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Miscellaneous

AUDIT ON THE MANAGEMENT OF PATIENTS WITH SPONTANEOUS PNEUMOTHORAX REQUIRING CHEST TUBE DRAINAGE.

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Objectives:

To assess how Hospital Selayang doctors would manage patients with spontaneous pneumothorax (SP) requiring chest tube drainage

Methods:

A self completed questionnaire regarding the understanding and management of patients with SP requiring chest tube drainage was circulated among 50 doctors. A total of 47 completed questionnaires were used for analysis.

Results:

The following tables summarize answers given to each clinical scenario:

REASON GIVEN FOR NO FURTHER OSCILLATION OF FLUID SEEN IN THE UNDERWATER SEAL AFTER 24 HOURS.	N (%)
There is no further leakage from alveoli to pleural space	6(12.77%)
Lung fully inflated	13(27.66%)
Drain blocked	15(31.91%)
Chest tube dislodged	9(19.15%)
Tension pneumothorax	-
Don't know	4(8.51%)

REASON GIVEN FOR NO AIR BUBBLES SEEN IN THE UNDERWATER SEAL DESPITE PRESENCE OF FLUID OSCILLATION AFTER 48 HOURS.	N (%)
There is no further leakage from alveoli to pleural space	11(23.40%)
Lung fully inflated	22(46.81%)
Drain blocked	5(10.64%)
Chest tube dislodged	7(14.89%)
Tension pneumothorax	-
Don't know	2(4.26%)

MANAGEMENT OF PERSISTENT AIR LEAKS AFTER 5 DAYS	N (%)
Continue with current chest drain for another week	4(8.51%)
Change to a bigger-sized chest drain	4(8.51%)
Put the chest drain on suction	18(38.30%)
Perform pleurodesis in the chest drain	6(12.77%)
Ask the cardiothoracic surgeons to perform pleurodesis	5(10.64%)
None of the above	10(21.28%)

Conclusions:

The understanding and management of chest tube with underwater seal varies among doctors. A locally produced guideline may help to reduce the variation in managing this condition.

Public and Private Partnership for DOTS expansion

PARTNERSHIP WITH NGOs IN IMPLEMENTATION OF DOTS IN BANGLADESH-AN UNIQUE EXAMPLE

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Objectives:

To sustain successful partnership in DOTS in Bangladesh. TB is a major public health problem in Bangladesh. About 300,000 new cases cropping up every year and 70,000 die due to this single disease. Young males are predominant in the society. GoB establishes unique partnership with NGOs in implementation of DOTS through existing facilities.

Methods:

Through Memorandum of Understanding NGOs are linked with NTP Bangladesh adopting its policies and strategies.

Results:

Governments effort to improve health service delivery especially for the poor. Through collaboration with NGOs increased case detection to over 70% (2006) and treatment success rate to over 91% (2005). Partners operational plan in implementing strategies of NTP will be presented and the collaboration undertaken are the lessons for other countries.

Conclusion:

There is increased trend of the Government collaboration with NGOs in implementing TB program in Bangladesh. Government- NGO collaboration is an effective way of improving access and quality of TB and other health care services.

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Public and Private Partnership for DOTS expansion

COLLABORATION BETWEEN THE NTP AND A NGO IN TB/ HIV CARE AT SUB-DISTRICT LEVEL: EXPERIENCE FROM BANGLADESH

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Objectives:

To integrate TB-HIV at centers of Bangladesh where bordering countries has high prevalent of HIV/AIDS. The WHO Directly Observed Treatment Short Course (DOTS) strategy has shown to be effective for achieving TB Control; however, in settings where low or rising Human Immunodeficiency Virus (HIV) prevalence is driving the Tuberculosis (TB) epidemic. It is recognized that DOTS alone may be insufficient to achieve TB Control.

Methods:

A center of National TB Control Program partner-NGO identified who is providing Sexually Transmitted Infection (STI) Services and DOTS strategy implemented.

Results:

After adequate orientation on DOTS to the service providers of STI/AIDS clinic staff, implementation of DOTS strategy started since March 2004. Till the end December 2006 a huge TB suspects were tested having STI and considerable number of smear positives registered for treatment, however among the TB cases none were HIV positive. A total of 345 suspects among STI were examined and 45 were smear positives, and 124 were smear negative TB. HIV suspects are further referred to higher centers for Vocational Counseling and Treatment (VCT). Detailed results of treatment outcome and process of integration, as pilot will be presented.

Conclusion:

It is eminent that TB-HIV co infection cases will be available in this area, as Myanmar has high prevalence of HIV/AIDS, a bordering country of Bangladesh. Thus TB-HIV Co-infection is an eminent in the country as the national statistics does not reflect the concern.

Public and Private Partnership for DOTS expansion

ATTITUDES, PROBLEMS AND BARRIERS ASSOCIATED WITH DIRECTLY OBSERVED TREATMENT

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Background:

Directly Observed Treatment Shortcourse (DOTS) has high rates of treatment completion and has become the central strategy for the management of tuberculosis (1). However, patient's attitudes and experiences with DOTS have not been adequately assessed.

Methods:

A qualitative questionnaire was developed to identify attitudes, problems and barriers associated with DOTS and associations assessed by multivariate adaptive regression splines (MARS) modelling. Three hundred and ten patients, managed with DOTS, between 2003 and 2005, in two Area Health Services in New South Wales (NSW) were surveyed.

Results:

There was a 42% response rate (132 patients); the majority (80%) had

DOTS via chest clinic nurses. 95% of patients understood why their treatment was being supervised. Initially, 74% expressed positive feelings about their supervision and 78% felt they had at least some involvement in decisions about their care and treatment.

DOTS interfered with daily activities, work and relationships in 55, 39 and 27 percent of cases respectively and financial hardship was experienced by 27% of respondents. Upon completion of treatment 93% felt positive and positive relationships were indicated with doctors and nurses (90 and 95% respectively).

Unsupervised, 86% believed they would have taken their medication, at least most of the time. Overall, 95% rated the service good or better. A regression model indicated that good relationships with health professionals were significant positive predictors for overall satisfaction with the service.

Conclusions:

DOTS interfered with the lifestyle of many respondents. However, a good relationship with health professionals and an understanding of why treatment was being supervised determined patient satisfaction.

Reference:

1. Global tuberculosis control - surveillance, planning, financing, WHO Report 2005.

Pulmonary Infection

MELIOIDOSIS OF THE LUNG: AN INDIAN PERSPECTIVE

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Objectives:

Melioidosis is underdiagnosed in South-India despite being in the endemic zone. We present our experience of melioidosis of the lung from Mangalore, India.

Method:

We performed a clinical study of 16 cases of culture proven melioidosis over a period of 18 months with predominant pulmonary manifestations with respect to their presentation, epidemiology and outcome.

Results:

Eleven (68.7%) patients presented with chronic symptoms; 2(12.5%) with acute symptoms, and 3(18.8%) with subacute symptoms. Common symptoms were fever and cough. Nine (56.8%) patients presented as unresolved pneumonia; 4(25%) as mass lesion. All 16 had ESR >70mm; 75% were in the age group of 30-50yrs. Chest X-ray showed upper zone consolidation in 7(43%), lower zone consolidation in 2(12.5%), mass lesion in 4(25%), bilateral infiltration in 2(12.5%) and cavitation in 2(12.5%) patients. Diabetes mellitus (81.25%) was the most important predisposing factor; 31.25% had occupation involving contact with wet soil. Patients were treated with ceftazidime initially and a combination of co-trimoxazole, doxycycline and chloramphenicol later. 2(12.5%) patients died. 6(37.5%) had other organ involvement also. 2(12.5%) patients had recurrence of lung symptoms.

Conclusion:

Melioidosis of the lung presents mainly as a chronic disease in South-India, which is in contrast to the pattern seen in other endemic areas of South-East Asia. High index of suspicion is required to diagnose this disease since it mimics many other conditions including tuberculosis.



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Pulmonary Infection

A COMPARATIVE STUDY OF THE INDIRECT FLUORESCENT ANTIBODY ASSAY AND CULTURE METHOD IN SYMPTOMATIC PULMONARY NOCARDIOSIS

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Background:

The present investigation was carried out to detect Nocardiosis in immunocompromised patients confined in a Hospital through the use of indirect immunofluorescence assay (IFA) and bacterial culture methods.

Methods:

101 patients with advanced symptomatic pulmonary infection were studied in the course of a twenty-month period. Individual patients' sputum, BAL (bronchoalveolar lavage) and blood sera were tested. The detection of antibody against *Nocardia asteroides* was carried out in all study groups, using the IFA method.

Results:

Nocardia asteroides was isolated culturally from a patient suffering Wagner vasculitis with an antibody titer of 1/512 in serum. The 41 patients suspected for Nocardiosis with an antibody titer ranging from 1/4 to 1/512, detected by IFA method, included 26 (63.4%) men and 15 (14.8%) women. The age of the patients varied from 7-80 years. Those with reasonable antibody titers included 15 (36.5%) housewives and 9 (21.9%) workers. Furthermore, *in-vitro* investigation for the differentiation of the isolates was performed and confirmed the notion that the organism which grew on the primary media was, indeed, the *Nocardia asteroides* complex.

Conclusion:

Our results revealed that the bronchopulmonary infections, which occur in high-risk patients -T-cell deficiencies, long term corticosteroid therapy, immunocompromised hosts, HIV infection, organ transplantation- was an important index for the primary diagnosis of Nocardiosis. As the important finding of the present research, the antibody titer of 1/64 could be proposed as the criterion for the diagnosis of the infection. The probability of Nocardiosis was proposed when antibody titer was less or more than 1/64.

Pulmonary Infection

IDENTIFICATION AND CHARACTERISATION OF STAPHYLOCOCCAL PROTEINS EXPRESSED DURING HUMAN INFECTION

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Staphylococcus aureus and *Staphylococcus epidermidis* are major human pathogens of increasing importance due to the spread of antibiotic resistance. Novel potential targets for therapeutic antibodies are products of staphylococcal genes expressed during human infection. Using a direct screening technique we have identified 53 *in vivo* antigens from *S. epidermidis*. *ScaA* and *ScaB* are novel proteins demonstrating 40% identity with each other. Interestingly *scaA* and *scaB* are members of a ten-gene family in both *S. aureus* and *S. epidermidis* with a highly conserved 110 amino acid C-terminal domain. *ScaA* and *ScaB* from *S. epidermidis* are highly homologous to the proteins SA0723 SA0507 from *S. aureus* COL, respectively. *ScaA* and *ScaB*

in both species as well as the C-terminal 110 amino acid domain of *ScaB* from *S. aureus* (Binding Domain) have been overexpressed and purified. *ScaA* from both species are able to bind a range of human proteins of the extracellular matrix including fibrinogen, fibronectin, mucin and lactoferrin. Interestingly both of them are also novel IgG binding proteins.

Pulmonary Infection

ATYPICAL MYCOBACTERIAL INFECTION: NEW EXPERIENCE IN PENAMPANG DISTRICT, SABAH

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Tuberculosis still impose a public health challenge particularly in Sabah and in Malaysia as a whole. In Sabah, diagnosis and management of Tuberculosis mainly done at Primary Health Care level. Complicated Tuberculosis cases such as MDR Tuberculosis will be referred to tertiary center for further management. In Sabah, mainly in Penampang District, three cases of Atypical Mycobacteria detected within the year of 2006. All the cases presented with typical pulmonary tuberculosis symptoms which were cough more than two weeks, fever, night sweats, loss of weight and loss of appetite. Sputum direct smear for Acid Fast Bacilli (AFB) were positive and Chest X-ray showed feature of patchy consolidation. All the cases being managed as Pulmonary Tuberculosis smear Positive. After completed eight weeks of intensive phase, repeat Sputum Direct smear Acid Fast Bacilli was done. Unfortunately sputum AFB direct smear remain positive but clinically symptoms improved. Sputum AFB culture and sensitivity sent, came back as Atypical Mycobacterium. Two cases were *Mycobacteria* belonging to Runyon Group 1V and one case was *Mycobacteria Intracellulare*. Case was then referred to tertiary centre for further management.

Pulmonary Infection

AN INDIRECT FLUORESCENT ANTIBODY ASSAY AGAINST NOCARDIA STRAINS

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Background:

Nocardiosis is an acute or suppurative chronic disease caused by an aerobic, gram-positive, weakly acid-fast and soil-borne filamentous and organism. *Nocardia asteroides* which is the dangerous and most frequently pathogen, infects humans through the respiratory tract. The bacterium is primarily an opportunistic pathogen that causes the infection in patients with underlying immunodeficiencies.

Objective:

The present investigation is a Cross-Sectional study conducted on a population consisted of 300 subjects including 200 hospitalized individuals' patients, nurses and healthcare workers from Imam Khomeini hospital, and 100 health adult blood donors. None of the patients had already been diagnosed to be affected by Nocardia.

Aims And Methods:

The main purpose of the study was to detect antibody titre against Nocardia in all study groups, using indirect immunofluorescent assay [IFA]. Correlation between the antibody titre against Nocardia

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with age, sex, occupation, and chronic pulmonary infection and corticosteroid therapy patients was also investigated.

Results:

Our results demonstrated four patients suffering from different infections, including TB, mycetoma, chronic pulmonary and chronic obstructive pulmonary diseases were IFA positive. None of the high risk hospital personnel, who were working in close proximity to the areas infected with *Nocardia*, were found to be IFA positive. Meanwhile there was no positive result in a group of patients [n=34] who were under corticosteroid therapy.

Conclusions:

Finally, considering the small sample size of the IFA positive cases no significant association between the IFA results and age, sex, occupation and clinical conditions of the subjects could be established.

Pulmonary Infection

AETIOLOGY OF COMMUNITY-ACQUIRED PNEUMONIA IN HOSPITALIZED PATIENTS IN HOSPITAL UNIVERSITI KEBANGSAAN MALAYSIA

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Introduction:

Community-acquired pneumonia (CAP) is a major cause of death and morbidity. Despite advances in diagnostic methods, the aetiology of pneumonias is often difficult to identify.

Objective:

To identify the aetiology of community acquired pneumonias in hospitalized patients in a tertiary teaching hospital.

Methods:

A prospective observational cohort study was done on non-immunocompromised subjects aged 12 years and above admitted with CAP from December 2005 to August 2006. (n=161). Sputum, blood culture and sensitivity, paired serology for atypical organisms *Chlamydia*, *Legionella* and *Mycoplasma* as well as urine for *Strep pneumoniae* were done within 24 hours of admission.

Results:

Results for paired serology were available for 93 subjects. *Legionella pneumophila* (25.8%) was the most frequent atypical organism isolated followed by *Mycoplasma pneumoniae* (22.6%) and *Chlamydia pneumoniae* (17.2%) The combination of *Legionella* and *Mycoplasma* infection (6.5%) appeared to be the most frequent dual infective combination followed by *Legionella* and *Chlamydia* (3.2%) and *Mycoplasma* and *Chlamydia* (1.1%) No causative agent was identified in 48.3 % of subjects. 55 subjects underwent testing for urine for *Strep pneumoniae* and 2 (5%) were positive. Only 1 (0.9%) subject grew *Strep pneumoniae* from his sputum. The commonest blood culture isolate was coagulase negative staph.

Conclusion:

In our series atypical organisms amount for up to 25 % of CAP in adults. Frequency of *Strep pneumoniae* was low. Aetiology of CAP remains unidentified in a significant proportion of cases.

Pulmonary Infection

A CASE OF TUBERCULOUS SCLEROCONJUNCTIVITIS AND PULMONARY TUBERCULOSIS IN A HIV/AIDS PATIENT

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Summary

We report a case of pulmonary tuberculosis and tuberculous scleroconjunctivitis, a rare pattern dealing with spread of Koch bacilli to extrapulmonary organs, in AIDS patient.

Medical History

The patient is Nguyen Thinh V., male, 35 years old, having taken drug injection for over 10 years. No previous history of TB. The patient presents with prolonged fever, diarrhea and weight loss of over 10 kg during the past 4 months. One month before hospitalization, the patient suffered from non-productive cough, especially at night, associated with dysphagia and loss of appetite. During this period, the patient complained right ocular pain, congestion, discharge and swelling. The right eye has become blind absolutely in recent days. Then, the patient was hospitalized on 12 September 2005.

* Physical examination on hospitalization:

The patient is conscious. Vital signs : pulse: 96 bpm; Blood pressure: 100/60 mmHg ; respiratory rate: 22; temperature: 38°C; weight: 38 kg; height: 162 cm. Pink mucous membrane. Oral cavity: mucous membrane ulcer with white pseudo-membrane. Eye: Left eye is normal. Right eye is redness, swelling and flows yellowish exudates. There is a abscess-like scleral lesion about 2 x 2 mm which is 5 mm from cornea edge. Cornea is clear - Pupil is deformity - No reaction to light - Cataract - Ciliary body reflex is negative. Conjunctiva is congestion. Implication: Scleral abscess / chronic anterior uveites influenced optic nerve. Others: normal

* Laboratory tests:

Full blood count : WBC: 23.000/mm³ (N:88%, L:4%, M: 8%); RBC: 3.380.000/mm³; Hgb: 9,1 g%; Platelet: 239.000/mm³. CD₄⁺: 16 cells/mm³; CD₈⁺: 261 cells/mm³; CD₄⁺/ CD₈⁺:0,06. ESR: 60mm first hour; 120mm second hour. SGOT: 34 U/L, SGPT: 13 U/L; Bilirubin total: 9,9 μmol/L; Serum creatinine: 55 μmol/L; BUN: 3,5 mmol/L; Glycemia :3,1 mmol/l; Serum protein: 56 g/l. Electrolytes: Na⁺: 128 mmol/L; K⁺: 3,6 mmol/L; Ca²⁺: 1,9 μmol/L; Cl⁻: 95 μmol/L. ELISA-HIV: POSITIVE; TB PCR of the right eye exudate : Positive; AFB of the right eye exudate : Positive ; TB sputum smear: Positive; Chest X rays : enlargement of the right hilar lymph nodes and bilateral lymphoglandulae tracheales (right hilar and bilateral para-tracheal lymphadenopathy).

* Diagnosis:

Contagious Ocular and Pulmonary TB/AIDS

* Treatment plan:

Anti-TB regimen: RHZE (Rifampicin: 10mg/kg; Isoniazid: 5mg/kg; Pyrazinamide: 30mg/kg; Ethambutol: 20mg/kg daily). Corticosteroids: Prednisone 1mg/kg daily for 2 weeks, followed by a tapering dosage. Antibiotics for 1 week. Symptomatic treatment.

* Progress notes :

3 weeks after treatment, the patient is discharged with improved clinical signs and laboratory tests : No cough, no diarrhea; Right eye is still redness and blindness, but it is not swelling and decreases eye discharge. Ulcer of the oral mucous membrane heals. Tests: sputum smear is negative, WBC is 9.400/mm³; CXR shows no para tracheal lymphadenopathy.

*** The patient is referred to Outpatient department for DOTS therapy, AIDS therapy, and to the Ophthalmologic hospital for eye care.**

Conclusion:

Ocular TB is an overwhelming TB, a rare case of extra-pulmonary TB.

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Late stage of HIV/AIDS may be a contributing factor. This case study presents clinical signs and laboratory testing of ocular TB. This is our preliminary research for various TB patterns in patients with HIV/AIDS.

Pulmonary Infection

GLUCOSE IN BRONCHIAL ASPIRATES INCREASES THE RISK OF RESPIRATORY MRSA IN INTUBATED PATIENTS

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Objectives:

To detect the relationship between increased glucose level in airway secretions and the risk of nosocomial infection (MRSA) in respiratory tree.

Methods:

An association between glucose in bronchial aspirates and nosocomial respiratory infection was examined in 30 critically ill patients. Patients were included if they were expected to require ventilation for more than 48 hours. Bronchial aspirates were analyzed for glucose and sent twice weekly for microbiological analysis and whenever an infection was suspected.

Results:

Glucose was detected in bronchial aspirates of 17 of the 30 patients. These patients were more likely to have pathogenic bacteria than patients without glucose detected in bronchial aspirates. Patients with glucose were much more likely to have methicillin resistant *Staphylococcus aureus* (MRSA) than those without glucose in bronchial aspirates (p value 0.006)

Conclusion:

The results imply a relationship between the presence of glucose in the airway and a risk of colonisation or infection with pathogenic bacteria including MRSA.

Pulmonary Infection

A STUDY ON THE KNOWLEDGE AND IMMUNIZATION STATUS FOR MEASLES, MUMPS, RUBELLA AND VARICELLA AMONG HEALTH-CARE WORKERS

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Health care workers (HCWs) are at high risk of contracting infectious diseases. Mumps, Measles, Rubella (MMR) and Varicella are vaccine-preventable diseases which can cause serious complications. The objective of this study was to evaluate the level of knowledge, vaccination coverage, and compliance towards infection control policies as well as the attitudes and views of health-care workers towards MMR and varicella vaccination. This cross-sectional study was made up of 2 separate parts; 1) Survey conducted on staff of HUKM, and students (medicine and nursing) (n=340) 2) Serological screening, conducted in conjunction with the Awareness of MMR and Varicella Campaign in HUKM (n=1128). Most staff and students had a good knowledge of MMR and varicella. The students scored a higher average compared to the staff, with no significant statistical difference (p>0.05) observed between the 2 groups of respondents. Vaccine coverage was less than satisfactory, with only 32.7%, 23.61%, and 16.2% of the respondents, that had not been infected before, had immunizations for measles, mumps and varicella, respectively. However, rubella vaccine take-up was much higher (85%).

No significant difference was observed for measles, mumps and rubella vaccination among the groups, but such statistical difference was observed for varicella immunization. 98.1% of respondents agreed that vaccination for MMR and varicella should be compulsory, and 97.8% would get it should that happen. For the second part of the study, only 53% of the respondents had positive antibody titers for all 4 diseases, while 0.5% showed negative results for all 4 diseases. In conclusion, More efforts are needed to ensure that all HCWs are immunized against MMR and Varicella in agreement with the clinical practice guideline on adult vaccination (2003) by ministry of health, Malaysia.

Pulmonary Infection

IMMUNOGENICITY OF A TRIPLE DIPHTHERIA-TETANUS-WHOLE CELL PERTUSSIS VACCINE IN IRANIAN PRESCHOOL CHILDREN

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Background:

Pertussis is an acute, highly contagious respiratory infection that is effectively controlled by universal immunization of children using a combined diphtheria-tetanus-pertussis (DTP) vaccine. Waning of pertussis immunity after primary immunization suggests the need for booster immunization of 4-6 year-old children to ensure continuing immunity.

Objective(s):

To determine the immunogenicity of locally manufactured whole cell DTP (DTwP) vaccine administered to preschool children in a number of health centers of Tehran in 2006.

Method(s):

In this prospective study, 350 children aged 4-6 years were injected with DTwP vaccine manufactured by Razi Institute of Iran. Blood samples were collected before and 2-4 weeks after the vaccination. The immunogenicity of the vaccine was assayed by measurement of specific antibodies using enzyme-linked immunosorbent assay (ELISA) technique.

Results:

Of the 337 children who completed the study vaccination, 99.4% and 100% had protective anti-diphtheria and anti-tetanus antibody titers, respectively. The vaccine response and seroconversion for pertussis was achieved in 70.3% of the subjects. The geometric mean titers (GMT) of the antibodies produced against diphtheria, tetanus and pertussis by DTwP vaccine were 7.76, 9.37 IU/ml and 30.20 EU/ml after booster vaccine dose, respectively.

Conclusion(s):

Comparison of the results obtained from this study with those from previous studies performed in other countries reveals that immunogenicity of diphtheria and tetanus components was similar to other vaccines, but the immunogenicity of pertussis was less efficient than other vaccines. The lower immunogenicity of DTwP against pertussis may be related to the bacterial strain used or the formulation protocol adapted for the vaccine preparation.

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Pulmonary Infection

COMPARATIVE EVALUATION OF 3-MONTHS AND 6-MONTHS REGIMENS CHEMOTHERAPY FOR SPUTUM –SMEAR NEGATIVE PULMONARY TUBERCULOSIS

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Objectives:

Pulmonary tuberculosis is an endemic and relatively common infectious disease in Iran. Both smear positive and smear negative pulmonary tuberculosis are routinely treated with 6-months regimen (according to dots strategy)

Method:

In our clinical trial study we compared 3-months and 6-months regimens chemotherapy in 2 groups of sputum-smear negative pulmonary tuberculosis.

Results:

3-months regimen contained 3 anti-tuberculosis drugs (rifampicin, isoniazid, ofloxacin) and 6-months regimen contained 4 anti tuberculosis drugs (rifampicin, isoniazid, pyrazinamid, and ethambutol) for initial 2 months and then rifampicin and isoniazid for continuing 4 month.

Conclusion:

There was no difference between two groups in responding to anti TB chemotherapy. Although 6-months regimen is preferred and is treatment of choice for smear positive pulmonary tuberculosis, we recommend 3- months regimen for smear negative pulmonary tuberculosis (paucibacillifers and low risk for microbial resistance to anti TB drugs) because less duration, better patient compliance, good efficacy and low expenses.

Pulmonary Vascular Disease

HEPATOPULMONARY SYNDROME AMONG PATIENTS OF CIRRHOSIS OF LIVER AND PORTAL HYPERTENSION

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Background:

The clinically and pathophysiologically distinct entities of portopulmonary hypertension and hepatopulmonary syndrome occur in a substantial proportion of patients who have advanced liver disease of different causes. These disorders are notoriously underdiagnosed, but they have a substantial impact on survival and require focused treatment. The hepatopulmonary syndrome is characterized by a clinical triad of liver disease, pulmonary gas exchange abnormalities leading to arterial deoxygenation, and widespread pulmonary vascular dilatation.

Objectives:

The study was undertaken to enhance our understanding of the frequency and clinical and pulmonary functional characteristics of hepatopulmonary syndrome (HPS) among patients with chronic liver disease and to identify the major respiratory parameters predictive of the presence of changes in arterial oxygenation.

Methods:

We studied 90 patients for the presence of HPS using two-dimensional transthoracic air contrast echocardiography for detection of pulmonary vasodilation, pulmonary function tests, and Arterial blood gas analysis. Those patients in whom contrast echocardiogram showed

intrapulmonary vascular dilatations were classified as the positive group while others were labeled as the negative group. RESULTS: 90 patients were included in the study, of whom 24 (26.66%) had a positive contrast echocardiography; 12 (13.33%) of them were found to have $PaO_2 < 70$ mmHg and were qualified for the diagnosis of "clinically significant" HPS; and other 12 (13.33%) with $PaO_2 > 70$ mmHg were diagnosed as "subclinical HPS". Using an increased alveolar-arterial difference for the partial pressure of oxygen (AaDO₂) as an indication of hypoxaemia, the prevalence of HPS was considerably higher (>15 mm Hg, (26.66 %); and >20 mm Hg, (22.22%); than using reduced partial pressure of arterial oxygen (PaO₂) as a threshold (<80 mm Hg, 20.0%; and <70 mm Hg, 13.33%). For AaDO₂ as the cut off, the positive predictive value for a diagnosis of HPS was low (35.29%, and 38.46% respectively). In contrast, PaO₂ as a cut off had considerably higher positive predictive values (52.94%, and 75% respectively). Introducing PaO₂ <60 mm Hg as the cut off, the positive predictive value increased to 100%. Dyspnoea was more often present in patients with "clinically significant" HPS (100%) compared with "subclinical HPS" (50%), and patients without HPS 42.4%). The Child-Pugh score correlated significantly with the severity of HPS. Cyanosis ($p=0.000$), clubbing ($p=0.000$) and orthodeoxia ($p=0.000$) were significantly commoner in the 12 patients of "clinically significant" HPS. Presence of spider naevi was significantly related with the presence of subclinical HPS (intrapulmonary vascular dilatations).

Conclusions:

The study results showed presence of hepatopulmonary syndrome and intrapulmonary vascular dilatation syndrome among patients of chronic liver disease. The presence of cyanosis, clubbing and orthodeoxia were found to be suggestive indicators of hepatopulmonary syndrome. Even though not very specific, spider naevi were found to be a useful clinical indicator for the presence of intrapulmonary vascular dilatations.

Keywords:

Hepatopulmonary syndrome, hypoxaemia, liver disease, liver transplantation, portal hypertension, pulmonary vasodilation.

Sleep-related Breathing Disorders

ELEVATED C-REACTIVE PROTEIN IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA HYPOPNEA SYNDROME (OSAH)

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Background:

Sleep disordered breathing (SDB) is a prevalent condition in obese adults associated with increased cardiovascular morbidity. Circulating levels of C-reactive protein (CRP), a pro-inflammatory protein, are associated with increased risk for atherosclerosis. Therefore, CRP may be one of the links between OSAH and cardiovascular disease (CVD). We hypothesized that Patients with sleep-disordered breathing have higher CRP values than do control subjects.

Methods and Results:

We studied 28 patients (20 males and 8 females) with newly diagnosed Obstructive Sleep Apnea (OSA), who were free of other diseases, had never been treated for OSA, and were taking no medications. After polysomnography, venous blood was collected at 5 AM and serum levels of CRP were investigated. We compared



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CRP measurements in these patients to measurements obtained in 20 control subjects (14 males and 6 females) who were matched for age and body mass index, and in whom occult OSA was excluded. Levels of CRP were significantly higher in patients with OSAS than in obese control subjects (CRP $P < 0.000$). We evaluated relationship between the Levels of CRP and sleep study parameters such as Apnea Hypopnea Index (AHI), Desaturation Index (DI), Average of Mean Saturation, Average of Lowest Saturation (LSAT) and Percentage of Sleep Time with Saturation less than 90%. The results showed significant statistical positive correlations between CRP values and apnea-hypopnea index ($p < 0.00$), oxygen desaturation (4%) of hemoglobin index ($p < 0.00$) and percentage of sleep time with saturation less than 90% ($p < 0.00$) in the OSAS patients. In patients with OSAS, the primary factors influencing levels of CRP were severity of OSAS, nocturnal hypoxia.

Conclusions:

Levels of CRP are elevated in patients with OSAS. Therefore, OSAS is associated with increased risks for cardiovascular morbidity and mortality. The severity of OSA is proportional to the CRP level.

Sleep-related Breathing Disorders

VALIDATION OF THE FILIPINO VERSION OF THE EPWORTH SLEEPINESS SCALE

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UP-PGH Section of Pulmonary Medicine

Objective:

To validate the Filipino version of Epworth Sleepiness Scale as a tool for determining excessive daytime sleepiness among the general population

Background:

The *Epworth Sleepiness Scale (ESS)* is a questionnaire that is currently the most utilized subjective test of daytime sleepiness in clinical practice. ESS is a standard, low cost, quick and easy to apply scale. It has been validated comparing to the gold standard of excessive daytime sleepiness which is Multiple Sleep Latency Test.

Methodology:

The forward and backward translation method for bilinguals was applied. The Filipino translation was administered to 40 community dwellers and after 24 hours the English form was given to the same respondents. Testing for internal consistency was done by computing for the Cronbach's alpha. Construct validity was assessed using Chi square test and computation of the Cramer's Coefficient for each of the eight ESS questions.

Results:

The Filipino ESS version showed good internal consistency and reliability with Cronbach's alpha of 0.57 ($p < 0.05$). The Cramer's coefficient for each of the questions between the English and Filipino version of the ESS showed acceptable construct validity of the Filipino version. (Cramer's coefficient, 0.35 - 0.68 $p < 0.05$)

Conclusions:

The Filipino version of the ESS showed satisfactory internal consistency and construct validity. This translation can now be used to elucidate the patterns of daytime sleepiness among the Filipino population. It can be an effective modality in areas with little access to sleep laboratories in screening patients needing further work up for sleep-related disorders.

Sleep-related Breathing Disorders

SLEEP DISORDERED BREATHING IN PARKINSON'S DISEASE PATIENTS IN HUKM.

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Introduction:

Several studies reported conflicting frequency of sleep disordered breathing (SDB) in Parkinson's disease (PD) with figures quoted ranging between 2.5% to 66%.

Objectives:

To determine the prevalence of SDB in PD patients attending HUKM neurology clinic and the predictors of SDB in PD patients.

Method:

This was a cross-sectional study involving 46 PD patients who attended the HUKM neurology clinic over 6 months. Demographic data, United Parkinson's disease rating scale (UPDRS) score and PDSS score were collected. Patients were then subjected to overnight PSG using Somnomedic system.

Results:

There were 27 men and 19 women with mean age of 64.0 ± 9.7 years. There were 29 Chinese, 15 Malay and 2 Indian. Mean duration of illness was 5.8 ± 4.3 years. Mean UPDRS score and PDSS score were 41.2 ± 21.6 and 120.3 ± 13.5 respectively. SDB was found in 54.6% of patients (AHI ≥ 5), with 27.3% having moderate and severe SDB (AHI ≥ 15). The median AHI was 6.7 (range of 0- 40.4). The prevalence of SDB in PD patients depending on AHI cut offs were: 27.3% for mild, 18.2% for moderate and 9.1% for severe. Only neck circumference predicted SDB in PD patients ($p=0.04$).

Conclusions:

There was a high prevalence of SDB in our PD patients comparable to other studies. Neck circumference predicted SDB in PD patients.

Smoking & Health

EFFECTIVENESS OF AN INPATIENT SMOKING CESSATION PROGRAM AT THE SINGAPORE GENERAL HOSPITAL

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2 - National Cancer Centre, Singapore

3 - National Heart Centre, Singapore

Objectives:

Smoking remains the single, commonest, preventable cause of death in the world. The literature suggests that acutely hospitalised patients represent an opportunity whereby the individual patient may be receptive to smoking cessation advice. It has been shown that an exacerbation of disease requiring hospitalization and the smoke-free environment of the hospital are important contributing factors. We present the preliminary results of a pilot, inpatient smoking cessation program in a large tertiary-level, academic hospital

Methods:

We adopted a primarily nurse-driven, protocolized approach. The program was implemented in 4 pilot wards, admitting patients from cardiology, respiratory and general internal medicine. All admitted patients identified as current smokers were briefly counseled and given written materials by trained nurses. Smokers who consented and were interested in quitting were further referred to certified quit-smoking

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consultants. These consultants come from diverse backgrounds such as nursing, psychology and pharmacy. The primary outcome was the continuous abstinence rate at 6 months.

Results:

Over a 6-month period (September 2006 till February 2007), there were 4664 admissions, of which 684 (14.7%) were current smokers. 648 (94.7%) patients received brief counseling and written materials. 129 (19.9%) consented to further counseling and outpatient follow-up. Thus far, the 6-month continuous abstinence rate was 37.5%.

Conclusions:

A comprehensive, multidisciplinary inpatient smoking cessation program is feasible. Despite a relatively brief intervention, long-term quit smoking rates are potentially achievable.

TB & HIV

THE STUDY ABOUT TB/HIV CO-INFECTION PREVALENCE RATE AND RISK FACTORS AMONG HIV/AIDS AND TB

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Objectives:

To investigate TB prevalence rate in HIV/AIDS and HIV infection rate among TB patients; To investigate the risk factors associated with TB in HIV/AIDS and risk factors associated with HIV infection in TB patients.

Methods:

321 HIV/AIDS and 580 TB patients were interviewed about TB/HIV co-infection prevalence and risk factors. Also their case history were checked.

Results:

TB prevalence rate was 30.5% in 321 HIV/AIDS patients (pulmonary tuberculosis 25.5%, extrapulmonary 5.3%), HIV infection rate was 2.8% in 580 TB patients. CD4 count, male, low income were primary factors resulting in HIV/AIDS taking TB; drug use and commercial sex behavior played important roles in HIV infection among TB patients.

Conclusions:

The TB prevalence rate in HIV/AIDS is high, the lower CD4 count level, male, the lower income is, the higher TB prevalence is; HIV infection rate in TB patients is higher than common people. TB patients may infect HIV mainly by drug use and commercial sex behaviors.

Key words:

HIV/AIDS; TB; Co-infection; risk factors; Logistic regression

TB & HIV

PREVALENCE OF CLINICAL TUBERCULOSIS IN HIV INFECTED PATIENTS IN KERMAN PROVINCE -IRAN 2001 - 2005

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Objective:

Tuberculosis is an important infection among HIV positive patients. Tuberculin test is not an appropriate method to diagnoses tuberculosis in HIV positive patients. Extrapulmonary tuberculosis and extra ordinary forms are common in HIV positives and are usually combined with other various opportunistic infections. In addition, for complete treatment the HIV positive patients should take aggressive treatment for a long time.

In this study, all the profiles of patients with HIV and Tuberculosis co-infections in the health centers and prison in Kerman Province were

reviewed from 2001 to 2005.

Method:

The route of obtaining HIV, age, material status, job, the result of tuberculin test, form of tuberculosis, sputum smear, chest X ray, WBC, and response to treatment were recorded.

Results:

More than 80% of cases were from Kerman city 96% of cases were male. injecting drug 38.7%, the age range was between 25-40 years in 55%, 38% were under diploma degree, 74% were jobless, 19% had positive PPD test. Out of 518 HIV positive patients 5.98% cases showed Clinical Tuberculosis. 51.6% cases were Positive Smear Tuberculosis, 38.7% Negative Smear Tuberculosis and 9.7% had extra-pulmonary Tuberculosis.

12% were Miliary in the CXR findings. The patients were adapted to anti tuberculosis treatment with success rate of 55%, death 32%, and interrupted treatment 1%, and 12% uncompleted treatment.

Conclusion:

It seems to be due to vulnerability of our patients belong HIV positive and having tuberculosis co infection as the result of underlying factors such as low education, poverty drug injection and being into prison but underestimated.

Key words:

HIV Positive-Tuberculosis- Injecting drug
The authors gratefully acknowledge Dr. Haghdoost.

TB & HIV

TUBERCULOSIS SCREENING AND MANAGEMENT AMONG HIV INFECTED PERSONS, BATTAMBANG PROVINCE, CAMBODIA

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Introduction:

TB screening and co-management of HIV-infected TB patients are challenging issues, especially in resource-poor settings with high disease burdens of both infections. A goal of pilot TB-HIV activities in Battambang has been to initiate active TB case finding to provide early TB treatment access for HIV-infected persons.

Methods:

All HIV-infected persons are referred from testing centers to the Battambang Referral Hospital (BTB-RH) where they are screened for TB using a signs/symptoms questionnaire, chest X-ray, sputum smear microscopy and culture examination. Follow-up screenings are conducted for those with suspected TB symptoms during routine visits for opportunistic infections prevention and/or antiretroviral therapy. Treatment outcomes for patients were assessed at the end of multi-drug TB therapy (2RHZE/4RH).

Results:

From Sep'03-April'06, 2004 HIV infected-persons were screened for TB; 466(23.2%) cases (148 SS+, 229 SS-, 89 EPTB) were identified; of which 237 who were treated at BTB-RH, The remaining patients were referred for treatment at hospitals/health centers near their homes. Treatment outcomes were available for 163 patients (69%): 120 (74%) completed a



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full course, 6 (4%) defaulted, 30 (18%) died, and 7 (4%) were transferred out. The overall treatment success rate and death rate among SS+ cases for Battambang province in 2006 were 89% and 5%, respectively.

Conclusion:

Active case finding among HIV-infected populations allows for earlier TB detection and treatment. Among those who start TB treatment, success is moderately high, complicated by a high death rate among HIV co-infected patients. A problem remains, however, in getting all persons diagnosed with TB onto therapy.

Tuberculosis

DETERMINATION OF RELATIONSHIP BETWEEN TUBERCULOSIS AND VITAMIN D₃ DEFICIENCY AMONG HOSPITALIZED PATIENTS IN RAZI HOSPITAL, AHVAZ, IRAN (2004-2005)

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Objective:

To determine the relation between tuberculosis and vit D₃ among hospitalized patients in Ahvaz a city in the south of Iran.

Method:

In this case-control study, 45 patients with tuberculosis were selected. Forty five ages, sex, and season-matched volunteers without past medical history of tuberculosis or chronic cough were selected. All patients and control groups were evaluated by measurement the level of vitamin D₃ by RIA (radioimmunoassay) method. All results were analyzed by t-test and analyze & variance in spss11/1.

Results:

The mean and SD of the level of vitamin D₃ were (M=12.25, SD=9.98) and (M= 24.68, SD=19.22) (P=0(among patients and control, respectively). Thirty nine(86.66%) patients and 26(57.77%) controls had level of vitamin D₃ below 20ng/ml. Twenty eight (62.22%) patients had tuberculosis in warm seasons. (Summer, P=0/007) & (fall, P=0/02) & (winter, P=0/08).

Conclusion:

There was significant association between previous vitamin D₃ deficiency and tuberculosis. Also, tuberculosis was frequently occurred in warm seasons.

Keyword: Tuberculosis, Vitamin D₃, Relationship

Tuberculosis

SMOKING AND ALCOHOL CONSUMPTION AS RISK FACTOR FOR PULMONARY TUBERCULOSIS IN NEPAL: A CASE-CONTROL ANALYTICAL STUDY

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Objective:

The aim of the research was to determine the relationship between smoking and alcohol consumption and contracting pulmonary tuberculosis.

Method:

One hundred and eighty persons (60 cases and 120 controls)

were extracted from TB registers from 12 government and private hospitals. Cases were active TB patients (using WHO criteria) identified from TB registries during the period of 2004-2005. Control were matched for age, sex, location, caste, and living district. Subjects were interview face to face by trained interviewers using questionnaires schedule.

Result:

The results of the univariate analysis showed that active smoking (OR=2, P=0.05), passive smoking (OR=1.35, P=0.03), types of tobacco/cigarettes (OR=1.27, P=0.004) and alcohol consumption (OR=1.65, P=0.007) were significantly associated with tuberculosis. Though multivariate analysis did not find any significant association, but it showed the persons who smoked (with addition of alcohol consumption) had a higher risk for contracting tuberculosis.

Conclusion:

The research indicates that either smoking or alcohol consumption bears no relationship with tuberculosis, but both smoking and alcohol consumption is more likely a risk factor for pulmonary tuberculosis in Nepal given its socio-cultural and environment factors. A prospective cohort study is warranted to demonstrate the risk factor.

Tuberculosis

THE SURVEY ON TUBERCULOUS TEST IN 6-14 YEARS STUDENTS OF AHVAZ IN 2006

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Background:

Tuberculosis is the essential problem of health in the world yet, and is one of the death causes.

Tuberculous test (PPD) is used to determine prevalence of tuberculosis in community and is used as a sensitive test for screening tuberculosis. This study performed to aware of B.C.G vaccination coverage and to assess tuberculous test in 6-14 years students.

Methods:

This survey was a descriptive, cross-sectional study. The study population was 2105 students that were selected by multi stage cluster sampling.

Afterwards, with previous coordination referred to selected schools and PPD test was performed by trained persons.

The results of test registered in the form of size of hardness, 48-72 hours next.

Data were analyzed by descriptive statistics, also for comparisoning the results in groups of sex and age used of X distribution and T – test.

Results:

On base of obtained results: %57.8 of students were boys and %42.2 were girls.

%50.2 of students in secondary level were 11-13 year with 1.5 mean. %49.8 of elementary students were 6-10 year with 8 mean. %1.6 of students had equal or over of 10 mm reaction. %9.1 had 5-9 mm reaction that included %6.31 of girls and %2.9 of boys.

%89.3 had under of 5 mm reaction that were %35.1 girl and %54.3 boy. There was a significant difference with PPD test between girls and boys (P<%5). Also %79.4 of students had not any reaction with substance of (PPD test).

Conclusion:

The data showed that : most of the students (%89.3) that injected B.C.G

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vaccine had negative reaction (under 5mm). Also of this number (1672 (79.4%) students) had not any reaction. Therefore, according to results we can say that PPD test is not suitable for determining the effectiveness of B.C.G vaccination.

Keyword:

students, tuberculous test, health center, Ahvaz.

Tuberculosis

CLINICAL COURSE OF ANTI-TUBERCULOUS DRUG INDUCED HEPATITIS

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Introduction:

Anti-tuberculous drugs are very effective but they can cause hepatotoxicity. Many risk factors have been recognised. Data on the clinical course of drug induced hepatitis is scarce in Malaysia. This study was designed to look at the clinical course of drug induced hepatitis in Malaysia.

Methods:

All cases of TB over 30 month period from January 2003 to June 2005 treated at HUSM Kubang Kerian were examined for anti-tuberculous drug induced hepatitis. Data collected included demographics, age, gender, body mass index, hepatitis B carrier, HIV infection, and pre-treatment liver biochemistries such as serum albumin, globulin, AST, ALT and bilirubin. Severity and the clinical course of hepatitis were examined.

Results:

Out of 473 TB patients, 46 had hepatitis. More than half (27) had mild hepatitis, 15 (32.6%) moderate and 4 (8.7%) had severe hepatitis. Majority of cases had onset of hepatitis between 1 to 2 weeks after treatment, some after 3 weeks (17.4%). Jaundice was noted in 15 patients (33%). The duration of hepatitis before resolution in the majority of cases was within one (34.8%) or two weeks (32.6%). All cases with hepatitis were successfully restarted on treatment involving the primary drugs following temporary cessation upon resolution of hepatitis.

Conclusion:

Majority had mild hepatitis and all cases resolved following treatment cessation which took about 1 or 2 weeks. Treatment with primary drugs was successfully reintroduced in all cases.

Tuberculosis

SIMILAR BUT NOT THE SAME

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Introduction

Tuberculous spondylitis may be impossible to differentiate from primary or metastatic tumours based on clinical and radiographic findings. Common findings that arouse suspicion are rarefaction of the vertebral endplates, disc-space narrowing and paravertebral mass. However, these findings are also presence in other condition such as metastases.

Case reports

Two patients of different age group with almost similar presentation and imaging findings are presented. The issues affecting their clinical course are discussed.

Case 1: A 56 year old man presented with bilateral lower limbs weakness and numbness for three months. Examination of lower limbs revealed brisk reflexes bilaterally with reduced sensation from T7 level downward. MRI showed infective process T6 to T8 with large paravertebral mass. However, there is no improvement neurologically after empirical anti-TB treatment. CT guided biopsy suggestive of adenocarcinoma. A CT scan showed small lung lesion with evidence of right adrenal metastasis.

Case 2: 28 year old Malay man complaint of numbness and weakness of the lower limb bilaterally for one month. He has history of contact with TB patient and previous history of sexual promiscuous since 3 years ago. Examination of the back revealed reduced sensation from T6 level downward. MRI showed loss of normal appearance of T6-T7 disc, large paravertebral collection from the level of T4-T9 level. He was started on anti-TB and CT guided biopsy showed changes suggestive of spinal tuberculosis.

Discussion

Both cases presented with similar complaint although from the different age group.

A high index of suspicion of the disease and what is common in certain age group probably the best criteria in difficult cases or if the patient is not responded to the empirical anti-TB treatment.

Conclusion

It is difficult to differentiate spinal tuberculosis and spine metastasis clinically. The imaging findings are not diagnostic. A timely decision to get tissue biopsy increases the chances of the accurate diagnosis.

Tuberculosis

THE RESEARCH OF APPLICATION AND MANAGEMENT ABOUT THE TUBERCULOSIS MANAGEMENT INFORMATION SYSTEM IN JIANGXI PROVINCE

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Objective:

To bring up the methods of starting tuberculosis management information internet-based system promptly and reporting tuberculosis epidemic situation accurately in the age of information.

Methods:

The operation situation of the national Tuberculosis Management Information System was analyzed during the first half year in 2005 in Jiangxi province. The units applying system timely has been counted by months. The application rate of the system has been analyzed. Number of cases detection reporting by every county via network has been collected. It is analyzed the validity of the implementation adopted for successfully running this system and the effective way to rapidly apply the System and report the tuberculosis epidemic situation accurately, which would enhance the immediacy and accuracy of reports.

Results:

The units which should apply the Tuberculosis Management Information System include 1 province, 11 prefectures, 99 counties. Province, all prefectures, 51 counties had applied this system in January, when we adopted some relevant steps, the number of units applied this system was 84 in February and 94 in March, all counties had applied the system and the application rate of this system had arrived 100% at the first ten days of April.



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Conclusion:

It is necessary to cooperate sufficiently between different departments, adopt multi-mode, multitiered training methods, find, give feedback and solve the problems existing in the internet reporting system just for the successfully applying and managing the Tuberculosis Management Information System. We could apply rapidly and operate this system sustainably none but establish good operation mechanism of the system.

Tuberculosis

BASIC FIBROBLAST GROWTH FACTOR AND RELATED CYTOKINES IN TUBERCULOUS AND PARAPNEUMONIC EFFUSIONS

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Objective:

Tuberculous pleurisy and parapneumonic effusion are common causes of pleural fibrosis. In our study, we measured basic fibroblast growth factor (FGF) and transforming growth factor (TGF)- β and various cytokines such as interleukin-2, interleukin-10, interleukin-13 and compared the differences between the two effusions. We try to identify the role of basic FGF, TGF- β and other cytokines in the process of pleural inflammation thickness and maybe we will find the more effective method to predict pleural thickness severity of TB pleurisy and parapneumonic effusion..

Methods:

We collected 15 patients of tuberculous pleurisy as TB group and 12 patients of parapneumonic effusion as PPE group and 11 patients who had congestive heart failure related pleural effusion as transudate group. We divided the TB group to two subgroups by the sites of thickness or fibrosis. PPE group was divided to two subgroups (PE and Em), too. The pleural effusion was analyzed including basic FGF, TGF- β and related cytokines (IL-2, IL-10, and IL-13). Results were reported as mean \pm standard deviation (SD). The method to compare the TB group and PPE group and transudate group is Mann-Whitney U test. (Table)

Results:

The differences of basic FGF between Em subgroup (mean \pm SD: 93.06 \pm 64.99) and transudate group (mean \pm SD:28.93 \pm 10.77) is significantly different ($p < 0.05$). The differences of basic FGF between TB group (mean \pm SD:20.38 \pm 9.22) and transudate group (mean \pm SD:28.93 \pm 10.77) is also significantly different ($p < 0.05$). TGF- β is significantly different either between transudate group and TB group or transudate group and PPE group. (3017.70 \pm 1542.05pg/ml versus 10844.73 \pm 3948.241pg/ml and 3017.70 \pm 1542.05pg/ml versus 9613.721 \pm 6136.14pg/ml).

Conclusions:

We found that TB pleurisy and empyema had higher basic FGF level than transudate pleural effusion. The concentration of TGF- β in both TB pleurisy and parapneumonic effusion were significantly higher than transudate effusion. We thought that basic FGF is important in the process of pleural thickness of TB pleurisy and parapneumonic effusion. TGF- β initiate the pleural effusion formation then the following fibrotic process was take over by basic FGF.

Tuberculosis

TUBERCULOSIS MIMICKED BY MELIOIDOSIS: SOUTH INDIAN EXPERIENCE

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Objectives:

In regions endemic for tuberculosis, like India, presumptive anti-tubercular therapy is often prescribed. Melioidosis, caused by *Burkholderia pseudomallei*, has only sporadically been reported from India. We present here, our experience of a series of 22 cases of suspected tuberculosis, that later turned out to be melioidosis.

Method:

Twenty-two out of 40 (55%) patients with culture proven melioidosis who presented at Kasturba Medical College Hospital, Mangalore, between May 2005 and February 2007, were initially treated for tuberculosis based on clinical, hematological, radiological and/or histopathological findings. These 22 patients were analyzed regarding clinical presentation, laboratory findings, occupation and underlying predisposing factors, with a view to determine any significant discriminatory finding that would help differentiate the two diseases.

Results:

Eight cases mimicked pulmonary tuberculosis, 5 tubercular arthritis, 3 tubercular spondylitis, 2 tubercular lymphadenitis, 2 splenic abscess, and one each mimicked tubercular pericarditis and parotid abscess. Fever was the chief presenting complaint in all 22 patients. Twenty-one (95.45%) had ESR $>$ 70mm Hg; 15 (68.2%) had neutrophilic leucocytosis, 20 (90.9%) had diabetes mellitus. All 22 patients were initially treated for tuberculosis with no clinical response. Subsequent to laboratory culture reports confirming melioidosis, appropriate therapy was instituted.

Conclusions:

Fever, in a diabetic patient, with high ESR and neutrophilic leucocytosis should raise suspicion of melioidosis, which should be ruled out before instituting presumptive anti-tubercular therapy, in areas where both diseases are prevalent.

Tuberculosis

THE ANALYSIS ON THE CORRELATIVE FACTORS OF SMEAR-POSITIVE TB CASES' DIAGNOSTIC DELAY

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Objective

To understand the instance of the infective pulmonary TB cases' diagnostic delay, study on the correlative influential factors raise the rate of smear-positive cases finding, reduce the transmission of TB.

Methods

Design an epidemiology case questionnaire about pulmonary TB cases, choose five counties' TB prevention and control subject clinics, investigate the smear-positive cases who go to the TB clinic, and analyze the questionnaire with epidemiology statistics method.

Results

Smear-positive in 148 cases, and diagnostic delay in 117 cases, the rate of it is 79.1%; definite diagnoses deferment in 84 cases, the rate of it is 56.8%; finding delay in 101 cases, the rate of it is 68.2%. In the age-factor, the group of $>$ 60 years old cases, the rate of diagnostic delay above other age groups, the rates of consultation delay, definite diagnostic delay and finding delay respectively are 91.3%, 69.6% and

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78.3% . In sex-factor , female above male, the rates of consultation delay , definite diagnostic delay and finding delay respectively are 84.3%, 68.6% and 76.5% . In the factor of culture level , illiteracy above others, the rates of consultation delay , definite diagnostic delay and finding delay respectively are 95.7% , 77.3% and 81.8% . The main reason of the patients don't consult the doctor is they don't mind . The major reason of the definite diagnostic delay is the diagnostic level of the small town s 'public health clinics .

Conclusion

Strengthen the government commitment , improve the service of the medical health , enlarge the disseminative degree of the TB prevention and control and enhance the community's self-health mentality are the keys to reduce the rate of consultation delay . Standardize and enhance the diagnostic ability of TB and ascertain TB Convergence Case-management are the keys to reduce the rates of definite diagnostic delay and finding delay.

Tuberculosis

THE DECREASED SERUM ZINC LEVEL IN PATIENTS OF CLINICAL PULMONARY TUBERCULOSIS IN SOUTHERN TAIWAN HOSPITAL

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Backgrounds

Micronutrient malnutrition have not been well characterized in patients with pulmonary tuberculosis. We hypothesized that many micronutrients malnutrition are associated with patients with pulmonary tuberculosis. The main management of pulmonary tuberculosis are nutrition, adequate rest and adequate anti-TB regimens. The nutritional status of patients of TB is important for disease support.

Methods

In our study involving TB (n=40) and non-TB (n=38) patients in Southern Taiwan local hospital, we study the status of serum folic acid, vitamin B12, and zinc level of our TB and non-TB patients. In our study, We enrolled the TB(n=40) and non-TB (n=38) patients, We collect our data during the period from January 1, 2005 to 31 December ,2006.

Results

Seventy-eight patients were enrolled in our study. TB patients had lower mean serum Zinc level than non-TB patients (699.62 ± 67.27µg/L vs1008.28 ± 132.85µg/L). Serum folic acid level in TB and non-TB patients was 7.98±3.40 ng/ml vs 6.65±2.14 ng/ml, Serum Vitamin B12 level in TB and non-TB patients was 882.5± 289.93 pg/ml vs929.0 ± 184.58 pg/ml; Serum folic acid and vitamin B12 level were not significantly different between TB patients and controls.

Conclusion:

These Data demonstrate most patients of pulmonary tuberculosis are associated with micronutrient zinc deficiency. Adequate supply of zinc may be needed in some pulmonary TB patients.

Key Words: Zinc; folic acid; vitamin B12; pulmonary tuberculosis

Tuberculosis

TUBERCULOSIS CASE MANAGER IMPROVES OUTCOME OF PULMONARY TUBERCULOSIS IN HUALIEN, TAIWAN

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Purpose

To improve the outcome of tuberculosis (TB), a TB case manager was recruited in 2004 in Tzu-Chi General Hospital, Hualien, Taiwan. The task of the TB case manager is to improve the adherence of TB patients. This study compared outcome of pulmonary TB cases notified in 2002 by Tzu-Chi General Hospital with that of 2004 to evaluate the impact of TB case manager on the outcome of pulmonary TB.

Methods

FA total of 198 pulmonary TB patients notified in 2004 were analyzed and their outcome was compared with that of 166 TB patients notified in 2002. Outcome of treatment was determined according the recommendation of WHO.

Results

Among the 166 patients notified in 2002, outcome was classified as cured in 46 (27.7% j, treatment completed in 73 (44.0%), died in 27(16.3% j, failed in 5 i3.0% j, defaulted in 15 i9.0% j, transferred in none (0.0%), and the corresponding figure for the 198 patients notified in 2004 was 74 i37.4% j, 84(42.4%), 29(14.7%), 5(2.5%), 5(2.5%), and one (0.5%). The proportion of patients with successful treatment in the 2002 cohort was 71.1%, which increased to 79.8% in the 2004 cohort.

Conclusion

F The outcome of TB patients improved substantially with considerable decrease of defaulter after introducing the TB Case Manager.

Tuberculosis

MYCOBACTERIUM LOAD IN SMEAR POSITIVE PULMONARY TUBERCULOSIS

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Aim:

Smear positive pulmonary tuberculosis is associated with higher morbidity, mortality and public health hazard. A heavy mycobacterium (AFB) load in sputum will render the individual highly contagious. A retrospective study was undertaken to review the AFB load in sputum and relationship to clinical profile.

Material and Methods:

Clinical records of 79 adult patients admitted between 1999 and 2004 for smear positive pulmonary tuberculosis (PTB), to the medical department of a secondary hospital in Singapore were reviewed. Semi quantitative estimation of mycobacterium load was based on microscopic examination of auramine stained sputum specimens and represented as 1+ (rare), 2+ (few), 3+ (many), or 4+ (numerous). Statistical analysis was conducted using SPSS10.0 for Windows.

Results:

The patients were aged between 19 to 78 years, with a mean of 52.1years. and 26(32.9%) were over 60years of age. There were 34 (43%) diabetics. All patients had at least moderately advanced PTB on radiology and about half (43 patients, 54%) having far advanced PTB. Diabetic patients were more likely to have far advanced PTB (16 of 45, 35%; p=0.034), involvement of lower lobes (7 of 34, 20.6%, compared to 6.7% in non



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diabetics; $p=0.017$). 48 patients (61.5%) had a mycobacterium load of 3+ or 4+. There was a significant association between mycobacterium load in sputum and severity of disease on radiology ($p=0.003$) diabetes mellitus ($p=0.05$) and male gender ($p=0.05$).

Though elderly patients (age over 60 years) were more likely to have far advanced PTB, than younger patients ($p=0.043$), they were not predisposed to having a heavier mycobacterium load ($p=0.314$). There was no significant difference in the AFB load in those with cough of over 4 weeks ($p=0.213$).

Conclusions:

Majority of the patients (61.5%) with moderate to far advanced pulmonary tuberculosis have heavy AFB load (3+ or 4+) in their sputum. Male gender and diabetes were the other risk factors. Surprisingly the duration of cough (more than 4 weeks) and older age (over 60 years) were not associated with a higher mycobacterium load.

Tuberculosis

CORRELATION OF IN-HOUSE POLYMERASE CHAIN REACTION OF GASTRIC ASPIRATE SAMPLES WITH LOWENSTEIN-JENSEN CULTURE IN DETERMINING PULMONARY TUBERCULOSIS IN CHILDREN

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Objectives:

In this study, investigation on the use of Polymerase Chain Reaction (PCR) of gastric aspirate samples as an adjunct in the diagnosis of pulmonary tuberculosis (PTB) in children was performed. Our objective was to determine the validity of PCR of gastric aspirates using culture as gold standard.

Methods:

A cross-sectional study was done involving pediatric patients admitted for suspicion of PTB at St. Luke's Medical Center and National Children's Hospital in Quezon City, Philippines. Purified protein derivatives (PPD) and chest X-ray (CXR) were done for all patients. Gastric aspirate samples were collected for 3 consecutive days and acid fast staining (AFB), Lowenstein Jensen culture and PCR were done.

Results:

One hundred forty-eight patients aged 2 months to 18 years (Mean=7.2 years, SD=5.3 years) were included in the study, 96 (64.9%) were males and 52 (35.1%) were females. Seventy-two patients had positive PCR results and of these, sixteen were culture positive. The sensitivity, specificity, PPV and NPV of PCR compared with culture were 68.8% (95%CI 41.5-87.9), 53.8% (95% CI 44.9-62.4), 15.3% (95% CI 8.2-26.1), 93.4% (95% CI 84.7-97.6) respectively.

Conclusions:

The results of the study show that PCR of gastric aspirates is moderately sensitive and fairly specific in the diagnosis of PTB in children. PCR can be used as an adjunct method in the diagnosis of PTB in children. It is recommended to compare PCR with radiologic findings and treatment outcome after six months to further evaluate its usefulness.

Tuberculosis

DETECTION OF MYCOBACTERIUM TUBERCULOSIS FROM EXTRAPULMONARY SAMPLES BY USING POLYMERASE CHAIN REACTION

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Objectives:

Tuberculosis (TB) is a serious health problem in the Philippines, with the incidence of extrapulmonary sites of tuberculosis infection increasing. This is a study on the detection of *Mycobacterium tuberculosis* from extrapulmonary clinical samples by polymerase chain reaction (PCR).

Methods:

The presence of *M. tuberculosis* was detected by amplification of the 38kDA protein gene by nested PCR of DNA extracted from extrapulmonary samples obtained from patients suspected of having tuberculosis. Patients were referred by doctors from St. Luke's Medical Center and other hospitals.

Results:

There were 1,407 extrapulmonary samples tested for the presence of *M. tuberculosis* by nested PCR. These samples were categorized as follows: cerebrospinal fluid (733), other body fluids (509), tissues and biopsies (137), bone (17) and ophthalmic samples (11). A total of 206 samples were determined to be positive for *M. tuberculosis*: 11.8% of cerebrospinal fluid samples, 16.5% of other body fluids, 20.4% of tissues and biopsies, 35.3% of bone samples and 9.1% of ophthalmic samples.

Conclusions:

The results show that the nested PCR method gave an overall detection rate of 14.6%, with the highest for bone samples (35.3%) and the lowest for ophthalmic samples (9.1%). PCR can be useful tool to detect the presence *M. tuberculosis* from extrapulmonary clinical samples, in conjunction with the routine laboratory work-up of TB patients.

Tuberculosis

ERYTHROCYTE SEDIMENTATION RATE IN TUBERCULOSIS

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Objective:

The Erythrocyte Sedimentation Rate is commonly done as a nonspecific test during the initial diagnostic work-up for TB, which is a chronic bacterial infection. A few studies have documented elevated ESR values associated with pulmonary infection, compared to healthy controls. We did a study to compare ESR in tuberculosis and non-tubercular febrile illness.

Method:

Retrospective evaluation of case records was done at a tertiary care centre. Age and ESR of patients with sputum positive tuberculosis was recorded. Age and ESR of control population (patients admitted to the hospital with non-tubercular febrile illness of more than 10 days duration) was noted. Patients with non-infectious cause of fever were excluded.

Results:

53 sputum positive tuberculosis patients were compared to 52 non-

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tubercular febrile illness (leptospirosis:7 Malaria:9, Enteric Fever:14 and Melioidosis:22) of more than 10 days duration. Average age of patients with tuberculosis was 42.46±16.15 (Mean±S.D) years compared to the average age among controls 45.35±14.91 years. The difference was not statistically significant ($p>0.05$). Average ESR among those with tuberculosis was 63.79±34.9 compared to 77.35±43.06 among controls. The difference was not statistically significant ($p>0.05$). ESR in different diseases among controls was as follows – Melioidosis: 111±23.72, Enteric Fever: 68.07±35.96, Leptospirosis: 40.71±24.23 and Malaria: 38±40.26.

Conclusion:

There is no statistically significant difference in Erythrocyte Sedimentation Rate between patients with tuberculosis and non-tubercular febrile illness of more than 10 days duration. Erythrocyte Sedimentation Rate may not have an important role in the initial workup of tuberculosis.

Tuberculosis

COMMUNITY OPINION ON TUBERCULOSIS

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Objectives:

The study was done to assess the public knowledge on tuberculosis, the cause, symptom, contact and treatment; public opinion on those who had tuberculosis; and their practices if they had the symptom

Methods:

Convenient sampling was done to select sample of those who attended the health promotion activity on 24th Mar and 7th April 2007. Self administered questionnaire was given to the participants and 167 samples were collected during that period.

Results:

From the study showed that the respondents; 140 (83.3%) have heard about tuberculosis through various methods such as health campaign, pamphlet, mass media; From those who have heard about Tuberculosis 93.5 % knew it is due to infection, however 2.9 % claim it was due to 'santau', and 3.6% were not sure; Of those who have heard about tuberculosis only 81.4% knew the transmission is by droplets. Regarding the symptom 31.1% answered Prolonged cough, 23.4% prolonged cough with haemoptysis and loss of weight, 21.0% prolonged cough with haemoptysis. 2.1% claimed that none will be infected if one had contact with Tuberculosis patient.

From the 167 respondents 92.2 % knew Tuberculosis is dangerous to public, 90.4% knew it can be treated, 86.8% knew incomplete treatment is infectious, however only 53.9% knew that treatment length is 6 months or more. 86.2% agreed that they need further assessment if they are close contact of those infected with Tuberculosis. 11.4% knew of someone who had Tuberculosis

Conclusions:

More health education would improve public knowledge and perception on Tuberculosis.

Tuberculosis

SURVEYING THE ASSOCIATION BETWEEN ASBESTOS EXPOSURE AND PULMONARY TUBERCULOSIS

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Objectives:

Asbestosis, a disorder arising from fibrillar mineral compounds of hydrous silicate, damages lungs and causes respiratory signs. Asbestosis is a risk factor for pleural neoplasm, and tuberculosis has been proposed as a risk factor for progression of asbestosis and a complication in advanced asbestosis. We have surveyed the association between asbestos exposure and pulmonary tuberculosis in a group of Iranian factory workers in Tehran.

Method:

During this single-blind historical cohort study, 202 asbestos exposed workers (case group) and 201 non exposed workers (control group) were compared regarding the clinical and paraclinical studies, including CBC, ESR, PPD, CXR, sputum and BAL fluid smear and culture for mycobacterium tuberculosis.

Results:

Groups were matched according to the sex, age, duration, of exposure and smoking habit. Of the case and control groups, 7(3.5%) and 1(0.5%) subjects were revealed to be infected by TB, respectively. Cumulative Incidence Risk (CIR) was 6.96 showing asbestos exposure predisposes subjects to TB. Positive PPD of more than 15 mm in case and control groups was 14.4% and 21.9%, respectively. It means that asbestos exposure decreases reactivity to PPD ($P<0.05$).

Conclusions:

Exposure to asbestos predisposes subjects to secondary tuberculosis, possibly by reactivation of dormant foci of TB in lung. So periodic examination of exposed subjects is strongly suggested and is indicated for early detection and management.

Tuberculosis

INVOLVING WORKPLACES IN TB CONTROL: EXPERIENCE OF BRAC IN PERIURBAN AREA OF DHAKA

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BRAC Health Programme

Introduction:

In 1984, BRAC started a tuberculosis project and by 2004 expanded to 283 sub districts and 5 city corporations in collaboration with the national TB control programme. For DOTS expansion BRAC involved different segments of society including workplaces of cities.

Objective:

To increase case detection of Tuberculosis by empowering and involving factory workers.

Methodology:

Orientation on tuberculosis from selected factory workers in Dhaka city was conducted for strengthening of DOTS services. It was difficult to reach factory worker due to their inconvenient work schedule. Considering these BRAC initially contracted with different factory owners management authorities and oriented them. Following their orientation selected factory workers were also oriented on TB. Factory authority also allowed setting up sputum collection center in the factory to increase access to DOTS.

Results:

In 2006, BRAC oriented 393 management authorities in 21 batches, 2081 factory workers in 50 batches. Total 146 (4%) patients were factory workers among the identified 3700 cases in 2006 in periurban area of Dhaka city supported by BRAC.

Conclusion:

Strengthening workplace DOTS should be enhanced especially in urban and periurban area.