ORAL PRESENTATIONS

OP 01

STUDY ON RESPIRATORY TRACT INFECTIONS AND DRUG USE AMONG PEDIATRIC IN-PATIENTS IN UMMC

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INTRODUCTION

Respiratory tract infections are common causes of hospital admissions worldwide. Drugs especially antibiotics has resulted in increasing health care costs and emergence of resistant bacteria.

OBJECTIVE

To identify the most common organisms causing hospitalization in children with respiratory tract infections and to study their drug use.

METHODOLOGY

An eighteen month retrospective review was conducted on children aged 1 month to 12 years admitted for respiratory tract infection. Two hundred and twelve children identified using ICD-10 coding were included. Data were extracted from UMMC database and patient records.

RESULTS

Children identified were 63% boys and 37% girls comprising of Malay (74%), Chinese (12%), Indians (11%) and others (3%). Hospitalization was highest among children aged 1 to 12 months (76%). The most common respiratory tract infections were bronchiolitis (52%), and URT1 (30%). Bacterial pathogen isolated were *Staphylococcus aureus* (53%). *Haemophilus influenzae* (29%) and *Klebsiella pneumoniea* (18%), These pathogens showed high resistance to penicillins and cephalosporins. Respiratory Syncytial Virus (RSV) was mainly isolated for cases with bronchiolitis (10%). Negative growth rate was seen in 79% patients. Sixty five patients received antibiotics. Antibiotics were administered to 63% patients with RSV and 30% patients with negative isolation. Antibiotics prescribed were augmentin (48%), penicillin (23%), cloxacillin (12%), gentamicin (9%), ceforoxime (6%) and others (2%). Majority of them were also prescribed paracetamol (51%), atrovent (20%), budesonide (19%) and salbutamol (7%).

CONCLUSION

Staphyhlococcus aureus. *Haemophilus influenzae*, *Klebsiella pneumonia* and RSV were the common organisms isolated. Augmentin was most commonly used as recommended in the guideline. Apart from antibiotics, the other commonly prescribed medications are paracetamol, atrovent, budesonide and salbutamol.

OP 02

HEALTH OUTCOMES OF USING TIOTROPIUM BROMIDE IN THE MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is characterized by partially reversible airflow obstruction which is progressive. Tiotropium is a long acting anticholinergic agent.

OBJECTIVES

To evaluate the cost effectiveness of tiotropium in the management of COPD and to determine the total direct medical cost of hospitalized COPD patients in the University Malaya Medical Centre (UMMC).

METHODOLOGY

In this retrospective and observational study, 44 patients who received tiotropium and 154 who were not given tiotropium were included in this 1-year cost-effectiveness analysis. Exacerbations, forced expiratory volume in 1 second (FEV_1), outpatient general physician visit and improvement of COPD symptoms were the health outcomes used to measure effectiveness. An additional 150 patients were included in a 6-month calculation of direct medical cost of COPD.

RESULTS

Treatment with tiotropium resulted in seven- and four- folds greater odds of reduced number of experiencing at least one hospitalization and emergency department visit due to COPD exacerbation, respectively [odd ratios: 6.79 (95% CI, 3.26 to 14.15), 3.75 (95% CI, 1.79 to 7.88) respectively; $p < 0.05$]. It also minimized the cost of exacerbation-related health care utilization ($p > 0.05$); improved FEV1 ($p < 0.001$); improved symptoms of COPD ($p < 0.001$) and increased frequency of outpatient general physician visit ($p < 0.05$). The total direct medical cost of COPD for 150 patients over a 6-month period was RM223,325.27 (hospitalization cost, 30.2%).

CONCLUSIONS

Tiotropium was more effective than ipratropium and salmeterol as measured by exacerbations avoided and increase in FEV1 of at least 12% although this was associated with higher acquisition cost. Besides, interventions targeting hospitalization will have the greatest impact on the total treatment cost of COPD.

OP 03

TO COMPARE ASTHMA CONTROL TEST™ (ACT) AND SPIROMETRY AS TOOLS OF ASSESSING ASTHMA CONTROL

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INTRODUCTION

To assess the asthma control of patient accurately in a busy asthma clinic with limited time and resources is always a challenge to the clinicians. ACT is a 5 item patient's self-assessment survey of asthma control, a total score of 25 indicates complete control, out of control if less than 20; spirometry on the other hand objectively measures airflow obstruction.

OBJECTIVE

To compare ACT and spirometry in assessing asthma control and to determine the correlation between the tests.

METHOD

53 asthmatic patients (35 female) aged 21-80 (mean 46.75, SD ±11.94) who attended the asthma clinic were asked to perform a spirometric test followed by completing the ACT under the clinicians' guidance. The results were analyzed using descriptive statistics and correlation.

RESULTS

23 patients with FeV1 ratio of more than 80% predicted, 18 (78%) had ACT score of 20 and above, 21 of them (91%) reckoned their asthma as well or completely controlled. 30 patients with FeV1 ratio of less than 80% predicted, 13 (43%) scored ACT more than 20, 16 (53%) regarded their asthma control as well or complete. 25 subjects who had peak expiratory flow (PEF) of 80% predicted and above, 19 (76%) scored ACT 20 or above. There is low to moderate correlation between the FeV1 ratio and ACT score (Pearson Correlation coefficient r = 0.507, P <0.001). The correlation between the PEF ratio and ACT score is low but significant (r = 0.323, P value 0.018).

CONCLUSION

Our data revealed correlations between the spirometric test, peak flow ratio and the ACT score, however there were quite a proportion of patients demonstrated contradicting outcomes. Applying these tests in isolation as an indicator of asthma control could still be misleading.

OP 04

BONE MINERAL DENSITY IN PATIENTS WITH BRONCHIAL ASTHMA ON INHALED CORTICOSTEROIDS

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INTRODUCTION
Inhaled corticosteroid is frequently used to achieve satisfactory control in patients with bronchial asthma. The use of oral corticosteroids is a recognized risk factor for osteoporosis but the effects of inhaled corticosteroids on bone mineral density remain controversial.

OBJECTIVE
To assess bone mineral density in patients with asthma using inhaled corticosteroids.

METHODOLOGY
All patients aged 18 years and above with bronchial asthma seen at the Asthma Clinic of Hospital Tengku Ampuan Afzan underwent bone densitometry using dual energy X-ray absorptiometry (DEXA) scan of the hip, femur and spine. They have all been on inhaled corticosteroids for at least one year. Osteopenia and osteoporosis were defined according to the WHO classification of the T-score.

RESULTS
A total of 51 patients were enrolled with 84.3% females. Age ranged from 21 to 78 years. From bone densitometry of the spine, 3.9% had osteoporosis (T-score < -2.50), 37.3% had osteopenia (-2.50 < T-score < -1.00) and 58.8% were normal (T-score > -1.00). 9.8% and 33.3% had osteopenia from bone densitometry of the hip and femur respectively. Overall, 43.1% were classified as osteopenia and 3.9% as osteoporosis. There were no significant correlations between T-score and physical activity index, body mass index, cumulative inhaled steroid dose, control of asthma and number of rescue oral prednisolone used per year. However, there were significant correlations between age and T-score of the spine (r=-0.33, p=0.017), hip (r=-0.36, p=0.01) and femur (r=-0.40, p=0.003). Patients with osteopenia or osteoporosis were older (mean age 51.1 + 14.2 years) compared to those with normal T-score (mean age 47.4 + 8.6 years, p=0.034).

CONCLUSION
Almost half asthmatic patients on inhaled inhaled corticosteroids for at least one year had either osteopenia or osteoporosis. Cumulative inhaled steroid doses do not affect T-score.

OP 05

TREATMENT COMPLIANCE AMONG LUNG CANCER PATIENT IN MALAYSIA

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INTRODUCTION
Lung cancer remains one of the most common causes of cancer death. In our experience, a high proportion of patients did not turn up for their follow up.

OBJECTIVE
To determine the prevalence, risk factors, reasons for defaulting follow up and treatment among patients with lung cancer.

METHOD
All patients suspected to have lung cancer from November 2007 were included in this study. Each patient detailed demographic data, occupation, smoking history, socioeconomic status and educational level of the patient and their family members were recorded. Intermittent defaulter is defined as a patient who defaulted at least one follow-up or planned treatment for a given appointment date. The final defaulter is defined as a patient who had defaulted 2 consecutive appointments despite telephone reminder.

RESULTS

From November 2007 till June 2008, 53 patients were recruited (39 males, 14 females) and 74% were Malay. The rest were non-Malay. The mean age was 60 ± 10 years. 37 patients had confirmed lung carcinoma (94% non small cell, 6% small cell) and among them 80% were smoker. ECOG score was 0/1 in 51% of the patients. In those with confirmed malignancy, 93% presented at advanced stage of 3B or 4. Overall, 6(11.3%) were final defaulters, 15(28.3%) intermittent defaulters, 5 transferred out, 11 patients died and the remaining 16 were non-defaulters. Among 15 intermittent defaulters, 13 defaulted once, one defaulted twice and one patient defaulted 3 times. Among the defaulters, 65% defaulted after investigations, 5% after diagnosis was confirmed, 20% after chemotherapy and 10% after radiotherapy. Two main reasons for defaulting were 'too ill to come' (33%) and logistic difficulties (20%). Other reasons were 'patient not keen for follow up (13%)', 'patient not keen for chemotherapy (13%)', 'forgot the appointment (13%)' and given wrong date (1%). Their children's education level of primary school or lower was associated with higher rate of defaulting as compared to those with a secondary school level or higher (72.7% vs 31%, p value = 0.012). No correlation was found between patient's education, income, ECOG status, stage of the disease, race and gender with the defaulter rate.

CONCLUSION

Children's education level is the only factor associated with the defaulter rate.

OP 06

CORRELATION BETWEEN ASTHMA CONTROL TEST (ACT) SCORE AND INHALER TECHNIQUE AMONG ASTHMATICS

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INTRODUCTION

Asthma is a common respiratory illness caused by chronic inflammation of the airways that causes periodic attacks of wheezing, cough and breathlessness. Successful management of asthma depends on achieving adequate delivery of inhaled drugs to the lungs. Asthma Control Test (ACT) is a validated questionnaire which is simple and easy to use to assess asthma control. This ACT test has recently been used in our Asthma Clinic in Selayang Hospital

OBJECTIVE

To correlate the ACT score and inhaler technique in patients attending the asthma clinic in Selayang Hospital.

METHOD

This is a three months prospective study to assess patient's inhaler technique and the correlation with their ACT score. Sixty two (62) patients who attended the Asthma Clinic for the first time were included in this study. All patients attending the asthma clinic for the first time will perform a spirometry test and complete the Asthma Control Test (ACT). A pharmacist will assess their ability to use their inhaler by using the Inhaler Technique Form (adapted from Ganderton D, *Respiratory Medicine* 1997; 91 (suppl A: 13-6.). The score will be divided into 3 categories- good, moderate and poor depending on the technique rating.

RESULTS

Technique	Poor	Moderate	Good
n	15	27	20
%	24.2	43.5	32.3
ACT score (mean value) p>0.05	15.20 ± 4.212	15.71 ± 4.408	17.20 ± 5.800

CONCLUSION

This study has shown that Asthma Control Test (ACT) score did not significantly correlate with the patient's inhaler technique. This suggests that the lower ACT score is likely to be due to lack of understanding, non compliance or under treatment of underlying asthma rather than poor inhaler technique. However, the ACT remains a useful tool in clinical setting to help physicians identify patients with uncontrolled asthma and to facilitate patients' progress with treatment.