS DRAIN

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CR51 A CASE OF PULMONARY ALVEOLAR PROTEINOSIS

Hema Yamini[1], Namasemayam SK[1], Shivaanand [1], Kunjikannan SK[1]
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CR52 CHRONIC GRANULOMATOUS LYMPHADENITIS: NOT ALWAYS TUBERCULOUS

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CR53 HDR BRACHYTHERAPY IN OBSTRUCTED ADVANCE TRACHEAL CARCINOMA

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2Prince Court Medical Centre

CR54 POSTOPERATIVE PNEUMOTHORAX –A RARE PRESENTATION OF THORACIC ENDOMETRIOSIS SYNDROME (TES): A CASE REPORT

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CR1

BORN WITH CHILD – A CASE REPORT ON CHILDHOOD INTERSTITIAL LUNG DISEASE

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Introduction:
Childhood interstitial lung disease (chILD) comprises of a group of rare heterogeneous disorders that effects the interstitium, alveolar and airway compartments. The disease is described by its diverse effects to cause diffuse pulmonary infiltrates, restrictive lung physiology and impaired gas exchange which can lead to significant morbidity and mortality.

Case Report:
We detail a case of a 14 month-old boy, who presented with persistent tachypnoea since birth. He was delivered term (birth weight 3.28kilogram) with no dysmorphic features or neurocutaneous stigmata. There was no risk of sepsis or delayed passage of meconium. He was ventilated for 7 days and subsequently was oxygen dependent. He had baseline tachypnoea (respiratory rate 60-100 breaths/min), recessions and chest hyperinflation. His lungs were clear with no adventitious sound.
He also had baseline dry cough from birth which was not associated with feeds. His serial chest radiographs showed diffuse ground glass appearance. HRCT thorax showed ground glass changes in bilateral lung fields with interlobar septal thickening suggestive of chILD. Flexible bronchoscopy was normal. Sweat test and primary immunodeficiency screening were also normal. Open lung biopsy done at 4 months of age supported the diagnosis but was unable to specify the type of chILD. Surfactant protein gene testing was sent overseas for 16 genes including ABCA3, NKX2-1, SFTPB, SFTPC were all negative.
He was sent home on long term oxygen therapy and was started on high dose pulsed methylprednisolone for 9 cycles alongside hydroxychloroquine daily. He showed remarkable response to his treatment and was weaned off oxygen support after 14 months. He is currently asymptomatic and is thriving well.

Conclusion:
Prompt diagnosis and management leads to a better outcome in chILD

CR2

MEDIASTINAL NEUROENDOCRINE TUMOR PRESENTING WITH SUPERIOR VENA CAVA SYNDROME: A CASE REPORT

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Neuroendocrine tumors (NETs) are rare neoplasms of the mediastinum and may originate from the thymus or paraganglionic structures within the mediastinum. Primary neuroendocrine tumors of the thymus are unusual tumors contributing to less than 5% of all anterior mediastinal tumors. Their clinical manifestations vary from asymptomatic with incidental chest radiography (CXR) findings to symptoms related to an associated endocrinopathy. Here, we report a case of primary mediastinal neuroendocrine carcinoma presenting with superior vena cava (SVC) syndrome. A 47-year-old man presented with prolonged cough and breathlessness for the past 6 months associated with loss of appetite and weight loss. He was a chronic smoker with no previous history of tuberculosis (TB) or TB contact. Upon admission, he was mildly tachypnoiec, with presence of bilateral cervical lymphadenopathies and clinical features consistent with SVC syndrome. On auscultation, breath sounds were reduced over right upper to middle zone. CXR showed widened mediastinum.

Further imaging with CECT thorax revealed anterior mediastinal mass compressed on the mediastinal structures including SVC and a solitary lung nodule at the posterobasal right lung. Gallium Ga-68 DOTATATE PET scanning showed evidence of somatostatin receptor avid disease in the mediastinum with no uptake over the solitary lung nodule. Histopathological examination of the mediastinal mass showed neuroendocrine tumor grade 2 with immunohistochemical study showed positivity towards pan-CK, synaptophysin, and chromogranin A. He was diagnosed with mediastinal neuroendocrine carcinoma with SVC syndrome and lymph nodes involvement. He was started on somatostatin analogue therapy in view of locoregional unresectable disease and follow-up accordingly. In conclusion, thymic neuroendocrine tumors are uncommon primary thymic neoplasms that generally present as anterior mediastinal mass. Other differential diagnoses that need to be taken into consideration in approaching patients present with mediastinal mass include lymphoma, thymoma, germ cell tumor, and retrosternal goiter.

CR3

A CASE STUDY OF ECTOPIC THYMOMA: AN INCIDENTAL FINDING IN A POST TRAUMA PATIENT

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Introduction:
Ectopic thymomas has been reportedly found in the middle and posterior mediastinum, skull, pericardium, lung parenchyma, and pleural cavity. Rarely do we find any case of ectopic thymoma post trauma reported.

Methods:
This is a case report of a patient admitted in our center. It's intended to report a peculiar case of ectopic thymoma incidentally found in a post trauma patient.

Summary:
In May 2016, a 65 years old Malay gentleman with a history of type 2 Diabetes Mellitus, Hypertension and dyslipidemia was referred from a district Hospital due to allerged Motor vehicle accident.
Post trauma, patient complains of right sided chest pain, however he denies shortness of breath, vomiting or ENT bleed, retrograde amnesia

Initial assessment at emergency department in district Hospital, noted that patient was alert and concious with stable vital signs. Chest x-ray there, reported as right 9th rib fracture and haziness of right lower zone with no radiological evidence of effusions or collapse.
Patient was then transferred to our center in view of right lung contusion for observation. Subsequent Chest Xray noted to be worsening right sided pleural effusion and a Chest tube was inserted at right safety triangle to drain the hemothorax which drained 100cc of hemoserous.

The chest tube only drained minimal fluids and was removed on the third day of admission due to minimal fluid drained. CT imaging done revealed a right lower thorax mass likely pleural based and the CT guided biopsy of the mass carried out which revealed a tumour with features suggesting an ectopic thymoma.

CR4

MASSIVE HEMOPTYSIS DUE TO RASMAUSEN ANEURYSM IN A PATIENT WITH PULMONARY ASPERGILLOMA, SUCCESSFULLY CONTROLLED WITH TRANSPULMONARY ARTERY CATHETERIZATION AND COIL EMBOLIZATION

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Rasmausen aneurysm, an uncommon sequelae of pulmonary tuberculosis infection, with a prevalence about 5%, is a rare cause of massive hemoptysis which can be life-threatening. We present a 60-year-old-lady, history of treated pulmonary tuberculosis complicated with left upper lobe Aspergilloma. Her first presentation with massive hemoptysis was in 2014 and was treated conservatively and another two admissions in 2016. She underwent bronchial artery embolization twice during the last admission but failed to control the bleeding due to failure of cannulation of the left bronchial artery. She also developed posterior circulation infarct after the embolization with complete resolution of the neurologic symptoms. Subsequent CT pulmonary angiography showed pseudoaneurysm of the segmental branch of left upper lobe pulmonary artery (Rasmausen aneurysm). She underwent transpulmonary artery catheterization and the Rasmaussen aneurysm was successfully embolized with three Cook MReye coils. Her hemoptysis significantly decreased post procedure. Her condition remained stable during follow up with minimal hemoptysis. In patients presenting with massive hemoptysis, the source of the bleeding may be from the bronchial, pulmonary, or systemic circulation. If initial assessment of bronchial circulation fails to identify the origin of the hemoptysis, other circulation systems should be assessed. Coil embolization can be a safe and effective method for treating massive hemoptysis secondary to pseudoaneurysm arising from the pulmonary arteries, especially for patients who are at high risk for surgical intervention.

CR5

GIANT MEDIASTINAL THYMIC CYST MIMICKING MEDIASTINAL TERATOMA

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Introduction:
Thymic cysts of the mediastinum are rare. The incidence rate is between 1 to 4.8 %. They usually present as an asymptomatic mediastinal mass. This report illustrates unusual presentation of a giant mediastinal thymic cyst mimicking a mediastinal teratoma.

Case Study:
17-year-old man presented with shortness of breath, epigastric mass and loss of weight for 6 months. CT thorax demonstrated a large mediastinal teratoma occupying entire left hemithorax with collapsed left lung. Radiological impression was mediastinal teratoma Patient underwent exploratory surgery with intraoperative findings showing left sided mediastinal mass was cystic in nature and well capsulated.
It contained 6 litres of straw colored fluid. The left lung was completely collapsed and adhered to the hilar. Histology of the mass was reported as multiloculated benign thymic cyst and no malignant cells.

Discussion:
Thymic cysts are 3 times more common in males than females, and most commonly found in children. Thymic cysts may be unilobular but more frequently multilobular. All multilocular cysts should be resected in view of possible neoplastic transformation with surgical resection being the only option.

Conclusion:
Thymic cysts should be considered as a differential diagnosis of epigastric mass and hemithorax lesions with features of teratoma.

CR6

CURING ADVANCED LUNG CANCER: NEOADJUVAT CHEMOTHERAPY WITH CONCURRENT CHEMO RADIOTHERAPY FOLLOWED BY EPIDERMAL GROWTH FACTOR VACCINE.

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Introduction:

Concurrent chemo radiotherapy (CRT) is an accepted standard in locally advance lung cancers.
CIMAvax developed by Center for Genetic Engineering and Biotechnology in Cuba in a Phase II randomized controlled trial (n = 80) reported improved median survival time over control subjects (11.57 vs. 5.33 mo, $p < 0.02$) when used in advance lung cancer.
We will describe 2 cases treated in our center combining neoadjuvant chemotherapy followed by radical chemoradiotherapy and EGF vaccine.

Methodology:

Patients with NSCLC that required Concurrent Chemo radiotherapy followed by EGF vaccine.
Standard conformal radiotherapy using 60Gy//30# using the Triology Varian system with weekly chemotherapy was the back bone of the treatment. This was followed 4 to 6 weeks later once the disease is stable on the vaccine.
1 72 hours prior to the vaccination intravenous Cyclosphamide 300mg was given
2 On the day 0 patients are given 4 intramuscular injection of the vaccine, this is repeated on day 14, 28 and every 28days till disease progress.

Results:

Patient 1
54years old lady, Stage IIIB NSCLC on 27th Dec 2007 given 3 cycles of Paclitaxel and Carboplatin followed by CRT started on EGF vaccine. She tolerated the treatment very well till the 18th dose of the vaccine when she developed severe pain following the injection.Total survival 114months.

Patient 2
57years old man, Stage IIIB NSCLC on 27th June 2012. He received 3 cycles of Vinorelbine and Cisplatin followed by radiotherapy and Cisplatin.Total survival 60 months.

Discussion:

Giving chemotherapy up front to mop up distant disease and sterilizing the primary site and introducing the EGF vaccine may be a strategy the future trials can look into.

CR7

DISSEMINATED PENICILLIOSIS (NON-P. MARNEFFEI) IN AN IMMUNO-COMPETENT INDIVIDUAL IN MALAYSIA

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Penicilliosis caused by Penicillium marneffei is the third most common opportunistic infection in HIV patients in South-east Asia. Both immunocompetent and immunocompromised individuals can be infected. It is rare to find systemic infections in non-HIV individuals. Penicillium infection caused by species other than P. marneffei is uncommon. Possible routes of transmission are through inhalation, ingestion or skin contact. A 45-year-old male with background history of poorly controlled diabetes and nephrotic syndrome presented with weight loss, intermittent fever and dyspnoea. He had recurrent right-sided lung empyema, found on computed tomography (CT) scans 4 months earlier. He also had recurrent episodes of absence spells and hypoxia. Widespread fungal-like lesions were noted on his body. He enjoyed fishing and worked as a janitor at a microbiology laboratory. Bedside ultrasound revealed a right-sided consolidation with minimal effusion and left-sided pleural effusion, which was transudative. Bronchoscopy revealed areas of inflamed mucosa in the right middle lobe. Broncho-alvelolar lavage and pleural fluid revealed penicillium species. No malignancy was detected and the fluids were both lymphocytic predominant. Cerebral CT and MRI scans revealed cerebral atrophy and multi-focal infarcts. Electroencephalogram (EEG) was normal. Lumbar puncture showed high protein, with zero white cell count and no organisms. For the penicilliosis, intravenous liposomal amphotericin B was given with partial response, following failure of therapy with oral itraconazole. He received high dose anti-seizure medication. He had a prolonged hospital stay complicated by multi-organ dysfunction and died 8 weeks later. In retrospect, intravenous amphotericin B may have resulted in better outcome with earlier diagnosis. Survival rates of 59% have been quoted (Supparatpinyo 1994). We believe this is the first reported case of disseminated penicilliosis in an immuno-competent patient in Malaysia.

CR8

MYCOBACTERIUM FORFUITUM PULMONARY INFECTION TREATED WITH A NOVEL APPROACH USING AEROSOLIZED AMIKACIN

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Introduction:

The nontuberculous mycobacterium (NTM) is ubiquitous in the environment and causes a wide spectrum of clinical diseases of which pulmonary disease is the most frequent[1]. Due to longevity of the treatment and adverse drug effect profile, some of the treatment regimes have to be revised from time to time to fit the patient tolerability. Inhaled liposomal amikacin has been shown to be more effective than parenteral amikacin in eliminating both intracellular *M. avium* and *M. abscessus* in murine model[1]. A lower dose of inhaled amikacin was comparable to parenterally administeration in mice, with no resistance to amikacin observed [2]. A recent phase 3 clinical trial with inhaled amikacin is underway in the US and indicates that topical amikacin could be a feasible future treatment approach.

Case narrative:

We present a 60-year old lady with bronchiectasis diagnosed with NTM *M. fortuitum* was isolated from bronchial alveolar lavage and intravenous amikacin three times weekly was initiated on top of oral ciprofloxacin and azithromycin. After three months of treatment, she developed giddiness and impaired hearing function. The sputum culture showed persistent acid fast bacilli and there was no clinical improvement. A decision was made to initiate daily 111ebulized amikacin to replace intravenous amikacin. Good clinical response was observed after three weeks of treatment.

Conclusion:

We conclude that inhaled amikacin is well-tolerated and effective and may be considered as an alternative mode of delivery in NTM patients.

CR9

NITRIC OXIDE IN ASTHMA MANAGEMENT - HELPING TURNS TO CONFUSING

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Fractional exhaled nitric oxide (FeNO) provides a direct measurement of airway inflammation by correlating with airway eosinophilia.[1] The presence of neutrophilic inflammation may significantly reduce the level of FeNO and impair the predictive value.[2] Nonetheless, FeNO offers a fundamental role in evaluation of asthma controls. We report two cases of asthma where FeNO was used to guide on further management. Case 1 was a 68-year-old lady with diabetes, hypertension, childhood asthma and allergic rhinitis. Her Asthma Control Test (ACT) score was 5 with usage of ventolin more than three times per week. Her medications included Beclomethasone / Formoterol 200 / 10 microgram twice a day (BD), Montelukast 10 mg once a day (OD) and she was subjected to FeNO (NIOX MINO; Aerocrine AB, Sweden) with result of 18 parts per billion (ppb). Her symptoms remained uncontrolled despite addition of Tiotropium 18 microgram and theophylline slow release 250 mg BD. Case 2 was a 15-year-old lady with childhood asthma. Her asthma was well controlled with an ACT score of 20. However her FeNO level was 45 ppb even when she was using Ventolin infrequently. These two cases demonstrate various clinical vignettes with contradictory results of FeNO tests. Even with poorly controlled asthma, patient demonstrated a low FeNO level whereas high level was observed with well-controlled asthmatic patient. Hence, we conclude that there is discrepancy between ACT score and FeNO level and this uncertainty warrants further local study.

CR10

MALIGNANT CENTRAL AIRWAY OBSTRUCTION MASQUERADING AS BRONCHIAL ASTHMA CAUSING BALL VALVE EFFECT

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Malignant central airway obstruction (CAO) with ball valve effect (BVE) in the lung is rare but can lead to catastrophic complication if without prompt intervention. We report a case of progressive metastatic colon cancer who presented with asthma like symptoms of new onset wheezing and reduced effort tolerance. Computed tomography of the thorax showed an obliterated left main bronchus associated with left lung hyperinflation. Flexible bronchoscopy revealed an intraluminal tumour obstructing the left main bronchus in a ball valve manner. Patency of airway was restored via rigid bronchoscopy debulking and patient reported immediate relief of her symptoms. Surveillance bronchoscope six months later demonstrated a patent left main bronchus. Her underlying malignancy was meanwhile being controlled with further effective palliative systemic oncological therapy. Timely intervention in CAO causing BVE is pertinent to prevent associated complications such as pneumothorax and eventual cardiopulmonary compromise. This case illustrates the importance of recognizing features of central airway obstruction to expedite appropriate investigations and therapy. To the best of our knowledge, this is the first reported case of malignant CAO causing BVE from non-pulmonary endobronchial metastasis.

CR11

DILEMMA IN THE DIAGNOSIS AND TREATMENT OF INTRAABDOMINAL TUBERCULOSIS – IS EMPIRICAL THERAPY EVER JUSTIFIED?

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A 23 year old lady presented with progressive abdominal distension of 3 weeks duration with ascites on clinical examination. Investigations showed raised serum CA 125 (598.4 U/ml) and elevated right hemidiaphragm with clear lung field on chest X-ray. Gynaecology consult ruled out ovarian pathology. Computed tomography 4-phase liver scan showed peritonitis with gross ascites. Diagnostic and therapeutic peritoneal tap revealed exudative ascitic fluid. Tuberculosis polymerase chain reaction of ascitic fluid and Mantoux test was negative. Ascites reduced after therapeutic ascitic tap. She was readmitted two months later for recurrent ascites with fever and treated as spontaneous bacterial peritonitis. Abdominal X-ray showed large volume of intraabdominal free gas resulting in a large round black area "football sign". CT abdomen showed gross ascites with thickening of the peritoneum, omentum and mesentry. Abdominal paracentesis drained 2 liters of fecopurulent fluid. Laparotomy with peritoneal wash out, omentectomy and ileostomy carried out. Intra-operative findings were 2 liters of feculent material with food particle and perforation of small bowel. Omentum adherent to the anterior abdominal wall, studded with multiple small whitish nodules. Ziehl neelsen stain of the omental tissue was positive for Mycobacterium tuberculosis. Patient improved clinically after starting on anti-tuberculosis medications.

Conclusion:
This case illustrates the difficulty in diagnosing intraabdominal tuberculosis. There was a strong clinical suspicion of tuberculosis, however no treatment was commenced as guidelines dictate that anti-tuberculosis medication should only be started when there is evidence of Mycobacterium tuberculosis on either smear or biopsy. All investigations were negative in this case and delay in the diagnosis of tuberculosis resulted in serious morbidity. A positive result was only obtained following emergency laparotomy for bowel perforation.

CR12

BREATHLESSNESS IN A LIVER DISEASE PATIENT

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Introduction:
Hepatopulmonary syndrome (HPS) is a pulmonary complication of liver disease (LD) and/or portal hypertension (PH). HPS is diagnosed based on the presence of LD and/or PH, hypoxia and evidence of intrapulmonary shunting.

Case presentation:
A 25-year-old female presented with breathlessness over 1 year. She appeared cyanotic with presence of finger clubbing. She was hypoxic on room air with $SPaO_2$ 84%. Respiratory, cardiovascular and abdominal examinations otherwise were unremarkable. FBC showed haemoconcetration with macrocytosis, leucopenia and thrombocytopenia. ABG analysis demonstrated type 1 respiratory failure (PaO_2 55mmHg). CXR, CTPA and HRCT of the lung did not reveal any abnormality. Contrasted echocardiography showed bubbles were visible in left atrium and ventricle after 3 seconds of injection. There was however no intracardiac shunt or anomalous of pulmonary veins in cardiac MR study and CTA of pulmonary vasculatures. CT abdomen showed liver cirrhosis and portal vein thrombosis. Chronic LD screens were negative. Thrombophilia screens, flow cytometry study and JAK mutation were negative. We diagnosed her as a case of LD complicated with portal vein thrombosis, PH and HPS.

CR13

MULTIPLE PULMONARY RHEUMATOID NODULES

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Rheumatoid lung nodules are rare manifestation of lung diseases associated with rheumatoid arthritis. They may be single or multiple and are typically found in pleural or subpleural regions, occasionally with cavitation.[1] Their evolution in the course of the disease is variable.[2]

We report a 62 year old female with long standing rheumatoid arthritis who was on Disease Modifying Anti Rheumatoid Drugs. She was being evaluated for persistently elevated erythrocyte sedimentation rate (ranging 90-120mm/hour) and elevated C-Reactive protein, despite clinical remission of her rheumatoid arthritis. She did not have any constitutional symptoms or any other systemic symptoms. Workup for tuberculosis, malignancy and multiple myeloma was negative. Chest radiograph and subsequent computed tomography of lungs revealed multiple cavitating lung lesions of varying sizes in both lungs. Patient underwent a transbronchial biopsy via flexible bronchoscopy with the aid of fluoroscopy of the nodule in the right lower lobe. Histological examination showed bronchiolocentric fibrosis consistent with pulmonary changes in rheumatoid arthritis. In conclusion, we describe a successful biopsy of a rheumatoid nodule with the aid of bronchoscopy and fluoroscopy in an asymptomatic female patient with multiple pulmonary rheumatoid nodules of the lungs. The follow up of these patients for
regression or progression of pulmonary rheumatoid lung nodules is essential

CR14

PULMONARY SARCOIDOSIS WITH HEERFORDT'S SYNDROME AND DIABETES INSIPIDUS

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Sarcoidosis is a multisystem granulomatous disorder of unknown origin with protean clinical manifestations and lung involvement is seen in more than 90% of cases. Löfgren's syndrome (combination of fever, erythema nodosum, bilateral hilar lymphadenopathy and polyarthralgias) is seen in twenty to fifty percent of cases. Heerfordt's syndrome (combination of parotid swelling, uveitis and Bells' palsy) is a specific, but rarer presentation. We report a case of a 29-year old female who had asymptomatic pulmonary sarcoidosis with Heerfordt's syndrome and diabetes insipidus with diabetes insipidus as the first manifestation of sarcoidosis . She was found to have bilateral hilar lymphadenopathy on a chest radiograph which was done on suspicion of a diagnosis of sarcoidosis based on the findings of bilateral uveitis and constellation of symptoms of parotid swelling, fever and facial nerve palsy. Workup for tuberculosis, connective tissue disorders and other autoimmune conditions were negative. High Resolution Computed Tomography was done which revealed features of pulmonary sarcoidosis. She was started on oral corticosteroids and subsequently her repeat HRCT after six months showed good response to treatment with resolving of ground glass opacities seen previously and only residual mediastinal lymphadenopathy. The unusual and less frequent presentations like Heerfordt's syndrome when presented in isolation may be difficult to diagnose and attributed to general illnesses like mumps,
bell's palsy, in the absence of clinical suspicion of sarcoidosis. Chest x ray remains a key investigation for diagnosis as lung is involved in more than 90% of the cases.

CR15

BRONCHOPLEURAL FISTULA SUCCESSFULLY TREATED WITH ENDOBRONCHIAL WATANABE SPIGOT (EWS)

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Bronchopleural fistula (BPF) is a fistulous tract between the bronchus and the pleural space that may result from a necrotizing pneumonia, lung neoplasms, lung injuries or as a complication of thoracic procedures. This group of patients usually poses high surgical risk due to poor pulmonary reserve and majority will end up with prolonged chest drainage and antibiotic exposure. Endobronchial Watanabe Spigot (EWS) is a novel technique in the treatment of BPF by occluding the culprit bronchi after localization of air leak with reported success rate of 96.7%.[1] To the best of our knowledge, this is the first reported case of BPF treated with EWS in Malaysia.

A middle age gentleman presented with cough, haemoptysis, fever and pleuritic chest pain for one month duration. Chest X-ray on admission revealed a right hydropneumothorax and pus was drained during diagnostic thoracocentesis, an intercoastal chest drain was hence inserted. However, air leak persisted despite antibiotics and prolonged drainage. Subsequent computed tomography (CT) thorax demonstrated a bronchopleural fistula at the right upper lobe. Air leak was localized to the right upper lobe during flexible bronchoscopy with balloon occlusion test. Three EWS *(EWS®, Novatech, La Ciotat, France)* were inserted into RB1, RB2, and RB3 under rigid bronchoscope. Air leak stop immediately post bronchial occlusion and chest drain was off the following day. Patient remains well with antimicrobial therapy and surveillance CT thorax two months later showed all EWS were in place with no recurrence of hydropneumothorax.

Endobronchial embolization using EWS for hydropneumothorax with BPF appeared to be a safe and effective measure. Hence, this method can be considered in patients with BPF who are deemed high risk for surgical intervention. Our center anticipates further experiences with this technique in the future.

CR16

SUCCESSFUL RESOLUTION OF BLEOMYCIN-INDUCED LUNG INJURY WITH PULSE METHYLPREDNISOLONE: A CASE REPORT

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Introduction:
Bleomycin, a chemotherapeutic agent, is used in many cancer treatments, especially Hodgkin's lymphoma. It can cause pulmonary toxicity in up to 20% of patients and when these patients also receive concurrent radiotherapy, the mortality increases. Bleomycin hydrolase, an enzyme that degrades bleomycin is present in all tissues except the skin and lungs, which accounts for the toxicity in these organs. We present a case of bleomycin related pulmonary toxicity with an important outcome.

Case Report:
A 15-year-old girl with nodular sclerosing Hodgkin's lymphoma was treated with COPDAC regime (Prednisolone, Dacarbazine, Vincristine and Cyclophosphamide) followed by full body radiotherapy. Unfortunately, she had an early relapse and was started on 4 courses of ABVD regime (Doxorubicin,

Bleomycin, Vinblastine and Dacarbazine) followed by autologous stem cell rescue. One month later, she presented with chronic cough and reduced effort tolerance. Despite antibiotics, her symptoms persisted. Clinically she was tachypnoeic and required 1 litre/minute of oxygen via nasal prongs to maintain an oxygen saturation of 98%. Her breath sounds were reduced bilaterally but no added sounds heard. An echocardiogram showed evidence of pulmonary hypertension. A chest Computed tomography showed ground glass changes in both lung fields especially at the site of radiotherapy. Lung function test showed severe restrictive lung disease and although she was able to complete a 6-minute walk test, the oxygen saturation dropped to 90%. She was commenced on monthly intravenous pulsed Methylprednisolone at a starting dose of 30mg/kg/day for 3 days, for 5 cycles. Following this, marked clinical improvements with no steroids side effects were observed. Importantly, there was a complete resolution radiologically of her bleomycin-induced lung injury following pulsed methyprednisolone.

Conclusion:
This case report highlights that pulse methylprednisolone is a viable option for chemotherapy induced lung injury.

CR17

A CASE OF ASKIN TUMOUR?

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Introduction:
Askin tumour is a rare malignant neoplasm which falls under the spectrum of neoplastic disease known as the Ewing sarcoma family of tumours (EFT). It is frequently misdiagnosed due to its rarity and it being easily mistaken for other small round blue cell tumours.

Case Report:
As there is a paucity of literature regarding this clinical entity especially in Malaysia, we would like to report a case of a 13-year-old boy where the diagnosis is suspected retrospectively post mortem. He initially presented with difficulty breathing and dry cough of 1-month duration. Clinical examination and chest radiograph on presentation was initially suggestive of a massive left pleural effusion with mediastinal shifting to the right. A trial of aspiration was done but failed. Subsequent contrast enhanced computed tomography (CECT) of the chest demonstrated a large mass occupying the left hemithorax associated with mediastinum compression and 7th rib erosion. A Tru-cut biopsy from the left chest mass was done which revealed malignant round blue cells. Immunohistochemistry of the tumor cells was negative for CD3, CD10, Tdt, AFP, PLAP and synaptophysin. However, further immunohistochemistry staining was not proceeded in view of inadequate samples and the patient unfortunately passed away 3 days later due to hospital acquired pneumonia. The diagnosis in this patient is strongly suspected in view of the site of the tumour and its histology.

Discussion and Conclusion:
A multidisciplinary approach is needed in clinching the diagnosis, namely radiological and subsequent histopathological examination and immunohistochemistry analysis. Despite recognition of this disease, diagnosis and subsequent management remains challenging in the absence of standard therapeutic guidelines.

CR18

WHEN LEFT IS RIGHT, AND RIGHT IS LEFT: A CASE REPORT OF KARTAGENER SYNDROME

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Introduction:
Kartagener syndrome is a subset of primary ciliary dyskinesia, an autosomal recessive disease characterized by situs inversus, bronchiectasis and chronic sinusitis. Its incidence is about 1 in 30,000 live births and is characterized by abnormal ciliary structure or function, leading to impaired mucociliary clearance.

Case Report:
We report a 14-years-10-months old boy who was referred to us for difficult to treat asthma. He had chronic wet cough since he was two years old, which was unresponsive to all his asthma medications prescribed over the years. He also had chronic rhinorrhoea with reduced effort tolerance. Physical examination revealed a tall, thin boy with dextrocardia. There were no clubbing or nasal polyps. There were generalized coarse crepitations on auscultation. A high resolution computed tomography of the thorax showed dextrocardia, situs inversus and bronchiectasis in both lung fields (signet rings, thickened bronchial wall, and non-tapering of the bronchi). Echocardiography was normal other than dextrocardia. Sweat test and primary immunodeficiency screening were normal. Flexible bronchoscopy of his upper and lower airways revealed situs inversus, enlarged right and left inferior turbinates with thick mucus seen in both lower airways. Bronchoalveolar lavage (BAL) sent yielded pseudomonas aeruginosa (PsA). He was started on PsA eradication therapy (comprising of IV Ceftazidime and IV Amikacin for 2 weeks and nebulized Gentamicin for 3 months). His PsA was successfully eradicated as a repeat BAL at the end of the therapy did not yield any growth. His symptoms showed marked improvement with minimal wet cough and improved effort tolerance.

Conclusion:
In summary, one must have a high index of suspicion for bronchiectasis in any child presenting with chronic wet cough, and if associated with dextrocardia, Kartagener Syndrome must be ruled out. This is important as the mainstay of treatment is airway clearance therapy and aggressive antibiotic therapy.

CR19

LUNG ADENOCARCINOMA WITH MIXED SOLID AND CRAZY PAVING APPEARANCES ON COMPUTED TOMOGRAPHY (CT) SCANS

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We describe computed tomography (CT) images of lung adenocarcinoma of both solid and crazy paving appearance. A 69-year-old female (non-smoker) presented with a 3-month history of prolonged cough with haemoptysis, weight and appetite loss. Examination of the lungs was clear. CXR revealed a suspicious mass at the right lower zone. The initial CT revealed a heterogeneous mass in the lower lobe of the right lung associated with 'crazy paving' appearance. CT-guided biopsy revealed invasive moderately differentiated adenocarcinoma of the lung.

She was commenced on tyrosine-kinase inhibitor (TKI), Gefitinib (epidermal growth factor receptor (eGFR) status was positive). Her disease showed partial response initially but later progressed. A repeat CT showed an increment in tumour size. The previously seen area of 'crazy paving' was completely replaced by solid tumour, suggestive of infiltration. A second-line TKI, Afatinib was introduced but the disease continued to progress. She also developed right humeral fracture secondary to bone metastasis. A few months later, treatment was discontinued due to intolerable mucocutaneous skin rashes and patient's wishes. She was referred to palliative and rehabilitation teams.

Primary lung carcinoma usually appears as solid or subsolid nodules or mass on CT. Invasive adenocarcinoma may show various CT appearances including consolidation, ground glass or tree-in-bud opacities, or 'crazy paving'. 'Crazy paving' refers to the superimposition of ground-glass opacity and linear pattern resembling irregularly shaped paving stones on CT images. It was historically described as a pathognomonic sign for alveolar proteinosis. This pattern was later reported in a variety of other lung disorders-idiopathic, neoplastic, infectious, inhalational, lymphangitic carcinomatosis and superimposed pulmonary infection. In the context of lung carcinoma, this pattern is more commonly seen in mucinous than non-mucinous type of invasive adenocarcinoma.

CR20

A RARE CASE OF HAEMORRHAGIC TUBERCULOUS EFFUSION

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Introduction:

Haemorrhagic pleural effusion is most commonly due to malignancy, trauma or pulmonary infarction. Hemorrhagic tuberculous pericardial effusion is also exceedingly rare.

Case report:

A 60 yr old gentleman with history of Stage II colon carcinoma who underwent surgical resection and radiotherapy in 2009 presented to us with a moderate right sided haemorrhagic pleural effusion and haemorrhagic pericardial effusion. There was a high index of suspicion for recurrence due to the presence of constitutional symptoms as well as his previous history of malignancy. However no malignant cells were seen on pleural fluid cytology. Hyperaemic and nodular pleural surface was seen during pleuroscopy and pleural biopsy revealed non caseating chronic granulomatous inflammation. He was diagnosed as disseminated tuberculosis with pleural and pericardial involvement .Patient was then started on anti tubercular drug with complete resolution of symptoms and tuberculous effusion.

Conclusion:

This is the first reported case of haemorrhagic tuberculous effusion involving pleura and pericardium. The initial consideration for a haemorrhagic effusion is always malignancy however this case highlights the need to consider tuberculosis as an important differential diagnosis especially in areas of high prevalence. Unlike a malignant effusion, tuberculous effusion is curable with antitubercular drugs.

CR21

PULMONARY PARAGONIMIASIS MIMICKING LUNG MALIGNANCY: A CONFOUNDING DIAGNOSTIC ENTITY

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Introduction:

Paragonimiasis is a food-borne parasitic zoonosis caused by the genus Paragonimus. In humans, the infection is acquired by ingesting uncooked or undercooked crustaceans. Pulmonary paragonimiasis is a relatively rare cause of lung disease. Clinically and radiologically it is difficult to differentiate between an infection or a malignancy.

Case report:

A 29-year-old Burmese waiter presented with a 2-month history of cough, intermittent hemoptysis without constitutional symptoms. He also has no symptoms to suggest vasculitis. He gave a history of eating raw crabs of one year duration. Chest X-ray (CXR) showed a left upper lobe consolidation. Pulmonary tuberculosis (PTB) work up were negative. Based on chest computed tomography (CT) scans findings, the patient was suspected to have a left upper lobe lung mass likely malignancy. Bronchoscopy showed stenotic left apical segment with normal mucosa. Bronchial washing were negative for both infection and malignancy. He proceeded to have CT guided biopsy of the lung mass and was diagnosed as having parasitic lung infection favouring paragonimiasis (lung fluke). He was treated with a 3-day course of praziquantel. Follow-up CXR showed an obvious improvement with resolution of his symptoms. However after 9 months post treatment, a repeat CXR and CT showed a new extension of the left upper lobe lesion. He was then referred to cardiothoracic team and successfully underwent a left thoracotomy with an upper lobectomy.

Conclusion:

Pulmonary paragonimiasis should be considered as a differential diagnosis of lung mass with hemoptysis. A detailed history is important to consider this condition

CR22

ENDOSCOPIC ULTRASOUND GUIDED FINE NEEDLE ASPIRATION AS A DIAGNOSTIC TOOL FOR LUNG LESION

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Introduction:

Lung cancer is the third most common cause of cancer-related mortality worldwide. In patients with suspected lung malignant lesions, rapid and precise diagnosis is crucial to determine optimal treatment. The main modalities that commonly used to achieve this purpose are flexible bronchoscopy and computed tomography-guided transthoracic needle aspiration. Recently, endobronchial and esophageal endoscopic ultrasound were introduced as part of the modalities which are minimally invasive, that are able to image and sample, under direct vision, in order to obtain specimens from pulmonary and mediastinal lesions. Here, we presented two cases as our experience in using esophageal endoscopic ultrasound.

CASE 1:
ZAK, 58 year-old Malay lady, presented with chronic cough for 2 weeks associated with constitutional symptoms – loss of appetite and loss of weight 4kg within 1 month. Clinically, patient thin, not tachypneic, no peripheral nodes palpable, vital sign stable, lungs: reduced breath sound right lung. Per abdomen no hepatosplenomegaly or mass. No pedal oedema. CXR: Right lung consolidation. Proceed with bronchoscopy but no endobronchial lesion noted and BAL showed atypical cells. CT thorax showed features of right lung malignancy. In view of no definitive tissue diagnosis and lesion was approachable, EUS was done. Biopsy result came back as adenocarcinoma of lungs with EGFR mutation positive.

CASE 2:
CHCM, 57 years old Malay man, without any medical illness, had chronic cough for 4 months associated with haemoptysis and worsening dypsnea. Clinically he is pink, no peripheral nodes palpable, vital sign stable. Lungs: reduced breath sound right lung. Per abdomen no hepatosplenomegaly or mass. No pedal oedema. CXR: Right lung consolidation. CT thorax showed right lung malignancy with lymph nodes metastasis and lymphangitis carcinomatosis. In view of presence of obstruction over the bronchus in CT film, bronchoscopy was not done and proceed with EUS with biopsy result of atypical metaplasia.

Conclusion:
EUS-FNAC can be used as a part of modality for pulmonary and mediastinal biopsy.

CR23

THORACIC ACTINOMYCOSIS WITH ENDOBRONCHIAL INVOLVEMENT

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Introduction:
Actinomycosis is rare and slowly progressive infectious disease that can affect many organ systems. It is caused by filamentous, gram positive, non-acid fast, anaerobic-to-microaerophilic bacteria. Thoracic or pulmonary actinomycosis accounts for 15-20 cases and it usually misdiagnosed with other intrapulmonary disease, and involvement of endobronchial is very rare.

CASE:
ZS, 42 year-old lady, no previous medical illness, presented with chronic cough for 3 months, haemoptysis and constitutional symptoms. Clinically, she was not tachypneic, lungs had bronchial breathing over right upper zone, no peripheral lymphadenopathy. Chest radiograph and computed tomography scan showed right thoracic mass. Thoracic actinomycosis with endobronchial involvement was confirmed with bronchoscopy and endobronchial biopsy. She was started with penicillin but not responded. Subsequently she was referred to cardiothoracic surgeon for resection, unfortunately patient succumbed to death before the intervention.

Conclusion:
Endobronchial actinomycosis is rare. Presence of endobronchial lesion made bronchoscopic biopsy feasible.

CR24

UNDIAGNOSED PULMONARY ARTERIOVENOUS MALFORMATION – IN PATIENT WITH POLYCYTHAEMIA AND CLUBBING

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Introduction:
Pulmonary arteriovenous malformations represent abnormal communications between the pulmonary arterial and venous systems that bypass the capillary bed. Frequency reported ranging 10-20 persons per 100,000.

CASE 1:
MSNH, 28 year-old Malay gentleman, initially presented with left sided pleuritic chest pain and dyspnea for 1 week. Clinically had peripheral cyanosis and clubbing. Chest x-ray noted left sided pleural effusion which not resolved after given antibiotics. Pleuroscopy done and biopsy taken suggestive of pleural tuberculosis. CT scan thorax revealed multiple lung lesions with pleural effusion suggestive of pulmonary tuberculosis and incidental findings of left pulmonary arteriovenous malformation.

CASE 2:
MRM, 57 year-old Malay man, no previous medical illness, went to outpatient department for health screening having polycythaemia. Otherwise patient was asymptomatic. Clinically patient had polycythaemia and clubbing. No peripheral node and perabdomen no hepatosplenomegaly. Lungs clear. Chest xray showed left middle lobe opacity. Ct Thorax showed left upper lobe anterior segment pulmonary arteriovenous fistula.

Conclusion:
Most patients with pulmonary arteriovenous malformation are asymptomatic. Thorough examination with imaging can help in diagnosing pulmonary arteriovenous malformation.

CR25

AMYLASE PRODUCING NON SMALL CELL LUNG CARCINOMA

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Introduction:
The incidence of hyperamylasemia in NSCLC is relatively rare, reported only 1-3% of all types of lung carcinoma. Here, we report on two patients with amylase producing metastatic NSCLC with ALK chromosomal rearrangements that responded to first line platinum based doublet systemic chemotherapy.

Case 1:
A 57 year old female was diagnosed with Stage IV adenocarcinoma of lung, T2N3M1a (pleura) and ALK positive. Patient was given 4 cycles of Gemcitabine/ Cisplatin in between December 2016 - March 2017, the serum amylase levels were reduced from baseline 731 U/L to 419 U/L.

Case 2:
A 54 year old gentleman was diagnosed with Stage IV adenocarcinoma of lung, T1N2M1a (pleura) and ALK positive too. Gemcitabine/ Cisplatin chemotherapy was initiated in February 2017, currently completed cycle 5. His serum amylase levels were reduced from baseline 468 U/L to 202 U/L.
In both cases the staging CT revealed a normal pancreas. Post chemotherapy CT restaging showed stable disease in target lesions. The above results indicated serum amylase level may be produced ectopically in lung carcinoma. The amylase level is more cost effective and easily accessible, therefore it may be a better alternative "tumour marker" compared to CEA, a traditional lung tumour marker in predictive of progression of disease. We suggest that the serum amylase level can be considered as a tumor marker reflecting response to chemotherapy and disease relapse in amylase producing lung carcinoma.

Keywords: Amylase (reference range 28-100 U/L), ALK (anaplastic lymphoma kinase),
CEA (carcinoembryonic antigen), NSCLC (non small cell lung carcinoma)

CR26

A BREATHLESS SARCOID

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Introduction:
Cardiac sarcoidosis can be the first and/or an unrecognized manifestation of sarcoidosis. This condition is diagnosed clinically in approximately 5% of patients with sarcoidosis, although autopsy studies have shown that cardiac involvement is present in up to 25% of autopsy specimens.

Case report:
A 52-year old lady with sarcoidosis (Stage 2) in 2011 which biopsy proven. She was symptomatic (cough and breathlessness) and steroid treatment was started. Her electrocardiogram (ECG) was sinus rhythm and echocardiogram was normal in 2011.During follow up, her symptoms of cough resolved however her breathlessness remained the same especially on tapering dose of steroid. She had annual computed tomography thorax which showed a stable disease. Her steroid treatment was continued until early 2017. She started to complain of palpitation besides breathlessness. Her ECG showed a new onset left bundle branch block. She was investigated for ischaemic heart disease and the cardiac markers were normal. She was seen by the cardiologist, her echocardiogram showed a dilated cardiomyopathy with ejection fraction of 31% and coronary angiogram was normal. Her cardiac MRI showed changes of myocardial fibrosis and based on this it is suggestive of cardiac sarcoidosis. Her current treatment is high dose prednisolone (40mg/day) combined with methotrexate, heart failure therapy and with the plan of insertion of biventricular pacing and implantable cardioverter defibrillator (ICD).

Conclusion:
There is no gold standard to diagnose cardiac sarcoidosis, therefore clinicians often must combine clinical data with advanced imaging. The recommendation for all patients with extra cardiac sarcoidosis, a yearly screening with ECG and specific imaging should only be performed when there is a clinical suspicion or an abnormal ECG or symptoms (ie palpitations or pre-syncope).
Edward Hulten, Cardiovasc Diagn Ther 2016

CR27

INTERSTITIAL PNEUMONIA WITH AUTOIMMUNE FEATURES: A CASE REPORT

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Introduction:
There is always a dilemma surrounding the classification of patients with interstitial lung diseases (ILDs) and clinical features that are suggestive of occult connective tissue disease (CTD), because such patients do not meet the accepted rheumatology criteria for a definitive diagnosis of CTD.

Case report:
A 51-year old lady diagnosed with ILD in 2011 when she had dry cough and shortness of breath for 1 year duration. She was seen in Singapore General Hospital and high resolution computed tomography (HRCT) showed an extensive patchy ground glass peribronchovascular area and multiple cyst. She had surgical lung biopsy which histology reported as lymphocytic interstitial pneumonia. CTD screening was negative for 3 consecutive years. She also did not complain any autoimmune related symptoms. Her lung function was preserved initially and she was not on any treatment. Her symptoms persist and she presented to our center end of 2016. She developed skin vasculitis which was diagnosed by dermatologist and was started on high dose steroid treatment. A repeated CTD revealed positive (anti SSA/SSB and centromere B) with low complements. Clinically she is worsening in term of symptoms, lung function deteriorating and desaturated on walking test despite on steroid treatment. She was referred to rheumatologist for further consultation, however she has not yet fulfilled the criteria of specific CTD. Her condition rather fit into a clinical diagnosis of interstitial pneumonia with autoimmune features (IPAF) and a steroid sparing agent (azathioprine) was initiated.

Conclusion:
The diagnosis can be challenging and suggested practices should include a rheumatology assessment, testing a broad array of circulating autoantibodies and correlating with radiographic and histopathologic features.

CR28

ORGANISING PNEUMONIA SECONDARY TO ETANERCEPT

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Introduction:
The biologic agent has dramatically improved the course of rheumatoid arthritis. However, this agent is not side effect free and there are reports of drug induced lung injury following TNFα inhibitor treatment.

Case report:
A 33-year old lady was diagnosed with seropositive rheumatoid arthritis in 2012. Over several years, she was treated with sulphasalazine and methotrexate for her active articular involvement. In 2015, she was planned to start on biologic agent, Etanercept. A thorough tuberculosis workout was done pre-initiation Etanercept. Her mantoux was positive (20mm) and tuberculosis culture was negative.

Her initial chest radiograph showed a left lower zone consolidation and was treated for pneumonia. Following that, she was started on isoniazid prophylaxis treatment and subsequently received course of subcutaneous Etanercept. After 9 doses of injection, she began to develop a non-productive cough and fever. The repeated chest radiograph showed infiltration both lungs and a computed axial tomography showed multiple reversed halo signs (Atoll's sign). Bronchial lavage was negative for bacterial, mycobacterium tuberculosis and fungal infection. She was started empirically for tuberculosis infection and later a lung biopsy was performed. The histology showed organising pneumonia changes. Based on the radiology-histological findings, a conclusion of drug induced organising pneumonia has been made. The anti-tuberculosis was stopped, withdrawal of etanercept (after 33 doses) and the addition of high dose prednisolone (0.75mg/kg/day) resulted in rapid improvement and achieved clinical stabilization.

Conclusion:
A close monitoring during biologic agent treatment not just to focus in infection but also non-infection complications. A lung biopsy will be necessary to establish a proper diagnosis.

CR29
STERNAL PLATING IN UNSTABLE STERNAL FRACTURES – A CASE REPORT

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Introduction:
Sternal fractures are uncommon, occurring in about 3 to 8% of trauma cases and are usually due to high impact force to the chest. Most sternal fractures can be treated conservatively and heal without sequelae however some cases require sternal fixation. We report a case of successful Open Reduction Internal Fixation of a patient with an Unstable Sternal Fracture using 2 sternal locking plates.

Case Study:
A 44 year old lady presented to the hospital with complaints of severe pain over the anterior chest wall after a motor vehicle accident. On examination patient appeared to have bruising and swelling over the sternum. Chest x-ray and Computed Tomography revealed a transverse, displaced sternal fracture with no underlying vascular injury.

Discussion:
This displaced unstable sternal fracture required surgical fixation. In this case we used 2 straight titanium sternal locking plates 2.4 with 8 holes and 12 screws(8 sternal unilock screw 3.0mm,self-drilling 10mm and 4 sternal unilock screw 3.0mm self-drilling 12mm).The approach was made via a midline sternotomy and the fracture site was carefully debrided of any fibrous union. Complete reduction was confirmed by chest x-ray (AP and lateral view).Patients symptoms resolved immediately after reduction and no post-operative complications were seen.

Conclusion:
Unstable sternal fractures require surgical fixation and plating with sternal locking plates should be considered. Other indications include severe pain, cosmetic problems, malunion, nonunion and compression to the heart.

CR30

WEGENER'S GRANULOMATOSIS - THE CHALLENGES IN ITS REVELATION AND TRIBULATION ON TREATMENT

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Introduction:
Diagnosis of Wegener's granulomatosis, a rare multisystem autoimmune disease remains a great challenge due to its clinical heterogeneity. Early commencement of immunosuppressive treatment is vital but often complicated by infection and sepsis. We present 2 cases which highlights different courses of the disease.

Case 1:
25 year-old male presented with acute haemoptysis and fever. He had similar presentation 8 months ago and was treated as leptospirosis with pulmonary haemorrhage. He was discharged well till current admission. Upon presentation he was febrile, in respiratory distress and had right lower zone bronchial breathing. He also had leukocytosis, anaemia and acute kidney injury with microscopic haematuria and proteinuria. Chest radiograph revealed diffuse reticulonodular shadowing. CT Thorax showed extensive ground glass changes and consolidation. Bronchoscopy revealed diffuse multiple bleeding spots. c-ANCA was positive. He was then treated with methylprednisolone, immunoglobulin and plasmapheresis. Once sepsis was controlled, he had cyclophosphamide. He responded well and was discharged with subsequent maintenance treatment.

Case 2:
43 year-old lady presented initially to multiple private center with 4 months history of tinnitus, epistaxis, bilateral lower limb weakness and haemoptysis. CT Thorax revealed bilateral lung masses. Unfortunately she took discharge against medical advice. 6 weeks later, she presented to us with similar symptoms associated with abdominal pain. She had acute kidney injury with anaemia and urinalysis showed microscopic haematuria with granular cast. Her c-ANCA was positive and she was started on corticosteroid, plasmapheresis, immunoglobulin and cyclophosphamide. She then had massive lower GI bleed and caecal biopsy confirmed Cytomegalovirus infection. Unfortunately her admission was complicated with resistant CMV infection and nosocomial pneumonia of which she succumbed to the condition.

Conclusion:
Both patients highlight clinical heterogeneity of the disease. Immunosuppressive treatment is vital to achieve remission (first case) but can be complicated by opportunistic infection and mortality (second case).

CR31

A CHALLENGING CASE OF CONCURRENT PULMONARY TUBERCULOSIS WITH EPIDERMAL GROWTH FACTOR RECEPTOR (EGFR) POSITIVE- METASTATIC ADENOCARCINOMA OF LUNG

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Introduction:
Tuberculosis and lung cancer both are important global health burden. Despite their high prevalence concurrent diagnosis at presentation is not commonly reported.

Case Report:
We report a case of a previously well 60-year old woman who was diagnosed with tuberculosis (TB) and adenocarcinoma of lung. She presented with a 1-month history of productive cough, shortness of breath and constitutional symptoms. She was a lifelong non-smoker and with previous no TB contact. On admission she was ventilated due to type 1 respiratory failure. Chest radiograph was suggestive of miliary TB, of which she was started on anti-TB. There was also evidence of bilateral ocular tuberculoma during eye screening prior to anti-TB. Bronchoscopy was done and bronchial washing positive to acid-fast bacilli. Later on, endobronchial biopsy came back as adenocarcinoma while molecular study showed positive mutation for epidermal growth factor receptor (EGFR). CT staging revealed metastasis to the liver and bone. She was subsequently treated with oral gefitinib together with anti-TB. She had a prolonged stay due to drug induced liver injury requiring bridging therapy and difficult weaning of ventilation. She acquired bouts of nosocomial infections and succumbed.

Discussion:
The diagnosis of concurrent TB and adenocarcinoma of lung is uncommon but not negligible. It was reported that 1-2% lung cancer occur in active TB whereas 2-5% PTB found in lung cancer cases [1]. Bronchial biopsy may unravel lung cancer that can mimic TB and increase the diagnostic yield for TB [2]. The prognosis is poor in these co-morbidities usually due to delay in diagnosis as well as limited therapeutic options.

Conclusion:
Despite the diagnostic and therapeutic challenges of TB and lung cancer co-morbidities, early detection may help to improve patients' survival.

References

1. *Tamura A. Kekkaku. 2016 Jan; 91(1):1-25*
2. *Jain P et al., Interventional Bronchoscopy 2013.*

CR32

LOCULATED EMPYEMATOUS CHYLOTHORAX SUCCESSFULLY TREATED WITH TPA WITHOUT DNASE: A CASE REPORT

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Introduction:

Optimal treatments for pleural infection are critical. Previous trial showed no significant change of pleural effusion with tPA-alone without DNAse compared to placebo.

Case Report:

We report a 57-year old man on who was regular haemodialysis presented with recurrent right chylothorax. Venogram and lymphangiogram confirmed chylothorax due to central venous stenosis. The chylothorax was drained multiple times during different admissions. He presented with fever and recurrence of chylothorax in March 2017. Pleural fluid analysis was consistent with empyema and chest drainage was inserted. Ultrasound thorax showed multiloculated hyper-echoiec effusion. Intrapleural tPA was commenced due to poor drainage. Three doses of 5mg intrapleural alteplase were given to the different locules and a total of 2 litres of empyema was successfully drained out over 2 days. Repeated ultrasound showed resolutions of effusion on right hemithorax. Chest radiograph post removal of chest drain showed no recurrence. He was treated with 6 weeks of intravenous Tazocin and was planned for lympho-venous bypass for chylothorax later.

Discussion:

Pleural infections carry high morbidity and mortality. Some of the patients inevitably require decortications. The use of intrapleural tPA in complex effusion showed varying results [1]. *Najib et al* found that intrapeural tPA-DNAse improved effusion drainage, less surgical referral and reduced length of admission in patients with pleural infection. In contrary to our case, they found that tPA alone was found ineffective [2].

Conclusion:

Although this patient was successfully treated with intrapleural tPA without DNAse, more studies are needed to determine the optimal treatment for pleural infection.

References

1. *Hamblin, S.E. and Furmanek, D.L, Intrapleural tissue plasminogen activator for the treatment of parapneumonic effusion. Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy, 2010.*
2. *Rahman, N.M., et al., Intrapleural use of tissue plasminogen activator and DNase in pleural infection. New England Journal of Medicine, 2011.*

CR33

PULMONARY SCLEROSING PNEUMOCYTOMA MIMICKING ADENOCARCINOMA

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Introduction:
Sclerosing pneumocytoma (PSP) is a rare benign tumor of the lung and typically presents as an incidental lung nodule or mass.

Case Report:
We report a 58-year old lady who was found to have an incidental lung mass on a chest radiograph. She was otherwise asymptomatic. Bronchoscopy and CT thorax were performed. There was a 6.2 x 5.5x 4 cm mass in the right upper lobe. The tissue biopsy was reported as adenocarcinoma. PET/CT showed increased uptake with maximum SUV of 4. She was referred for resection of the tumor and had undergone thoracotomy and bilobectomy. She was initially planned for adjunctive chemotherapy. However, the diagnosis was revised as the final histopathological examinations (HPE) were consistent with benign sclerosing pneumocytoma. Furthermore, the surrounding lymph nodes sampling were negative for malignancy. She was well post operatively.

Discussion:
PSP derive from respiratory epithelia and types II pneumocytes. Formerly known as sclerosing hemangioma; this benign tumor affect predominantly Asian women in their fifth decades. [1]. It shows high uptake on PET/CT which may mimic malignant neoplasm [2]. It consists of two cell types, and the epithelial cells usually have positive TTF-1. Thus it may be misinterpreted in frozen sections as adenocarcinoma as in our case.

Conclusion:
PSP may be difficult to diagnose due its rarity and similarities in HPE. Clinicians should be made aware of this disease entity. An experienced pathologist provides ancillary support towards a correct diagnosis.

References

1. *Baysak, A et al., A Rare tumor of the lung:Pulmonary sclerosing hemangioma. Respiratory Medicine,2013*
2. *Lim, J.H., et al., Pulmonary sclerosing pneumocytoma mimicking lung cancer: Case report and review of the literature. Thoracic cancer, 2016.*

CR34

CAVITARY LUNG LESION: A CLINICAL CONUNDRUM

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Introduction:

Cavitary lung lesions of various etiologies may be encountered in patients with respiratory symptoms associated with fever. We report an interesting case of melioidosis infection complicated with pulmonary embolism, both of which can lead to cavitary lung lesions and subsequently cause a clinical conundrum.

Case Report:

A 64-year old man with a poorly controlled diabetes was admitted due to prolonged cough and poor appetite. There was no hemoptysis or tuberculosis (TB) contact. He was afebrile but white cells counts on admission was raised. Chest radiograph showed a thick-walled cavity and consolidation on the right upper lobe. He was initially treated for pneumonia. CT thorax was done to look for evidence of abscess and to rule out lung carcinoma. CT thorax showed necrotizing pneumonia with incidental findings of bilateral pulmonary embolism. Blood and sputum cultures results showed positive for *Bukholderia pseudomalei* after 2weeks of incubation. IV tazocin was changed high dose Ceftazidime and patient responded to both antibiotic and anti-coagulant.

Discussion:

Pneumonia is the most common presentation in melioidosis and the clinical manifestations range from acute fulminant sepsis to chronic infection mimicking tuberculosis. Like our patient, the cavitating pneumonia is likely due to manifestation of melioidosis. Although, other possibility is that pulmonary embolism could be responsible for necrotizing pneumonia as reported previously [1]. Melioidosis septicemia with venous thromboembolism and cavitating pneumonia initially mimic lung carcinoma and pulmonary tuberculosis. The hypothesis of this presentation is sepsis induced acquired hypercoagulable state.

Conclusion:

Although melioidosis is such a common infection in our country, yet it is still underdiagnosed due to wide disease manifestation spectrum and entity. Prompt treatment with intravenous heparin and appropriate antibiotics on a timely manner is potentially curative.

References

1. *Bashir Y, Benson MK. Necrotising pneumonia and empyema due to Clostridium perfringens complicating pulmonary embolus. Thorax. 1990 Jan;45(1):72.*

CR35

THE BLOODY SHABU: DIFFUSE ALVEOLAR HAEMMORRHAGE SECONDARY TO METHAMPHETAMINE

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Introduction:
To date, there are limited reports of the respiratory effects of methamphetamine use, known as Shabu in Malaysia. We report a case of diffuse alveolar haemorrhage (DAH) secondary to methamphetamine abuse.

Case Report:
We report a 46-year old male smoker of 20 pack years who presented with a week history of haemoptysis. He was previously well and denied any illicit drug abuse on presentation. He coughed up to one cup of fresh blood daily. He denies any constitutional symptoms. A CT thorax was performed which revealed patchy consolidation in the upper lobes. He was initially treated as community-acquired pneumonia. A bronchoscopy illustrated a clot at the bronchus intermedius but due to persistent desaturation, he underwent a rigid bronchoscopy for removal of the clot. He was intubated due to persistent desaturation and was complicated with ventilator-associated pneumonia. During his intensive critical care unit stay, his wife admitted that he was a frequent user of Shabu or methamphetamine. He recovered and was discharged after prolonged rehabilitation. His tuberculosis diagnostic tests were all negative.

Discussion:
Methamphetamine abuse is becoming more common in Malaysia. Respiratory complications from this substance abuse may cause pneumonitis, pulmonary oedema, bronchospasm and acute respiratory distress syndrome. There has only been one case report demonstrating the association of an anti-GBM, Goodpasture alveolar haemorrhage syndrome with methamphetamine. Further studies are necessary to elucidate the association between DAH and methamphetamine.

Conclusion:
Methamphetamine abuse is common in Malaysia. This case report highlights another complication that may arise from this substance abuse. To date, there has only been one report linking DAH with methamphetamine.

References
1. *Kaplan et al. Anti-globerular basement membrane antibody-negative, goodpasture-like alveolar haemorrhage syndrome in young women with methamphetamine use. Chest 2005:128:4*

CR36

SARCOIDOSIS: A CASE SERIES

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Introduction:

Sarcoidosis is a multisystem granulomatous disease and has varying clinical presentations. We report 4 interesting cases of sarcoidosis.

Case Series:

Case 1:
40 year-old Indian gentleman presented with renal calculi, acute kidney injury secondary to hypercalcaemia. He had multiple skin nodules and lymphadenopathies. CT Thorax showed multiple mediastinal lymphadenopathies with right upper lobe interstitial septal thickening. Cubital-fossa lymph node biopsy showed non-caseating granuloma.

Case 2:
50 year-old Indian gentleman presented with 3 months history of fever, reduce effort tolerance and weight loss. Bloods showed acute kidney injury with hypercalcaemia. CXR showed interstitial changes. CT thorax showed diffuse ground glass opacities with reticulonodular changes and mediastinal lymphadenopathy. RUL TBLB revealed non-caseating granuloma.

Case 3:
51 year-old Malay lady presented with right hypochondriac pain for 2 years and weight loss. There was hepatomegaly, anaemia, acute kidney injury and hypercalcaemia. CT scan showed multiple liver and spleen hypodensities, abdominal, hilar and mediastinal lymphadenopathies and upper lobe microdules and fibrosis. BAL AFB smear and TB culture were negative. EUS FNAC was inconclusive. Liver biopsy confirmed non-caseating granulomas.

Case 4:
59 years-old Indian lady presented with 4 months history of epigastric pain and weight loss. Ultrasound confirmed hepatomegaly with diffuse increased echogenicity of the liver. CT scan showed multiple intra-abdominal lymphadenopathies, nodular pattern hepatomegaly and early granuloma changes in lungs. Bronchoscopy showed multiple nodular lesions in trachea and both bronchi. EUS FNAC was indeterminate. Open biopsy of abdominal lymph nodes, biopsy of lesion via bronchoscopy and liver biopsy confirmed non-caseating granuloma.
All patients were started on steroids and had responded well.

Conclusion

This case series highlights varying presentation of sarcoidosis. Diagnosis requires combination of clinical suspicion, CT imaging and biopsy of site involved.

CR37

INTRACTABLE DIARRHEA IN A LUNG CANCER LADY ON TYROXINE KINASE INHIBITOR: A CASE REPORT

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Introduction:
In adenocarcinoma of the lung with an EGFR mutation, treatment option is moving towards a targeted therapy/tyroxine kinase inhibitor (TKI). Diarrhea induced by TKIs is may occur in the first 4 weeks of treatment initiation. The grades of severity base on the number of bowel movements experienced per day above baseline.

Objective:
To share experience in managing intractable diarrhea in a patient who received TKI.

Methods:
Medical record review. All results were analyzed including the laboratory and radiological workup.

Result:
We described a case of 56 year old lady with Adenocarcinoma of the lung with bone metastasis(Stage IV),EGFR mutation deletion axon 20 (T790M) detected with performance status: ECOG 2. The patient was started with TKI, Afatinib 40 mg daily. After two weeks on TKI, the patient underwent radiotherapy over the right iliac bone after complained of uncontrolled pain. CT scan revealed multi lobulated soft tissue lesion with a lytic lesion at the right iliac bone. She started to developed watery diarrhea of Grade 3 after four weeks on TKI and two weeks after radiotherapy and further complicated with acute kidney injury event. The TKI was than withheld. Investigations which include septic parameter were within the normal ranges, stool culture and stool for clostridium difficile toxin were negative. The diarrhea took about 3 weeks to resolve. The patient required hydration and titration of medication with lomotil, loparamide, buscopan and doxycycline.

Conclusion:
Diet modifications and antidiarrheal medications are usually sufficient to control diarrhea caused by TKI. To prevent worsening of the symptoms and to avoid dose reduction or discontinuation of the TKI, early intervention needed. If the symptoms persist, differential diagnoses need to rule out.

CR38

T-LYMPHOBLASTIC LYMPHOMA MIMICKING TUBERCULOSIS DIAGNOSED ON BLIND PLEURAL BIOPSY

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Introduction:
Lymphoma is a haematological malignancy arising from the lymphatic system. It commonly presents with lymphadenopathy and constitutional symptoms. It can affect extra-nodal sites and can mimic other diseases, particularly tuberculosis (TB).

Case Report:
We report a case of a 22-year old male who presented with a four-week history of cough with haemoptysis, intermittent fever, night sweats and pleuritic chest pain. Examination revealed reduced breath sounds over the left mid to lower zone. There was no palpable lymphadenopathy. Chest radiograph revealed a left-sided

pleural effusion with diffused consolidative infiltrates. Blind pleural biopsy was performed and a chest tube was placed for the haemoserous effusion. The pleural tissue samples were sent for histopathological examinations and mycobacterium TB culture. The fluid was sent for acid-fast bacilli (AFB) smear, cytology, culture and sensitivities. Sputum AFB was negative. Akurit-4 was empirically started for presumed smear negative tuberculosis. Intra-pleural streptokinase was used as a fibrinolytic for multi-loculated effusion. A week later, histopathology from the biopsies confirmed a T-lymphoblastic lymphoma (Ki-67 proliferative index >50%, positive for LCA, CD3, CD 8, TdT while negative for CD 20 and CD 4). CT thorax-abdomen-pelvis showed a large mediastinal mass encasing the great vessels of the heart, causing significant narrowing of the trachea and left main bronchus. The left pleura was thickened with lymphangitis carcinomatosis. The left brachiocephalic vein was obliterated. No lymphadenopathy was mentioned. Akurit-4 was stopped. Steroids, low-molecular weight heparin and allopurinol were started. The patient was referred to haematology. He completed six cycles of chemotherapy, following which; a marrow transplant was planned.

Conclusion:
This final diagnosis was an unusual example of a TB mimic, which was remarkably achieved through blind pleural biopsy instead of a lymph node biopsy that is usually required for definitive diagnosis.

CR39

THE JOURNEY OF A PATIENT WITH MULTIDRUGS RESISTANT TUBERCULOSIS:A CASE REPORT

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Introduction:
Ethionamide one of the second line drug included in regime for treating patient with multiple drugs resistant tuberculosis. One of the rarest adverse effects is gynaecomastia, a benign proliferation of male breast glandular tissue which can be unilateral or bilateral. Hypothyroidism is one of other important adverse effect which frequently missed which usually manifests with vague symptoms.

Objective:
To share experience in managing patient who developed gynaecomastia and hypothyroidism after treated with second line anti tuberculosis in Institut Perubatan Respiratori.

Methods:
Medical record review.All results were analyzed including the laboratory and radiographic findings.

Result:
We described a case of 26 year old gentleman known case of multidrugs resistant tuberculosis was prescribed second line antitubercular drugs: Kanamycin, Ethionamide, Pyrazinamide,Ofloxacin and Cycloserine.After 4 months on treatment,he developed breast swelling both sites which tenderness on palpation.Investigations revealed raised serum prolactin 540Miu/Lwhich ultrasound breast showed tissue at both of nipples areolar complex were prominent suggestive of gynaecomastia.The pain not improved with pain killer and tamoxifen 20mg od was started.After 12 months on second line antiTB he easily lethargic and revealed he also hypothyroid .He required replacement with L-thyroxine 100mcg od.He completed the conventional regime without interruption.Follow up within 2 years post completion of treatment revealed normalized of thyroid function and resolved gynaecomastia.

Conclusion:
Gynaecosmatia and hypothyroidism are known adverse effects reported due to ethionamide.Treatment for gynaecomastia is seldom required unless cause discomfort to the patients.Both of adverse effects completely resolved after stoppage of the drug,Thyroid function should be carefully monitored.Thyroxine supplementation should be given rather than changing the ethionamide based regime.

CR40

CONGENITAL CEREBROSPINAL FLUID RHINORRHEA

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A case of congenital cerebrospinal fluid (CSF) rhinorrhea which is non-traumatic can be difficult to diagnose. A strong clinical suspicion is required to proceed with further management. A 10 week old boy, presented with recurrent episodes of upper respiratory tract infection since the age of 2 weeks old. The most prominent complaint was continuous nasal discharge. He was admitted 4 times in total for respiratory distress, requiring intubation and ventilation on all occasions. He was never fully well in between the episodes. Following a clinical suspicion of CSF leak, a flexible bronchoscopy was done. It showed there was clear discharge in the nasal cavity that kept reaccumulating after suctioning. Computer Tomogrpahy (CT) of the Brain / Paranasal Sinuses was done to locate the site of leak.
However it only revealed physiological unossified floor of the anterior cranial fossa. The exact site of the defect was not visualised. Proceeding with a Magenetic Resonance Imaging (MRI) of the area, there was no base of skull defect seen. However, there was a high signal detected on T2, at the nasopharynx and oropharynx, in keeping with fluid accumulation. The child underwent surgical intervention. A bicoronal craniotomy and CSF leak repair was done. Intraoperatively, there was a 4 x 3 mm defect over the right, lateral cribiform plate. The dura was partially detached. The defect was then closed with muscle tissue, fascia and surgicel. Following surgery, no further recurrence of symptoms were observed till date. No more pooling of secretion in the nostrils seen, indicating no more CSF leak. A multidisciplinary team approach with input from the otolaryngology, radiology, anesthesiology, neurosurgery and paediatric respiratory team is required to successfully manage the above child. It is also important to repair the defect early to prevent meningitis.

CR41

TITLE CASE: ORGANIZING PNEUMONIA: TWO CASE REPORTS

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Introduction:
Organizing pneumonia (OP) is a rare but life-threatening disease. The presenting history maybe vague and non-specific. The goal standard of diagnosing OP is histopathology. Computer tomography (CT) chest of the lung plays some role with high predictive features however, this may also demonstrate non-specific features. We present two cases of OP with two different CT findings and clinical outcomes, highlighting the difficulty of diagnosing this disease.

Case Report:
Patient A was a 68 year-old Chinese gentleman who presented with acute shortness of breath and clinical examination revealed signs of congestive cardiac failure. His CT chest illustrated ground glass opacity and consolidation with air bronchogram in the right upper and lower lobe.

Bronchoscopy and transbronchial biopsy was performed which revealed OP with heart failure. His condition improved significantly with systemic steroids.

Patient B was a 27 year-old Burmese male who presented with 3 days of fever and cough. Physical examination also revealed signs of congestive heart failure. His CT chest revealed bilateral consolidation. He was treated as hospital acquired pneumonia but developed multi-organ failure. A bronchoscopy and transbronchial biopsy was performed which revealed OP subsequently after his oxygenation deteriorated and death.

Discussion:
These two cases highlighted the difficulty of diagnosis OP without trans bronchial biopsies as both presented with signs of congestive cardiac failure. Patient B's course of illness was also complicated by hospital-acquired pneumonia which masked his underlying OP. Although CT may reveal predictive features of OP, these two cases were complicated by other pathologies with non-specific and common CT features such as ground-glass opacities and consolidation. These cases highlight that OP should be part of the differential diagnosis in lung diseases with parenchymal abnormalities on the CT.

CR42

ANTERIOR MEDIASTINAL MASS: IS IT TB, TUMOUR OR COEXISTENCE?

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A 37-year-old gentleman, with underlying type 1 DM, presented with chronic cough and intermittent fever for 1 month. Along with this he also had loss of weight and appetite. On the basis of positive sputum smear for Acid fast bacilli (AFB), raised erythrocyte sedimentation rate (ESR) and symptom chronicity he was treated as pulmonary tuberculosis. His initial CT thorax revealed features of active PTB with multiple lung cavities, large hydropneumothorax and mediastinal lymphadenopathy. There was also a large paratracheal mass. He remain symptomatic and his chest radiograph has not showed improvement at 6 months of treatment. His sputum MTB culture and sensitivity came back as MTB complex which sensitive to first line treatment. The antitubercular treatment was extended to 9 months, in view of his persistent symptoms, and considering the possibility of disseminated tuberculosis; pulmonary tuberculosis with Tb lymphadenopathy. A repeated CT scan of the chest showed an increasing size of right paratracheal mass. The possibilities of lymphoma or thymoma were considered. A biopsy from the mass under CT guidance was performed and revealed an overall features that favour thymoma. The mixed population of lymphoid component does not support lymphoma. He underwent a median sternotomy and incisional biopsy of tumour. Histopathological examination of thymic tissue/ lymph nodes revealed an enlarged lymph nodes with atypical plasmacytoid cell, and the diagnosis of malignant thymoma was made. The coexistence of these two conditions was incidental, however, this case illustrate the importance of careful evaluation of lung parenchyma as well as mediastinum to identify occult diseases.

CR43

IS IT LIVER OR LUNG CANCER? AN INTRIGUING CASE OF LUNG ADENOCARCINOMA WITH HEPATOID DIFFERENTIATION

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Introduction:
Hepatoid adenocarcinoma (HAC) is a rare form of adenocarcinoma which was defined by morphological and functional hepatic differentiation. HAC occurs in extrahepatic organs such as gastrointestinal tract, testes, ovaries and lungs and frequently produces AFP. The diagnosis and treatment can be challenging due to the varied clinical presentation. However, morphological features and immunohistochemical analysis facilitate the diagnosis. We describe herein the case of lung adenocarcinoma with hepatoid differentiation and to the best of our knowledge, it is the first case reported in Malaysia.

Case Report:
We report a case of a 50 year old man who was investigated for an incidental finding of left lung mass following a symptom of left shoulder pain over 3 months period. He also had significant raised serum α-feto-protein (AFP) level of up to 29000, which raised the suspicion of hepatocellular carcinoma with lung metastases. However, there was no detectable liver lesion on multiphase contrasted tomography (CT) liver and no significant hypermetabolic nodes or distant metastasis seen in the liver on positive emission tomography (PET) scan. His histopathological examination (HPE) of lung biopsy confirmed adenocarcinoma with hepatoid differentiation that might explain the raised serum AFP level.

Conclusion:
This case illustrates an atypical presentation and a rare type of lung carcinoma. It also highlights the importance of having a multidisciplinary approach, involving the treating respiratory physician, pathologist, radiologist and clinical oncologist in managing this rare lung carcinoma with atypical presentation. An accurate and early diagnosis using immunohistochemistry with the support of imaging modalities played important roles in optimizing patient's care. Further larger studies are needed to establish standard treatment approach for this rare type of lung cancer.

CR44

IS IT A RESPI OR GYNAE CASE: A COMPLICATED CASE OF ENDOMETRIAL TUBERCULOSIS PRESENTING AS IRREGULAR MENSTRUAL BLEEDING

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Introduction:
Endometrial Tuberculosis (TB) is a rare form of tuberculosis infection. The diagnosis is not straight forward due to the nature of its presentation. We report a case of Endometrial Tuberculosis (TB) in a young, healthy and immunocompetent patient, who presented with irregular menstrual bleed. Her endometrial pipelle sampling revealed features of caseating granulomatous inflammation due to tuberculosis. We discuss the diagnostic modalities and treatment in this case.

Case Report:
A 40-year-old lady, presented with irregular and heavy menstrual bleeding for duration of one year. She had a dilatation and curettage (D&C) procedure for a miscarriage one year back. She was a mother of four, and her last childbirth was 8 years back. Physical examination revealed a well-built lady with BMI of 23, and examination of other system were unremarkable. Her abdominal and pelvic ultrasound were normal. Her endometrial pipelle sampling revealed caseating granulomatous inflammation due to tuberculosis. Her chest radiograph was clear, and her mantoux test was positive with a reading of 20 mm skin induration associated with blisters. Other investigations to exclude other concomitant pelvic infections such as HIV, Hepatitis, VDRL, Chlamydia or Gonorrhoea revealed normal results. She was then started on anti-TB treatment. Upon review in clinic, after completion of 2 months of intensive phase treatment, her irregular menstrual bleed has resolved, and she resumed her normal menses throughout her follow up, until completion of her 6 months regime of anti-TB treatment.

Conclusion:
Tuberculosis is a multi systemic disease with myriad presentation. A thorough history, coupled with complete physical examination and necessary investigations are essential, especially in detecting rare forms of extra-pulmonary tuberculosis. A multi-disciplinary approach is crucial for management of this case.

CR45

A CASE OF IDIOPATHIC BRONCHIOLITIS OBLITERANS

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We present an interesting case of idiopathic bronchiolitis obliterans.

This 17 year old patient had underlying childhood asthma but her symptoms resolved at 5 years old. She was not on any inhalers before. She initially presented to the emergency department with 4 months history of shortness of breath, dry cough and wheeze often triggered by cold weather and exertion. She denies history of exposure to chemicals, noxious gases or animals. She had no symptoms of connective tissue disease. There were no history of fever or night sweats but she did have significant weight loss of 20kg. She was then treated as exacerbation of asthma and was started on LABA/ICS.

However, despite that her symptoms were poorly controlled with significant shortness of breath on exertion. She had several primary care visits complaining of breathlessness and wheeze where it was noted that she was hypoxic (spO2 ranging from 86% to 90% on room air) and was therefore referred to our care. On examination, she had spO2 of 92% on room air, tachycardic (135 beats per minute) and had grade 2 finger clubbing. Chest examination revealed fine bibasal crepitations and coarse crepitations at left upper zone anteriorly.

Echocardiogram revealed primary tricuspid valve prolapse with mild pulmonary hypertension but without atrium dilatation. She had profound desaturation to 71% on 6 minute walking test (distance=375 meters). CT Thorax showed widespread heterogenous lung attenuation with hyperlucent areas suggestive of bronchiolitis obliterans. Spirometry showed obstructive pattern without significant reversibility (FEV_1 of 0.95L (31%), FVC 1.48L (42%), ratio 0.65) and full lung function test showed significant air trapping (RV=313%) with reduced DLCO (61%). Her connective tissue disease screens were all negative. She was started on oral prednisolone and responded well.

This case highlights that an interesting case of idiopathic bronchiolitis obliterans initially misdiagnosed as asthma.

CR46

SATISFACTORY OUTCOME OF BLOOD PATCH PLEURODESIS TO RESOLVE A PERSISTENT PNEUMOTHORAX IN A PATIENT WITH ADENOCARCINOMA OF THE LUNG

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Introduction:
Pneumothorax is a fairly common respiratory condition occurring in most medical institutions. In cases of non-resolving pnemothoraces occurring in patients not suitable for surgery, management includes medical pleurodesis with Tetracycline or talc, and the infrequently used blood pleurodesis. Complications with Tetracycline for pleurodesis have been well documented, while talc pleurodesis being non-standardized can cause adult respiratory distress if small particles are used. This case report is used to highlight the underutilized blood pleurodesis to successfully resolve a chronic recurrent pneumothorax.

Case Report:
We describe an elderly 75 year old gentleman with a background history of longstanding hypertension, dyslipidaemia, chronic obstructive pulmonary disease (GOLD C). He also had history of Left lung adenocarcinoma diagnosed in 2013, deemed unfit for surgery. Presented in October 2016 with acute dyspnea. Baseline imaging demonstrated Left sided Pneumothorax. Initial treatment with chest tube was unsatisfactory. Decision for trial of Blood Patch pleurodesis was considered due to multiple comorbids and patient not a candidate for surgical intervention

Conclusion:
We report a protracted but successful application of autologous blood pleurodesis to resolve a left sided tension pneumothorax precipitated by Stage IV Adenocarcinoma of the lung. We found that after unsuccessful watchful observation and conventional therapeutic methods, autologous blood pleurodesis proved to be a rewarding alternative. Therapy which did not provoke any clinical deterioration nor any untoward side effects.

CR47

TITLE CASE: CASE SERIES OF INTRAPLEURAL ALTEPLASE (WITHOUT DEOXYRIBONUCLEASE) IN COMPLICATED PARAPNEUMONIC EFFUSION, OUR FIRST EXPERIENCE.

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Introduction:
Parapneumonic infection remains a global health burden and is associated with significant morbidity despite drainage and antibiotic therapy. Mortality in adult patients approaches 20%, and up to 50% seeks surgical intervention. Drainage of the infected pleural fluid can often be hindered by septations and loculations making it difficult to manage these patients. In Malaysia the practise of IPFT administration is farely new. In our centre we have our first four patients that were put through IPFT due to loculated effusion which did not respond to simple pleural drainage and therapeutic doses of intravenous antibiotics.

Case Report:
Our first two patients received intrapleural alteplase 2.5mg x 3 doses and made full recovery. Low dose alteplase was chosen in view of low baseline hemoglobin. 3 rd patient received 5mg alteplase and was later steped up to 10mg.
Our 4th patient with empyematous chyothorax responded with 5mg alteplase given sequentially to 2 different locules. DNase was not added into the management of our patients as it is not available in our country.

Conclusion:
Despite using only intrapleural fibrinolytic therapy, all four patients made a good clinical recovery with radiological improvement as well. To our knowledge, this is the first reported case on the usage of Alteplase for pleural infection with a positive outcome. From our centre alone we were able to appreciate the benefits of IPFT and improve the general condition of our patient thus avoiding invasive surgical intervention.

CR48

PULMONARY INVASIVE MUCINOUS ADENOCARCINOMA IN A YOUNG ASYMPTOMATIC PATIENT

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Introduction:
Pulmonary Invasive Mucinous Adenocarcinoma (PIMA) is a rare variant of lung carcinoma and was previously known as bronchoalveolar carcinoma. This subtype of lung carcinoma can be difficult to diagnose as the presentation is variable and non-specific and the radiologic features are also be variable.

Case Report:
Here we report a case of a 22 year old man who was referred to us for further evaluation of abnormal chest x-ray which he had it done during routine medical check up. He was otherwise asymptomatic and well. His chest x-ray showed multiple nodular lesions and cavitating lesions of various sizes involving bilateral lung field. Further investigations were negative for tuberculosis, fungal infection and bronchoscopy was normal. Contrasted enhanced CT thorax showed multiple cavitary lung lesions at left upper lobe, right lower lobe with pleural base nodules in lingular segment at left upper lobe and posterior segment of left lower lobe with the largest size of 3.2cm. CT-guided biopsy was done and microscopically the tissue showed mucinous tumor with lepidic growth pattern. In view of the histopathology report and CT scan findings, the lesion likely represent invasive adenocarcinoma. Further testing revealed that both eGFR and ALK mutation were negative. He underwent chemotherapy and currently doing well. PIMA is an aggressive tumor with poor prognosis but early detection with surgical intervention render better prognosis for patient.

CR49

CHILDHOOD INTERSTITIAL LUNG DISEASE (CHILD): A RARE DISEASE WITH SEVERE PRESENTATION

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Childhood Interstitial Lung Disease (chILD) is a rare disease in children. We report a case, of 18 months old, term boy, birth weight 3.4kg, youngest of 3 siblings of non-related parents, without significant family history of respiratory illness, who presented in neonatal period with acute respiratory distress, initially treated as MAS with PPHN requiring prolonged ventilation for 1 month.He was subsequently oxygen dependent and had protracted hospital stay due to recurrent left pneumothoraces at 5 months old, necessitating multiple ICU admissions. He was active, not dysmorphic, baseline tachypnea with subcostal recession and bilateral crepitations and rhonchi on lungs examination.

Serial CXR showed persistent haziness of bilateral upper lobes and right lower lobe. HRCT thorax at 9 months showed bilateral emphysematous lungs, ground glass appeareance and thicken interlobular septa of right lower zone with small deep seated solitary lung cyst present at left lower lobe. No features of bronchiolitis obliterans. Echocardiography revealed small PDA.
We found unremarkable results of upper GIT contrast study and immunodeficiency screening. Based on clinical and HRCT findings, diagnosis of chILD was made. He had episodes of nosocomial pneumonia and pneumothoraces. He received monthly pulses of methylprednisolone, NIV support besides home oxygen at 9 months age. He showed positive improvement after second steroid pulse and was discharged after 15months stay.He continued to have exacerbation and after 6th pulses of steroid he succumbed to his illness complicated by acute pneumothorax prior to receiving immediate treatment in hospital. Further test (lung biopsy and genetic studies) were not done due to limited resources. However, significant number of cases are identifiable with noninvasive evaluation (J. Soares, 2013). This rare disease is worth to be considered in a child with unsettled respiratory distress.

CR50

TREATMENT OF SUBCUTANEOUS EMPHYSEMA WITH SUBCUTANEOUS DRAIN

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Introduction:

Subcutaneous emphysema is a known complication of thoracic procedures. The definitive treatment is surgical correction. Subcutaneous drain insertion does play a role in cases of thoracic inlet syndrome.

Case Report:

We present a case of a 51 year old lady who presented with cough and respiratory distress requiring intubation. Post intubation a right sided internal jugular line was inserted, she desaturated and a clinical diagnosis of right sided pneumothorax was made. Chest drain was inserted and patient subsequently developed extensive subcutaneous emphysema. Patient was deteriorating and a diagnosis of probable Thoracic Inlet Syndrome was made. A subcutaneous drain was inserted; approach employed by *Sherif* [1] and *O'Reilly et al*[2] was used as a guide. A 1.5cm incision was made between the mid clavicular line and right nipple, blunt dissection was done till the subcutaneous plane was reached, and then a 5cm tunnel was

created vertically. A size 12Fr chest drain was inserted into the tunnel and connected to a vacuumed underwater seal. Post procedure the underwater seal started to bubble vigorously and the patient's subcutaneous emphysema reduced dramatically. She subsequently had a Computed Tomography scan of the thorax that showed a large pleuro-cutaneous fistula which was repaired. Patient improved and the subcutaneous drain and chest drain were removed sequentially.

Discussion:

Definitive management of subcutaneous emphysema is surgical but insertion of a subcutaneous drain in a timely manner will help prevent development of thoracic inlet syndrome.

CR51

A CASE OF PULMONARY ALVEOLAR PROTEINOSIS

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Introduction:

Pulmonary alveolar proteinosis (PAP) is a rare disease characterized by intra-alveolar accumulation of proteinaceous material. Whole lung lavage remains the standard of care.

Case Report:

We report a case of secondary pulmonary alveolar proteinosis in a 45 years old gentleman with underlying Diabetes mellitus and Hypertension. He presented with 1 year history of chronic cough and progressive dyspnoea on exertion. He also had a 7 year history of exposure to silica 8 years prior to presentation. Physical examination revealed a mildly dyspnoeic patient with fine inspiratory bibasilar crepitations on lung auscultation. High Resolution Computed Tomography (HRCT) scan of the thorax revealed 'crazy-paving pattern' which is typically seen in PAP. CT guided lung biopsy confirmed the diagnosis of PAP. Patient underwent serial whole lung lavage (WLL) in 2014, 2015 and 2016 however was unable to obtain prolonged and satisfactory remission.

Conclusion:

Although most patients with PAP respond well to WLL, some patients with severe PAP respond poorly and have rapidly relapsing disease. Recombinant granulocyte macrophage- colony stimulating factor (GM-CSF) is an option for those who have failed to respond to WLL. Our patient most likely has PAP due to occupational dust exposure; however the option of GM-CSF therapy in secondary PAP due to occupational exposure is less clear.

CR52

CHRONIC GRANULOMATOUS LYMPHADENITIS: NOT ALWAYS TUBERCULOUS

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Introduction:
Tuberculosis (TB) is a common cause of lymphadenopathy in TB-endemic countries like Malaysia. This inadvertently results in over-diagnosis of tuberculous lymphadenitis and inappropriate treatment in the setting of a granulomatous lymphadenitis. We report two cases with chronic granulomatous lymphadenitis who were presumed to have TB lymphadenitis but after thorough assessment were found to be associated with underlying malignancies.

Discussion:
Lymphomas, either primary or in relapse has been documented to be associated with marked granulomatous reactions. Our first case illustrates how a lymphoma was perceived as TB lymphadenitis despite adequate tissue sampling. It posed a diagnostic dilemma and resulted in unnecessary delay in treatment of lymphoma. Our second case had a rather unusual presentation. A 42 year old lady, with 2 month history of right breast mass and had undergone right mastectomy with axillary clearance. HPE of the right breast tissue showed infiltrating ductal carcinoma with lympho-vascular invasion. The axillary lymph nodes were positive for lymph node metastases and caseating granulomatous changes. Granulomatous response in association with breast cancer and within the cancer draining lymph nodes is a rare phenomenon but has been described in previous literature. Nevertheless, the possibility of a coexisting systemic or local granulomatous disease must always be considered given the immune compromised state in patients with underlying malignancies.

Conclusion:
There is subtle but definite association between malignancy and granulomatous inflammation. Multiple aetiologies are responsible for the coexistence of these two pathologies. However, malignancy as the cause of granulomatous reaction should not be underestimated and careful work up is required to avoid presumptive diagnosis and treatment for tuberculosis in TB endemic countries.

CR53

HDR BRACHYTHERAPY IN OBSTRUCTED ADVANCE TRACHEAL CARCINOMA

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[1]*Nilai Medical Centre*
[2] *Prince Court Medical Centre*

Introduction:
The purpose of this case presentation is to demonstrate the HDR endotracheal brachytherapy as an exclusive treatment of obstructive tracheal cancer. Brachytherapy maybe an useful treatment, which, when carried out on an out- patient basis, takes a short time & leads to smaller number of early complications.

Case Report:
Forty-one year old male patient, previously treated by palliative external beam RT, presenting with obstructive primary tracheal tumor with metastatic disease, having dyspnea & hemoptysis, was treated with endotracheal HDR brachytherapy. Patient received 2 fractions of 5Gy each at a week apart in June 2016.

In the treatment, 10Ci of Iridium-192 was applied using Micro-Selectron. To calculate the dose distribution Oncentra planning system was employed. The dose prescribed at 10mm from the surface of the source (reference point). The target volume included tumor visualized by bronchoscopy plus 2cm safety margin in cranial & caudal direction.
Clinical response was seen with relief of dyspnea & was confirmed with the radiological imaging. He remained asymptomatic of the primary site obstruction until he died due to the progressive distant metastatic disease in Feb. 2017.

Conclusion:
The use of endotracheal brachytherapy has been limited to a palliative setting with good reports of local palliation following recurrence post primary radiation therapy. Exclusive HDR brachytherapy of advanced tracheal carcinoma is a safe palliative method of treatment and caused in many patients relief of obstructing symptoms & improved quality of life. We decided to use HDR brachytherapy for our patient with progressive & symptomatic local disease after the external beam radiation therapy. HDR brachytherapy was well tolerated & resulted in rapid improvement of breathing difficulty. Local response lasted until the patient died of the uncontrolled distant metastatic disease in Feb.2017.

CR54

Postoperative Pneumothorax –A Rare Presentation Of Thoracic Endometriosis Syndrome (TES): A Case Report

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Introduction:
Thoracic Endometriosis Syndrome (TES) is a rare condition which consisted of pneumothorax, haemothorax, hemoptysis and lung nodules during perimenstrual period.The symptoms can be variable and make it underdiagnosed

Case Report:
A 28 years old lady with endometriosis who had recent open myomectomy and commenced on hormonal therapy for endometriosis. She presented to hospital with worsening chest pain and breathlessness since discharged home. Clinically there were reduced air entry. Chest xray showed bilateral massive pneumothoraces. Bilateral chest tubes were inserted. CT Thorax showed bilateral pneumothoraces with right apical bullae. She underwent two-staged Video-assisted thoracoscopic surgery (VATS) due to the persistent air leak.
The first operation was performed on right hemithorax. She was placed on left lateral decubitus position. A 2cm incision made at the right fifth intercostal anterolaterally which served as working port. An additional port was inserted at the seventh intercostals space under direct visual as camera port. The hemithorax revealed multiple brownish nodules on the pleura, apical bullae and multiple haemorrhagic fenestrations on the hemidiaphragm. Bullectomy, tissue resections and mechanical pleurodesis were performed. Two chest tube was inserted. She was subjected to another operation on the left hemithorax a week later which also showed similar findings as the right hemithorax. The chest tubes were removed a week postoperatively on the right and day 5 on the left respectively.

Conclusion:
Histologically was negative for thoracic endometriosis. She remains asymptomatic since discharged home

ABBREVIATED PRESCRIBING INFORMATION FOR ANORO ELLIPTA Product Name & Active Ingredient: ANORO Ellipta 62.5/25 micrograms inhalation powder, pre-dispensed. **Indications:** ANORO is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD). **Dosage and Administration:** Adults: The recommended dose is one inhalation of ANORO 62.5/25 micrograms once daily. ANORO should be administered once daily at the same time of the day each day to maintain bronchodilation. The maximum dose is one inhalation of ANORO 62.5/25 micrograms once daily. Special population: No dosage adjustment is required in elderly patients over 65 years, renal impairment and mild or moderate hepatic impairment. The use of ANORO has not been studied in patients with severe hepatic impairment and should be used with caution. There is no relevant use of ANORO in the paediatric population (under 18 years of age) in the indication for COPD. **Contraindications:** Hypersensitivity to the active substances or to any of the excipients like Lactose monohydrate and Magnesium stearate. **Warnings & Precautions:** Asthma: Umeclidinium/vilanterol should not be used in patients with asthma since it has not been studied in this patient population. Paradoxical bronchospasm: As with other inhalation therapies, administration of umeclidinium/vilanterol may produce paradoxical bronchospasm that may be life-threatening. Treatment with umeclidinium/vilanterol should be discontinued immediately if paradoxical bronchospasm occurs and alternative therapy instituted if necessary. Not for acute use: Umeclidinium/vilanterol is not indicated for the treatment of acute episodes of bronchospasm. Deterioration of disease: Increasing use of short-acting bronchodilators to relieve symptoms indicates deterioration of control. In the event of deterioration of COPD during treatment with umeclidinium/vilanterol, a re-evaluation of the patient and of the COPD treatment regimen should be undertaken. Cardiovascular effects: Cardiovascular effects, such as cardiac arrhythmias e.g. atrial fibrillation and tachycardia, may be seen after the administration of muscarinic receptor antagonists and sympathomimetics, including umeclidinium/vilanterol. Patients with clinically significant uncontrolled cardiovascular disease were excluded from clinical studies. Therefore, umeclidinium/vilanterol should be used with caution in patients with severe cardiovascular disease. Antimuscarinic activity: Consistent with its antimuscarinic activity, umeclidinium/vilanterol should be used with caution in patients with urinary retention or with narrow-angle glaucoma. Hypokalaemia: Beta2-adrenergic agonists may produce significant hypokalaemia in some patients, which has the potential to produce adverse cardiovascular effects. The decrease in serum potassium is usually transient, not requiring supplementation. No clinically relevant effects of hypokalaemia were observed in clinical studies with umeclidinium/vilanterol at the recommended therapeutic dose. Caution should be exercised when umeclidinium/vilanterol is used with other medicinal products that also have the potential to cause hypokalaemia. Hyperglycaemia: Beta2-adrenergic agonists may produce transient hyperglycemia in some patients. No clinically relevant effects on plasma glucose were observed in clinical studies with umeclidinium/vilanterol at the recommended therapeutic dose. Upon initiation of treatment with umeclidinium/vilanterol plasma glucose should be monitored more closely in diabetic patients. Coexisting conditions: Umeclidinium/vilanterol should be used with caution in patients with convulsive disorders or thyrotoxicosis, and in patients who are unusually responsive to beta2-adrenergic agonists. Excipients: This medicinal product contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicinal product. Drug interaction: Caution must be taken when co-administring with beta-adrenergic blockers, metabolic and transporter based interactions drugs,other antimuscarinics/sympathomimetics, hypokalaemia, other medicinal products for COPD Pregnancy and Lactation: Umeclidinium/vilanterol should be used during pregnancy only if the expected benefit to the mother justifies the potential risk to the fetus.

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System Organ Class	Adverse reactions	Frequency
Infections and infestations	Urinary tract infection	Common
	Sinusitis	Common
	Nasopharyngitis	Common (Most common-9%)
	Pharyngitis	Common
	Upper respiratory tract infection	Common
Immune system disorders	Hypersensitivity reactions including: Rash	Uncommon
	Anaphylaxis, angioedema and urticaria	Rare
Nervous system disorders	Headache	Common
	Tremor	Uncommon
	Dysgeusia	Uncommon
Cardiac disorders	Atrial fibrillation	Uncommon
	Supraventricular tachycardia	Uncommon
	Rhythm idioventricular	Uncommon
	Tachycardia	Uncommon
	Supraventricular extrasystoles	Uncommon
	Palpitations	Uncommon
Respiratory, thoracic and mediastinal disorders	Cough	Common
	Oropharyngeal pain	Common
Gastrointestinal disorders	Constipation	Common
	Dry mouth	Common
Skin and subcutaneous tissue disorders	Rash	Uncommon

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Date of revision: 31 March 2016

Reference

1. Anoro Ellipta Malaysia Prescribing Information, PI02MAL based on EUSPC 1 Oct 2015. Revised on 01 March 2016

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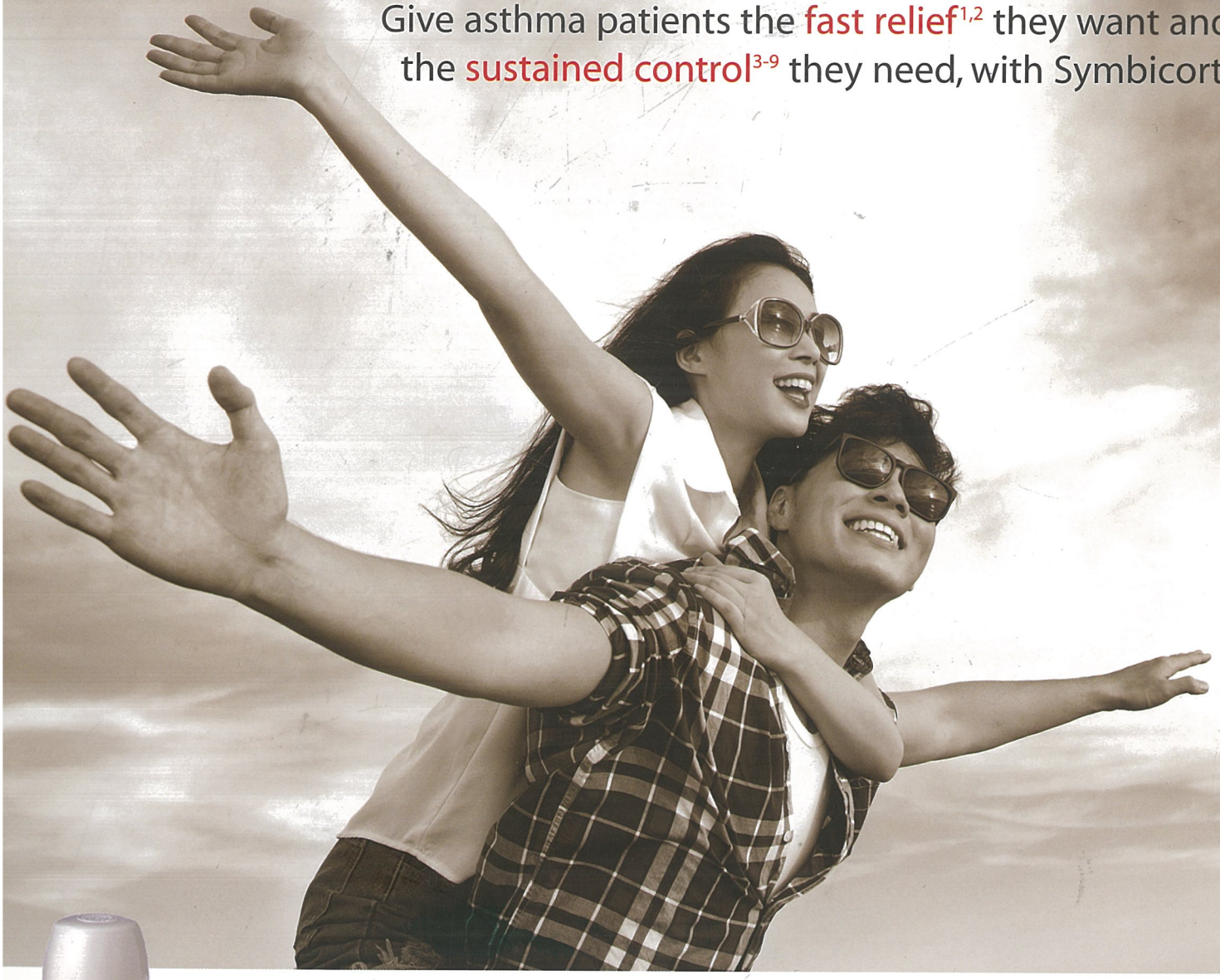

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References: **1.** Seberova Et al. A. Respir Med 2000;95)6_607-611 **2.** Bayiz et al. Drug Design, Development and Therapy 2015;9:5287-5290 **3.** Bateman et al. Respiratory Research 2011. 125(3):600-608 **4.** Vogelmeier C et al. Eur Respir J. 2005; 26:819-828 **5.** Scicchitano R et al. Current Med Res Opin 2004;20(9):1403-1418 **6.** O'Byrne PM et al. Am J Respir & Crit Care Med 2005;171:129-136 **7.** Rabe KF et al. Lancet 2006;368:744-753 **8.** Kuna P et al. Int J Clin Pract 2007;61(5):725-736 **9.** Bousquet J et al. Res Med 2007;101:2437-2446 **10.** Data on file: Periodic Benefit Risk Evaluation Report, November 2016; ATLAS ID: 1021214.011. **11.** Bateman et al. Respiratory Research 2011, 12:38

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