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78.3% . In sex-factor , female above male, the rates of consultation delay , definite diagnosticdelay 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 diagnosticdelay 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

trenghen 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

FTo 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

FAmong 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 auromine 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.



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Tuberculosis

TRANSMISSION OF MYCOBACTERIUM TUBERCULOSIS IN A FAMILY PROVED BY GENOTYPING

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Introduction:

Molecular genetic methods have been applied in various epidemiological studies including investigations of disease acquisition by contact. This report described the use of various molecular genetic methods in tracing possible household transmission of tuberculosis by contact.

Methods:

Four *Mycobacterium tuberculosis* strains, each from 4 members of a family, were first isolated and identified in the clinical laboratory of the Chest Hospital and were submitted to the national reference laboratory of Mycobacteriology for further confirmation and genotyping. In this study, IS6110 restriction fragment length polymorphism (RFLP), spacer oligonucleotide typing (spoligotyping) and mycobacterial interspersed repetitive units - variable number tandem repeats (MIRU-VNTR) and *rpoB* gene sequencing were used for genotyping.

Results:

All four strains were found to have identical spoligotypes, MIRU-VNTR patterns, and similar RFLP profiles (i.e. differing by a single band). The results of the drug susceptibility testing and of *rpoB* sequencing showed that all four strains were rifampicin resistant.

Conclusion:

Household transmission through close contact was thus proved by genotyping. We conclude that all four family members were infected with the same lineage of *M. tuberculosis*.

Tuberculosis

TUBERCULOSIS AS A CO-INFECTION IN POST-TSUNAMI VICTIMS

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Introduction:

The Sumatra-Andaman tsunami on 26th December 2004 was one of the greatest natural disasters in recorded human history. Here, we present two children of post-Tsunami victims from Banda Aceh with multiple infections including tuberculosis.

Case 1:

A 23-month-old boy was brought to the hospital for a non-resolving fever associated with cough and increasing dyspnea having survived a near drowning episode during the Tsunami disaster. He was

undernourished, febrile, tachypneic and irritable. There were crepitations heard in the upper and mid zones of the right lung. Chest radiograph demonstrated a right middle lobe consolidation with bilateral interstitial opacities. The presence of melioidosis was confirmed serologically. Tuberculosis was confirmed with a positive polymerase chain reaction (PCR) on cerebrospinal fluid samples and the finding of a tuberculoma on repeat computed tomography scan of brain

Case 2:

A 13-year-old Indonesian boy was referred for further management of non-resolving left-sided pleural empyema. He appeared cachectic, febrile and tachypneic on admission. Left lung examination revealed stony dullness on percussion and decreased breath sounds on auscultation. Chest radiography showed opacities over the whole left lung while a chest ultrasonography confirmed empyema. The patient's Mantoux test was highly positive. PCR for *Mycobacterium tuberculosis* was positive on pleural fluid. In addition he had a co-infection of melioidosis and *Salmonella typhi*; both infections were confirmed serologically.

Conclusion:

Both patients responded after receiving the appropriate anti-microbial therapy for the respective infections inflicted. The above case reports highlight the increase in the incidence of multiple infections including tuberculosis in the aftermath of the recent tsunami.

Key word:

Post-tsunami, melioidosis, tuberculosis (TB)

Tuberculosis

EFFECT OF AQUEOUS EXTRACT OF GARLIC ON MIC OF ISONIAZID AND RIFAMPICIN AGAINST MYCOBACTERIUM TUBERCULOSIS BY BROTH MICRODILUTION METHOD

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Objectives:

To Study the activity of crude aqueous extract of garlic against clinical isolates of *Mycobacterium tuberculosis* in vitro and effect of its varying dilutions on MIC of isoniazid and rifampicin by broth microdilution method (BMM).

Methods:

Thirty clinical isolates of *Mycobacterium tuberculosis* were subjected to susceptibility testing by proportion method for isoniazid and rifampicin MICs of isoniazid and rifampicin were determined by standard two fold broth microdilution method both with and without garlic extract in the medium. H37Rv ATCC was prepared and tested for 8 times before testing of clinical isolates.

Results:

Garlic extract inhibited the growth of standard as well as clinical isolates of MTB. Addition of garlic extract to medium in serial dilutions significantly reduced the MIC of drugs tested as compared to the individual drugs alone as shown in table. When organism was incubated in media containing drug with garlic extract, growth of organism was inhibited at lower concentrations. Prolonged incubation led to high contamination rates in plates with contamination most common after 18 days of incubation.

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Table1: MIC OF ISONIAZID AND RIFAMPICIN WITH AND WITHOUT ADDITION OF GARLIC EXTRACT AGAINST CLINICAL ISOLATES OF *M. TUBERCULOSIS* BY BROTH MICRODILUTION METHOD.

Drug used	Number of strains	MIC ug/ml (mean ± SD)
Isoniazid	30	0.42 ± 0.22
Isoniazid + Garlic*	30	0.11 ± 0.04
Rifampicin	30	1.73 ± 0.44
Rifampicin + Garlic [#]	30	0.62 ± 0.65

* = 0.83 ± 0.23ul /100ul of broth, [#] = 0.23 ± 0.17 ul/100ul of broth

Conclusions:

Thus garlic if used along with antitubercular drugs have inhibitory effect on *Mycobacterium tuberculosis* and thus can be used to prevent the development of resistance to antimycobacterial agents

Tuberculosis

RETROSPECTIVE STUDY OF MYCOBACTERIUM SPECIES AND DRUG SUSCEPTIBILITY IN UNIVERSITY MALAYA MEDICAL CENTRE (UMMC)

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Background:

Mycobacterium tuberculosis complex is of closely related organisms of *M. tuberculosis*, *M. bovis* and *M. africanum*. Other mycobacterium known as 'nontuberculous mycobacteria' (NTM), were classified based on Runyon classification. To date, the most common mycobacterium species isolated in Malaysia has been *M. tuberculosis complex*. The aim of this study is to investigate the mycobacterium species and the drug susceptibility pattern in UMMC.

Materials and Methods:

A retrospective study was conducted from 2002 to June 2006, involved 26 276 respiratory samples (RS) and 4323 non-respiratory samples (NRS). RS composed mainly of sputum, tracheal secretion, pleural fluid and bronchial alveolar lavage. Cerebral spinal fluid, peritoneal fluid, and pus formed the major components of NRS. All the samples were screened by auramine stain, followed by Ziehl-Neelsen stain. Lowenstein Jensen medium was used for culture. Identification of the isolates and drug susceptibility was performed by Public Health Laboratory, Sg. Buloh, Selangor.

Results:

A total of 611 mycobacterium isolates were isolated: *M. tuberculosis complex*, 516 (RS: 476, NRS: 40), *M. tuberculosis*, 59 (RS: 53, NRS: 6), and *NTM*, 36 (RS: 28, NRS: 8). Four hundred and fifty five (455) of *M. tuberculosis complex* were susceptible to all anti-tuberculous drugs, 51 isolates were mono-resistant, 8 isolates were resistant to other combinations and 2 isolates were identified as multi-drug resistant tuberculosis. Fifty eight (58) of *M. tuberculosis* were susceptible to all the anti-tuberculous drugs, and 1 isolate was mono-resistant. Thirty (30) of *NTM* were resistant to all anti-tuberculous drugs, 3 isolates were mono-resistant, and 3 isolates were resistant to other combinations.

Conclusions:

M. tuberculosis complex was the most common mycobacterium species isolated from the clinical specimens in UMMC. Majority of *M. tuberculosis complex* were susceptible to anti-tuberculous drugs, and 83.3% of *NTM* were resistant to all the anti-tuberculous drugs.

Tuberculosis

DETECTION OF MYCOBACTERIUM TUBERCULOSIS IN BACTEC MGIT 960 CULTURES BY COBAS AMPLICOR MTB IN ROUTINE CLINICAL PRACTICE

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Introduction:

The rapid, automated cultivation and detection system, BACTEC MGIT 960, is widely used in Taiwan. However, the high nontuberculous mycobacteria (NTM) isolation rate is a concern that should be carefully evaluated. The aim of this study is to evaluate the ability of identification of *Mycobacterium tuberculosis* in positive BACTEC MGIT 960 cultures by the commercial amplification system (COBAS AMPLICOR MTB) in routine clinical practice.

Methods:

There were 270 positive BACTEC MGIT 960 cultures tested by the COBAS AMPLICOR MTB in Taipei Medical University-Wan Fang Hospital from March 2006 through February 2007. The results of COBAS AMPLICOR MTB were compared with mycobacterial species identification by conventional biochemical testing.

Results:

Two hundred and seven (76.7%) COBAS AMPLICOR MTB results were regarded as conclusive and 63 (3 *M. tuberculosis*, 60 *NTM*) were regarded as inconclusive. Of the 176 conclusive results positive for *M. tuberculosis*, 174 were regarded as true positive and 2 were considered false positive. Of the 31 conclusive results negative for *M. tuberculosis*, 30 were regarded as true negative and 1 was considered false negative. After excluding the inconclusive results, the sensitivity, specificity, positive predictive value, and negative predictive value of the COBAS AMPLICOR MTB test were 99%, 94%, 99%, and 97% respectively.

Conclusion:

COBAS AMPLICOR MTB might be suitable for rapid detection and identification of *M. tuberculosis* in BACTEC MGIT 960 cultures in routine clinical practice.

Tuberculosis

TREATMENT OF ISONIAZID-RESISTANT PULMONARY TUBERCULOSIS

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Introduction:

Although resistance to isoniazid (INH) is the most common form of drug resistance seen among *Mycobacterium tuberculosis* isolates, there have been few studies on the efficacy and optimal duration of treatment for patients with INH-resistant tuberculosis (TB).



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Method:

We evaluated retrospectively the treatment outcomes of 39 patients who were treated for INH-resistant pulmonary TB. The treatment regimens consisted of a 12-month regimen of rifampin (RIF) and ethambutol (EMB), with pyrazinamide (PZA) given during the first 2 months (2REZ/10RE) ($n = 21$), a 9-month regimen of RIF and EMB with PZA during the first 2 months (2REZ/7RE) ($n = 5$), and a 6-month regimen of RIF, EMB, and PZA (6REZ) ($n = 13$).

Results:

Among the 39 patients, treatment was successfully completed by 36 patients (92%). However, treatment failure occurred, and acquired resistance to other first-line drugs, such as RIF, developed in three patients (8%). Cavitory and bilateral extensive lesions were commonly found in the chest radiographs of the patients who exhibited treatment failure.

Conclusions:

These findings underline the seriousness of concerns regarding treatment failure and the development of multidrug-resistant TB in patients with INH-resistant TB following treatment with recommended regimens, especially in those patients who exhibit cavitory pulmonary TB.

Tuberculosis

DETECTION OF MYCOBACTERIUM TUBERCULOSIS IN CADAVERIC CORNEAS FROM PATIENTS WITH PULMONARY TUBERCULOSIS: A PRELIMINARY REPORT

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Pulmonary tuberculosis (PTB) is one of the exclusion criteria for corneal donation set by the International Federation of Eye and Tissue Banks. In our extensive review of available literature, no reports have been published regarding isolation of *Mycobacterium tuberculosis* from corneas of tuberculosis patients.

Objective:

Our study aimed to determine the presence of *Mycobacterium tuberculosis* in cadaveric corneas of PTB patients either by culture or by nested polymerase chain reaction (nPCR).

Methodology:

Samples came from corneal donors aged 2-65 years old who were diagnosed to have PTB during their admission in the hospital or by autopsy.

Personnel of Santa Lucia Eye Bank harvested the corneas within 12 hours of death. Each specimen was divided into 2, or was stored temporarily in MK medium: one half was inoculated in Lowenstein Jensen Medium and BBL™MGIT™ *Mycobacteria* Growth Indicator Tube, other half was sent for nPCR.

Results:

1 out of the 10 corneas had growth of *Mycobacterium* other than tuberculosis (MOTT) on Lowenstein Jensen Medium and BBL™MGIT™ *Mycobacteria* Growth Indicator Tube. However, none of the samples turned out positive for MTB or MOTT by nPCR.

Conclusion:

Based on Robert Koch's postulates, the establishment of a causal

relationship between a parasite and a disease depends on the isolation of an infectious organism from a diseased animal followed by growth of the organism in pure culture.

The presence of MOTT organism in one of the samples may be a basis for the possibility that corneal transplantation can be a means of transferring the disease to the donor.

Tuberculosis

HIGH RATE OF MYCOBACTERIUM TUBERCULOSIS DRUG RESISTANCE IN A MEDICAL CENTER IN NORTHERN TAIWAN WEI-JUIN SU, CHIN-CHOU HUANG, CHEE-HUA CHIANG, REURY- PERNG PERNG

Chest Department, and Department of Internal Medicine, Taipei Veterans General Hospital; National Yang-Ming University School of Medicine, Taipei, Taiwan, R.O.C.

Introduction:

One of the major risk factors for the development of drug resistant tuberculosis is inadequately administered therapy based on an outdated drug-susceptibility data.

Methods:

A retrospective study was conducted to evaluate the drug resistance patterns of *Mycobacterium tuberculosis* in a medical center in northern Taiwan between 2003 and 2004 in comparison to those reported in 1990-1992.

Results:

A total of 611 non-duplicate *M. tuberculosis* isolates from culture-proven tuberculosis cases was tested for drug susceptibility against five first-line anti-tuberculosis drugs in a clinical mycobacterial laboratory using the agar proportional method for isoniazid (INH), rifampicin (RIF), ethambutol (EMB), and streptomycin (SM). The Wayne assay, which measures the activity of pyrazinamide (PZA), was used for PZA susceptibility testing. Of 611 patients, 339 (55.5%) isolates were resistant to one or more drugs. Isolates from patients aged <25 years showed significantly higher drug resistance (79.2%) compared with other age groups. Single-drug resistance was observed in 15.9% of all isolates. Resistance to PZA (8.0%) was most frequent followed by INH (5.1%). Among the poly-drug resistant isolates (PDR-TB), resistance rates were 217 (35.5%) isolates for INH and 165

(27.0%) for RIF. 159 (26.0%) isolates were resistant to both INH and RIF (MDR-TB). 94.6% of RIF resistant isolates were also resistant to INH. The overall drug resistance rates and percentages of PDR-TB and MDR-TB increased over the 12-year study period ($p < 0.001$).

Conclusions:

The emergence of *M. tuberculosis* isolates resistant to anti-tuberculosis agents in this hospital, and in particular among the young aged patients, is alarming. Strict measures to control and prevent drug-resistant tuberculosis are urgently needed.

Tuberculosis

THE TUBERCULOSIS EPIDEMIOLOGY IN KALALEH DISTRICT FROM 2001 TO 2005 YEARS

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Health Center Kalaleh District Golestan Province Iran

Introduction:

Tuberculosis is The Fatal Preventable Disease That is approximately infected one-third of world population. Golestan province in IRAN

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has the most incidences after sistan –balochestan province. In golestan, Kalaleh district has most incidence of TB.

This study of TB epidemiology in every region must promotion The Knowledge about this disease and necessary for design the prevention program.

Method:

This study is cross sectional. The data was collected via questionnaire by approach to TB patient s dossiers that were cured from 2001 to 2005 years.

Results:

From 416 cases:194(46.6%) case were men and 222(53.4%) were women .The patient s year average was 42.7 ± 19.9 years old and year range was between 3 to 85 year s old.265(63.7%) cases were positives smear pulmonary TB and 55 (13.2%) case s were negative smear and 94(22.6%) case s were extrapulmonary TB. The range incidence kind of TB was between 68 and 45 per 100000 population .That show slowly decreased in TB incidence. The rate of successfully cure The smear positive TB accessed from 85% to 90% .

Discussion:

Kalaleh district has the most incidence of TB in Golestan Province. There fore it is important that we find TB in primary stage and cure the patient effectively.

Key word:

Tuberculosis.incidence.epidemiology.Kalaleh

Tuberculosis

YIELD OF PERCUTANEOUS NEEDLE LUNG DRAINAGE ASPIRATION IN TREATING LUNG ABSCESSSES AND ABSCESSSED BRONCHIAL SACS

NGO THANH BINH

University of Medicine and Pharmacy of HoChiMinh City

Objective:

To evaluate the role of percutaneous needle lung drainage aspiration in treating lung abscesses or abscessed bronchial sacs, > 4 – 6 cm in diameter, next to chest wall, and poor response to internal medicine after 3 – 7 days.

Method:

Clinical experimental study.

Results:

From 06/2003 to 06/2006, there were 34 cases (30 male and 4 female patients) included 21 lung abscesses and 13 abscessed bronchial sacs. Their average age was 48,1 (range, 34 to 65). 100% abscess lesion on chest x-rays were at unilateral lung; right side more than left one (64,71% vesus 35,29%); lower lobe more than upper one (85,29% vesus 14,71%); and 67,65% of cases of abscess diameter were under 8 cm. 26 cases (76,47%) were caused by anaerobic bacteria (Pseudomonas aeruginosa, Serratia spp., Acinetobacter spp., Enterobacter spp.). All of them were successfully performed by percutaneous needle lung drainage aspiration in 12,83 day average interval (7 – 20 days). Complications included 7 cases of site chest pain (20,59%), 2 small pneumothorax (5,88%), 1 percutaneous emphysema (2,94%), 2 vasovagal reaction (5,88%), and no cases of haemoptysis or death.

Conclusion:

Percutaneous needle lung drainage aspiration was a invasive therapy which was high effective, relatively safe, easy to perform and its complications were low.

Tuberculosis

ROLE OF BLIND PERCUTANEOUS PLEURAL BIOPSIES IN THE DIAGNOSIS OF PLEURAL EFFUSIONS

NGO THANH BINH

University of Medicine and Pharmacy of HoChiMinh City

Objective:

To evaluate the diagnostic value and the safe of blind percutaneous pleural biopsy (closed pleural biopsy) in the diagnosis of exudative pleural effusions.

Method:

Clinical diagnostic test. Blind percutaneous pleural biopsies were performed on patients with undiagnosed exudative effusions, with non-diagnostic cytology, and a clinical suspicion of tuberculosis or malignancy.

Results:

From 01/2001 to 09/2006, 356 cases of exudative pleural effusions (237 male and 119 female patients) were admitted and performed by blind percutaneous pleural biopsy for diagnosis, include 148 cases of tuberculous pleuritis, 201 pleura metastatic malignancies, 4 tuberculous pleuritis and pleura metastatic malignancies và 3 mesotheliomas. Diagnostic value of blind percutaneous pleural biopsy for tuberculous pleuritis was 78,29% of sensitivity and 100% of specificity; and for malignant pleura effusions was 69,23% of sensitivity and 100% of specificity. Complications include 46 cases of site chest pain (12,92%), 4 site haematoma (1,12%), 11 pneumothorax (3,09%; only 3 cases needing drainage), 3 haemothorax (0,84%), 8 vasovagal reaction (2,24%), and 1 death (0,28%).

Conclusion:

Blind percutaneous pleural biopsies had high diagnostic value for undiagnosed exudative effusions and were relatively safe, and their complications were low.

Tuberculosis

SURVEY THE APPLICATION METHODS OF INFECTION CONTROL THROUGH STAFFS OF ENDOSCOPY CENTERS IN HOSPITALS OF TEHRAN UNIVERSITY OF MEDICAL SCIENCES IN 2004-2005.

ALIASGHARPOOR M*(MSC) MONGAMEDZ (MSC.) & ETAL.

Nursing Faculty & Midwifery Of Tehran University

Introduction:

Nasocomial infection is an important of treatment - and - health in worth that involve two m illiones person in years, and expense over 9 billions \$ add expenses treatment.

Material and methods:

This research is a descriptive study that survey application methods of infection control through staffs of endoscopy centers in hospitals of Tehran university of medical sciences in 2004-2005.all ten endoscopy centers in hos pitalls that contain 54 physician, 27 health care and 14 worker were chosen for the survey. The instrument was a questionnaire about personal characteristics of staffs that work in endoscopy centers, 6 check list was designed to evaluate characteristics of disinfection solutions that worker use for disinfection, reprocessing endoscopes through staffs, proccesof disinfection of endoscopes, methods personal protective and lab kites for culture of places endoscopy centers, endoscops tubes and disinfection solutions. In order to analysis collected data we used descriptive statics.



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Results:

Findings of the research were summarized in 31 tables. Results about methods of physical places disinfection through workers of endoscopy centers showed 30% of hospitals was desirable, 50% of hospitals semi desirable and 20% of hospitals was undesirable.

Results about method of reprocessing of endoscopes through staffs showed only 10% of hospitals are desirable, 30% of hospitals are semi desirable and 60% of hospitals are undesirable.

Results about method of reprocessing of endoscopes through staffs showed 20% of hospitals are desirable, 70% of hospitals semi desirable and 10% is undesirable.

Results about method of protective through staffs showed all of hospitals are undesirable.

Results about kinds of microorganisms growth in environment, instrument and disinfection solution of instrument endoscopies showed that maximum of percentage of microorganisms growth was minimum growth was *Pseudomonas* and *Staphylococcus* (1/8).

Conclusion:

Results of research showed the application methods of infection control through staffs of endoscopy centers in hospitals not suitable and need careful evaluation and supervising carefully.

Tuberculosis

TWO YEAR FOLLOW UP STUDY OF TB PATIENTS PUT ON DOTS FROM SOUTH INDIA

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Background

DOTS being implemented (intermittent therapy) all over India since 1994. India is one of the high TB burden countries with poor resources. Because of the poor acceptance of the DOTS, detection rate in India is far behind the expected which is more evident in South India. This is because of doubt of the doctors about the effectiveness of intermittent regimen. There is no reported study of long-term follow up of DOTS therapy. So the present study is to evaluate the long term follow up and relapse of intermittent regimen in DOTS.

Aim of the Study

To evaluate the relapse rate and effectiveness of intermittent regimen for various forms of tuberculosis.

Material & Method

All tuberculosis patients registered in 2003 I & II Quarter of the entire Districts were interviewed as per questionnaire prepared at DTC. Those with suspected TB were arranged sputum examination.

Observation

Of the 886 patients registered and invited 322 reported for study (36.34%) of which 253 (79%) were pulmonary (160 were positive and 93 were negative.) and 69 (21.43%) were extra pulmonary with following distribution. Lymph node - 31 (9%), Plural effusion - 16, Intestine - 7, Bone & joint - 4, Neuro - 5, Miliary - 2, Thyroid - 1, Pericardium - 1, Genito Urinary - 1. Of the reported patients 194 were asymptomatic and 126 has minor symptoms. Of the 30 under went sputum examination, 2 (0.62%) were positive. There was no extra pulmonary case with suggestive symptom of relapse.

Conclusion

Intermittent regimen is highly effective to all forms of tuberculosis with insignificant relapse.

Tuberculosis

MOLECULAR DIAGNOSIS OF MYCOBACTERIUM TUBERCULOSIS COMPLEX FROM CLINICAL SPECIMENS USING REAL-TIME PCR.

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Mycobacterium Reference Laboratory, Victorian Infectious Diseases Reference Laboratory.

Introduction:

On a global scale infection with *Mycobacterium tuberculosis* is one of the leading causes of morbidity and mortality. Hence prompt diagnosis of infection is important so that appropriate treatment is administered to prevent death and/or spread of infection to others. In Victoria there are approximately 300-330 new infections with *M. tuberculosis complex* (MTBC) diagnosed annually with approximately 80% of these confirmed through PCR and culture.

Methods:

A Real-time PCR (TaqMan) assay was designed using the Primer express software. The target for the MTBC assay is a 77bp fragment within the insertion element IS6110 which is specific for MTBC strains. The element is present in between 1-25 copies in 99% of strains.

Results:

In the first instance validation of the assay was performed by comparing real-time PCR results with the Roche Amplicor PCR assay and culture. MTBC DNA was detected in a range of specimens including respiratory samples; fresh tissues and paraffin embedded tissue sections. The assay has now been used routinely in the laboratory for 4 years.

Conclusion:

We have found the assay to be more sensitive and less subject to inhibition when compared to conventional PCR. Diagnosis of infection was provided in a more timely and efficient manner, ensuring prompt follow-up in terms of treatment and epidemiological investigations.

Tuberculosis

DIAGNOSTIC ACCURACY OF SERUM ANTI-TB IGG ANTIBODY IN ACTIVE ADULT PULMONARY TUBERCULOSIS BASED ON A SIMPLE POINT-OF-CARE IMMUNOCHROMATOGRAPHIC ASSAY IN MALAYSIAN PATIENTS

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IMU Lung Research, International Medical University, Kuala Lumpur, Malaysia

Background:

The present study was conducted to see the diagnostic efficacy of serum anti-TB IgG antibody detection in adult pulmonary tuberculosis (TB) by newer generation lateral flow immunochromatographic type assay (LF-ICT) using commercially available diagnostic kit [Immu-Sure TB Plus (recombinant)] in Malaysian patients' setting.

Methods:

This case-control study compared 51 cases of confirmed smear-positive pulmonary TB [mean age (range): 52 (37-65) yrs; 62.7% male] with 100 controls matched for age and sex, of which 49 were healthy [52 (35-66) yrs; 54.9% male] and 51 had end-stage renal disease [53 (35-66) yrs;

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53.1% male]. The absence of active TB in control cases was ascertained after being followed up until one year.

Results:

The sensitivity and specificity of LF-ICT were 25.4% and 100% respectively, and the positive and negative predictive values were 100% and 27.5% respectively.

Conclusion:

Our findings suggest the potential of LF-ICT for *in vitro* diagnosis of active pulmonary TB utilized in the form of a simple point-of-care assay.

Tuberculosis

MOLECULAR ANALYSIS OF RIFAMPICIN-RESISTANT MYCOBACTERUM TUBERCULOSIS STRAINS FROM MALAYSIA

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Introduction:

Bacterial resistance to rifampicin is due to alteration of the β -subunit of RNA polymerase enzyme encoded by the *rpoB* gene. In *Mycobacterium tuberculosis*, more than 95% of rifampicin resistance has been shown to be associated with mutations in the 81-bp "hot spot" region of the *rpoB* gene, commonly referred to as the cluster 1 region. More recent reports have described resistance-associated mutations upstream (V176) and downstream (clusters 11 and 111) to cluster 1. The detection of these mutations can be used as a rapid method of identifying rifampicin resistant strains of *M. tuberculosis*.

Methods:

In this study, 34 local isolates of *M. tuberculosis* found to be rifampicin resistant by the Absolute Concentration drug susceptibility testing method are studied by PCR amplification of the *rpoB* gene followed by DNA sequencing of PCR products.

Results:

DNA sequence analysis of the 34 strains showed 91.2% with single nucleotide change in the *rpoB* gene, and 4 strains with a double mutation. 76.5% of mutations were found in the cluster 1 region. The codons most frequently involved were codon 531 (47.1%) and 526 (17.6%). Single nucleotide changes were observed in the V176 and cluster 11 and 111 regions in all strains showing no mutations in cluster 1. Minimum inhibitory concentration determinations confirmed rifampicin resistance in at least half of these strains. Further work is on-going to determine the contribution of these mutations to phenotypic rifampicin resistance.

Conclusion:

In line with reports from other parts of the world, the *rpoB* gene "hot spot" region accounts for the majority of rifampicin resistance among Malaysian isolates of *M. tuberculosis*. However, there are indications that novel mutations may also be substantially involved.

Tuberculosis

PHARMACOKINETICS AND TOLERABILITY OF A HIGHER RIFAMPICIN DOSE VERSUS THE STANDARD DOSE IN PULMONARY TUBERCULOSIS PATIENTS

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Objective:

Rifampicin is a key drug for tuberculosis treatment. Available data suggest that the currently applied 10 mg/kg dose of rifampicin may be too low, and that increasing the dose may shorten the treatment duration.

Method:

A double-blind randomized phase II clinical trial was performed to investigate the effect of a higher dose of rifampicin in terms of pharmacokinetics and tolerability. Fifty newly diagnosed adult Indonesian TB patients were randomized to receive a standard (450 mg; i.e. 10 mg/kg in Indonesian patients) or higher (600 mg) dose of rifampicin besides other TB drugs. A full pharmacokinetic curve for rifampicin, pyrazinamide and ethambutol was recorded after 6 weeks of daily TB treatment. Tolerability was assessed during the 6-month treatment period.

Results:

Geometric means of exposure to rifampicin (AUC_{0-24}) were increased by 65% ($p < 0.001$) in the higher-dose group (79.7 mg.h/L) compared to the standard-dose group (48.5 mg.h/L). Maximum rifampicin concentrations (C_{max}) were 15.6 mg/L vs. 10.5 mg/L (49% increase, $p < 0.001$). The percentage of patients with rifampicin $C_{max} > 8$ mg/L was 96% vs. 79%, $p = 0.094$. The pharmacokinetics of pyrazinamide and ethambutol were similar in both groups. Mild (grade I or II) hepatotoxicity was more common in the higher-dose group (46 vs. 20%, $p = 0.054$), but no patient developed severe hepatotoxicity.

Conclusions:

Increasing the rifampicin dose is associated with a more than dose-proportional increase in the mean AUC_{0-24} and C_{max} of rifampicin without affecting the incidence of serious adverse effects. Follow-up studies are warranted to assess whether high dose rifampicin may enable shortening of TB treatment.

Tuberculosis

CAVITATION ON CHEST X-RAY AND SPUTUM POSITIVITY IN PATIENTS WITH PULMONARY TUBERCULOSIS- A RETROSPECTIVE STUDY

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Background:

Cavitation on chest radiography (CXR) had been associated with sputum positivity on direct smear study and also with slow response to anti-tuberculosis therapy. We report the relationship between cavitation on CXR and sputum positivity on direct smear study in patients with pulmonary tuberculosis (PTB).

Methods:

A total of 203 confirmed PTB patients who were referred to the chest clinic of Penang General Hospital in the year 2005 were selected. Case records for all the patients with confirmed tuberculosis were obtained from the



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Penang Hospital Chest Clinic database. All patients had baseline CXR, retrospective radiological review assessed for the presence of cavities, cavity number and cavity size were done. Recording and reporting of the sputum direct smear study is done according to 'Direct Smear Microscopy, Lab Services in Tuberculosis Control Programme (Ministry Of Health, Malaysia)'.

Result:

There was a strong positive correlation between the **number of cavities seen on CXR and the degree of sputum positivity on direct smear** ($r=.583, n=203, p<.000$). There was also a strong positive correlation between the **size of the largest cavity seen on CXR and the degree of sputum positivity on direct smear** ($r=.736, n=203, p<.000$).

Conclusions:

The number of cavity is associated with the degree of sputum positivity on direct smear i.e. the greater the number of cavities or the larger the cavity size, the stronger the sputum positivity on direct smear. The presence of cavities on a CXR is strongly indicative of a diagnosis of tuberculosis.

Tuberculosis Control Program

MICROSCOPIC STANDARDIZATION OF ACID FAST BACILLI (AFB) ACORDING TO INTERNATIONAL UNION ASSOCIATION LUNG TUBERCULOSIS DISEASES

MERRYANI GIRSANG, S.SI, ARIS HADI INDIARTO, SKM

NIHRD (National Institution of Health Research and Development)

Mycobacterium tuberculosis is one of Acid Fast Bacilli (AFB) species that can be seen with microscope examination. On word's TB Day 24 March 2006, the Ministry of Health said that in Indonesia every year 140.000 people dies due to tuberculosis. It makes Indonesia is one of a third biggest TB cases after India and China (WHO 2005). According to International Union Association Lung Tuberculosis Diseases (IUATLD) report, the standardization of AFB has been recommended by WHO. Indonesia have already followed that standard procedures, but not all smear examination report of TB cases are doing right and well.

The objective of the study is to asses the skill of laboratory technician in making smear examination according the standard procedures. Training of the standard procedures have been commenced for the technician of TB laboratory in installation of microbiology laboratory Persahabatan Hospital on September 2005. The training materials and structures follow the standard training held in Phillipine according to National Tuberculosis Programmed (NTP) certified by Association of South East Asian Nation Programmed Tuberculosis Control trainer.

The result shows that microscopic examination from 160 slides of acid fast bacilli (AFB) done by assessor founded 96(60%) negative AFB and laboratory technician founded 111(69,4%) negative. The examination result done by assessor on scale of scanty, scale of 1+ AFB, scale of 2+ AFB and scale of 3+ AFB are 16(10%) out of 160 slides examined, whereas, the result of the AFB slide examination done by the laboratory technician from 160 slides is the scale of scanty 9(5,63%), scale of 1+ AFB 21(13,1%), scale 2+ is 7(4,4%) and scale 3+ AFB 12(7,5%). Using the standard of Ziehl-Neelsen method only 10 % is good when using acid fuchsin and 12(37,5%) good when using methilene blue and 6(37,5%) good for carbol fuchsin and 4(25%) good for alcohol. A mistaken in diagnostic can cause a useless treatment and fail to cure the disease.

The study conclude that the results of slide examination done by assessor and technician are different especially in the scale of scanty and scale 2+ AFB. Using of Ziehl-Neelsen method, there are difference of result when the background of slide using methilene blue, carbol fuchsin

and alcohol compare with the background using acid fuchsin. The study suggest that training of standard procedures of TB slide examination for the laboratory technician should be conducted continuously to increase their performance in supporting TB control programmed.

Key words : Tuberculosis, AFB (Acid Fast Bacillus), Microscopic, Standardization, Tb Control

Tuberculosis Control Program

COMPARING THE EFFECT OF TUBERCULOSIS CONTROL IN PERMANENT RESIDENTS WITH IN FLOATING POPULATION

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Guangdong Institute for Tuberculosis Prevention and Treatment

Objectives:

To analyze the effect of TB control in both of the different population in implementing TB Control Program.

Method:

The indexes about case-detection, treatment management and treatment outcome were calculated for analysis and comparison.

Results:

There are 5 cities where implement TB control program including floating population in 2006. In these cities, 81.3% of suspects with symptoms are transferred to TB units for diagnosis by general hospitals, with the referral rate in the floating population is 90.4% and in the permanent residents is 68.4%. The positive rate of sputum-smearing in the floating population is 16.4% and in the permanent residents is 28.3%. Of 6695 cases with smear-positive pulmonary tuberculosis, there are 5779 cases that are treated under the management of DOTS. The rate for DOTS management is 86.3%, and the rate in the floating population and in the permanent residents are 70.7% and 98.6% respectively. The cured rate for all population is 78.5% with the rate in the floating population is 59.8% and in the permanent residents is 94.7%.

Conclusions:

The floating population is a weaker group. In the process of implementing TB control program, the lower effect of TB control in the floating population has seriously affected the effect in the regional area. Therefore, supporting environments that are suitable for TB control in the floating population, such as policies and measures, must be established to change the disadvantageous situation.

Tuberculosis Control Program

LAKAR TIBI AND KUSTA

NORHAYATI BINTI ABDULLAH

Pejabat Kesihatan Daerah Kunak

LaKAR is an abbreviation of **latihan (Training)**, **kesan (Detection)**, **analisa (Analyzing)** and **rawat (Treatment)**. It is a programme with the concept of detecting cases actively. This project involved all the units in the health department, which also by TB/Leprosy Unit and also involvement of the society in detecting new cases. The objective of LaKAR is to promote awareness among the society and involving them on preventive action and most importantly detecting and treating new symptomatic cases of TB and leprosy.

Kampung Pangi Tengah Kunak is the selected locality whereby it is one of a high risk area based on the incidence rate for the past 3 years. Ops LaKAR is done by visiting all the houses of the selected village and the method of approach are giving questionnaire, sputum collection, sensory

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examination (suspected leprosy), small group discussion, pamphlet distribution and health education.

The programme managed to detect 1 TB case, 1 case of leprosy, holding of 140 small group discussions with 199 of the villagers involved and 181 of pamphlets distributed. In conclusion, Ops LaKAR managed to increase the awareness regarding symptoms of TB and leprosy and prevention via BCG vaccination.

Tuberculosis Control Program

EVALUATION OF THE TREATMENT OUTCOME OF TB PATIENTS HOSPITALIZED IN A TERTIARY HOSPITAL IN TEHRAN IN A 3-YEAR PERIOD (2000-2002)

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National Research Institute of Tuberculosis and Lung Disease

Objectives:

completion of treatment in active pulmonary tuberculosis patients is the most important factor in TB control programs. Also, incomplete treatment can cause drug resistance. This study was conducted to evaluate the treatment outcome of TB patients hospitalized in Masih Daneshvari Hospital in a 3-year period in Tehran.

Methods:

Cross sectional study using the data recorded in the patients' files present in the medical records archive of the hospital. Personal information and the treatment outcome of 1361 patients from March 2000 to March 2002 were extracted from the files and evaluated. Type of patient, patients' classification and the treatment outcomes were determined based on WHO criteria. For patients who had no treatment outcome recorded in their files, treatment outcome was considered as "unknown".

Results:

of 1361 TB patients, 768 cases (56.4%) were male, 906 cases (66.6%) were Iranian, 446 cases (32.8%) were Afghan and the remaining had other nationalities. Out of these patients, 1063 cases (78%) had smear positive pulmonary tuberculosis, 215 cases (15.8%) had smear negative pulmonary tuberculosis and 83 cases (6.1%) had extra pulmonary tuberculosis. Treatment outcome was unknown in 365 cases (27.1%), successful in 518 cases (38.4%) and failure in 74 cases (5.5%). Death occurred in 61 (4.5%) cases. 295 cases (21.8%) were referred to other hospitals and 36 cases (2.7%) discontinued their treatment.

Conclusions:

Due to the absence of active cooperation between this center and PHC (National Primary Health Care) follow up of some cases was impossible. Therefore, the treatment outcome of one fourth of patients who have not been completely treated or their treatment outcome has not been recorded is unknown. Incomplete course of treatment may cause patients with incomplete treatment to be abandoned in the community. It also causes disease dissemination and increased risk of recurrence, resistance and MDR cases and imposes many costs to the health care system and the community.

Tuberculosis Control Program

PULMONARY TUBERCULOSIS: KNOWLEDGE, ATTITUDE AND PRACTICE AMONG PHYSICIANS OF SOCIAL SECURITY ORGANIZATION, 2006. IRAN.

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National Research Institute of Tuberculosis and Lung Disease

Subject:

In spite of running National Tuberculosis Program (NTP) from 1990 in IRAN, knowledge of physicians about tuberculosis is not sufficient.

Method:

This study was conducted as mailing survey in 2006 used questionnaire included diagnostic and treatment of tuberculosis among physicians working in Social Security Organization in IRAN in 2006. Voluntary physicians filled out and returned survey form.

Result:

Among 4507 physicians working in Social Security Organisation, 478 filled out and returned survey form. (10/6% responding rate) From these 478, 349 were male (66/7%), mean age 38/15 (Std=6/37), 358 were general practitioner (74/9%) and the other were specialist. (internal, pediatric and infectious disease fields) 319 (66/7%) did not pass any re education tuberculosis courses. Correct response to questions varies from question to question (24/3-90%) with median 11/3 (Std=3/48) from total 20 questions. In this survey, significant relation between sex, special medical field, kind of special medical field, duration past from graduation, history of work in Primary Health Care (PHC) services and number of correct response were not seen. Passing even one re education tuberculosis course with the total correct answer was significant. (Pv=0/029) Only 51/7% of physicians correctly response to over fifty percent of questions.

Conclusion:

After 15 years integration of NTP in PHC and in spite of national guideline in diagnosis and treatment of tuberculosis, physicians knowledge and attitude about tuberculosis is not sufficient yet. For this reason, emphasis on medical student education course about tuberculosis according to NTP and involvement of Social Security Organization and partnership with NTP is desirable.

Tuberculosis Control Program

DOTS EXPANSION IN TEACHING HOSPITAL OF DHAKA URBAN

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BRAC Health Programme

Introduction:

BRAC expanded DOTS services to 10 teaching hospitals in Dhaka city in collaboration with national TB programme.

Objective:

To make collaboration and to involve the professionals and ensuring DOTS services at teaching hospitals.

Methods:

Faculty/department heads and concern doctors were oriented on national guideline on DOTS. BRAC established DOTS corners in every teaching hospital in Dhaka city. Trained laboratory technicians are posted. TB suspects reported at hospitals are referred to laboratory for sputum examination. Diagnosed TB cases are referred to the NTP treatment center close to their residence. Patients residing closely to the hospital are given DOT from hospital. Drugs are given to indoor patients from DOTS corner and refer to nearby DOTS center during discharge.

Results:

A total of 360 TB patients were diagnosed from 7 medical colleges in 2006. Of them 222 (62%) new sputum positive, 3 retreatment (1%), 39 sputum negative (11%) and 96 extra-pulmonary (27%) cases were registered in these centers. Total 3708 patients were referred to other DOTS centers after diagnosis. Among them 704 were smear positive, 16 retreatment, 926 smear negative and 2062 were extra pulmonary TB cases. Among 282 patients registered in 2005, treatment success rate was 87%.



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Conclusions:

DOTS expansion in teaching institutes encourages professionals to follow the NTP guidelines. DOTS centers acting as one stop service center for TB patients from where they can get diagnostic, treatment services as well as information about DOTS. Strengthening follow up mechanism for patients referred to other DOTS centres would be helpful for hospital DOTS intervention.

Tuberculosis Control Program

COMMUNITY DOTS IMPLEMENTATION IN 3 PILOT AREAS IN CAMBODIA

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³ National Center for TB and Leprosy Control, Phnom Penh, Cambodia

Introduction:

The DOTS strategy has been introduced in health centers since 1999. In order to outreach the community level, the JICA National TB Control Project started Community DOTS (C-DOTS) in three pilot areas (Bovel, Kompong Tralach & Sihanouk Ville) in 2005.

Methods:

Training of C-DOTS was conducted for health center staff and village health volunteers as DOTS watchers in 2005. Two regular meetings have been held every two months in the districts so as to report and discuss issues of TB control; one meeting is for health center staff at the district, and the other is for health volunteers at health center. Ninety-four remote villages out of 374 in total were covered by C-DOTS in the pilot areas.

Results:

The ratios of patients treated by C-DOTS were 60% and 70% in intensive and continuation phases respectively in the 1st semester 2006. Treatment success rate of all TB forms was improved from 86% (460/531, 2005) to 88% (254/288, 1st semester 2006). However, case notification of smear positive TB was not changed (131; 2005, 129; 2006) and the number of smear negative and extra-pulmonary TB cases was slightly increased in the pilot areas.

Conclusion:

C-DOTS implementation could augment treatment outcome but increase of case finding could not be achieved soon. In order to improve the case finding, health promotion activity for the referral of TB cases from community might be necessary by using health center staff and volunteers as a part of C-DOTS in future.

Tuberculosis Control Program

DETERMINATION THE ROLE OF TEACHING IN INCREASE OF TB INPATIENTS KNOWLEDGE IN IRAN (DR. MASIH DANESHVARI HOSPITAL, 2006 YEAR)

AREZOO MEMARIAN, MOJGAN AZADI, ZOHRE ETTATI, SHAMSI NASIRI, AZAR NOURAKI

National Research of Tuberculosis & Lung Disease (Dr. Masih Daneshvari) - Shaheed Beheshti University of Medical Science & Health Services

Objectives:

- Determination of the inpatients knowledge before teaching.
- Determination of the inpatients knowledge after teaching.
- Propose a plan to increase the knowledge of TB inpatients.

Method:

This is cross sectional prospective study the samples include 150 TB

inpatients in Masih Daneshvari Hospital (2006-2007 year) .

The method of data collecting was performed by questionnaire and analyzed using SPSS soft ware.

Results:

Results showed that among 150 TB inpatients, 87.3% of TB inpatients had knowledge deficiency about the nature of TB , Prevention and side effect of drugs , by using face to face teaching ,TB inpatient knowledge level were increased more than 65.2% ,according to the teaching program, some factors that effect on teaching process were improved.

Conclusions:

These results showed that the important point that effect of improving services to the TB inpatients is increase their knowledge about the nature of TB illness and methods of prevention ,duration of taking drugs and side effect of them.

Tuberculosis Control Program

ASSESSING THE PROBLEMS OF GIVING SERVICES TO TB PATIENTS FROM THE POINT OF VIEW OF PATIENTS IN IRAN (DR. MASIH DANESHVARI HOSPITAL ,2006-2007 YEAR)

MOJGAN AZADI, MOHAMMAD REZA MASJEDI, ZOHRE ETAATI ,SHASI Shaheed Beheshti University of Medical Science & Health Services

Objectives:

- Need Assessment of the TB inpatients about servicing in Dr.Masih Daneshvari Hospital.
- Ranking of problems in giving services to the TB inpatients in Dr.Masih Daneshvari Hospital
- Proposing a plan to improve the services to the TB inpatients in Dr. Masih Daneshvari Hospital

Method:

This research was a cross sectional and applied study ,the samples include 150 TB patients in Masih Daneshvari Hospital (2006-2007 Year) The method of data collecting was performing by questionnaire and analysed using SPSS software.

Results :

Results showed that among 150 TB inpatients ,79.3% of inpatients complained that knowledge deficiency about the nature of TB ,prevention and side effect of drugs , 32% of inpatients were worried about supportive system and preparing welfare for them and 56% of inpatients were satisfied of food services.

Conclusions :

These results showed that the important point that effect of improving services to the TB inpatients is increase their knowledge about the nature of TB illness and methods of prevention ,duration of taking drugs and side effect of them. According to this study ,suggest an educational care plan to improving the services to the TB inpatients by Delphi Technique.

Tuberculosis

RETROSPECTIVE STUDY OF TREATMENT OUTCOME OF PATIENTS WITH PULMONARY TUBERCULOSIS

Institute Of Respiratory Medicine

Tuberculosis is one of the commonest infective diseases in Malaysia. We retrospectively studied 607 patients that presented to Institute of Respiratory Medicine in year 2001 whom were all culture positive tuberculosis. The demography of disease was studied. In addition to that, side effects of anti-tuberculosis drugs were reviewed and outcome of disease in relation with comorbid diseases were looked at. We also look into the co-relation of comorbid illness e.g diabetes mellitus in producing a more severe complication of tuberculosis, such as fibrosis. Our aim of study is to correlate our local findings in comparison with international data.

FREE PAPER POSTER

TB & HIV

THE IMPACT OF AN INTERVENTION ON NURSES' HIV/AIDS KNOWLEDGE AND COMPLIANCE WITH UNIVERSAL PRECAUTION PROCEDURES IN EMERGENCY DEPARTMENT IN SHIRAZ - IRAN

NILOOFAR PASSYAR

Shiraz Medical University Fateneh Nursing And Midwifery College

Objectives:

This study was designed to test The impact of an intervention to change nurses' HIV/AIDS knowledge and compliance with universal precautions procedures during practical in emergency department in Shiraz university of medical science hospital between March and May 2006.

Methods:

A quasi-experimental survey was carried out amongst 120 nurses. The intervention consisted of 1-day training workshop, that consisted of lecture, and focus group discussion. Each of these nurses was asked to answer pre- and postsession knowledge questions during three periods of time (before, immediately after training and three months later). Compliance with UP was measured through 11 items and Data were gathered from observation. paired t-tests were used to compare differences between the pre and postsession knowledge scores and compliance with UP.

Results:

The comparison in three periods revealed that the knowledge of personnel significantly increased immediately and three months after the intervention than to before ($P < .0001$) The nurses' knowledge scores increased from 68.9 % before training to 100% immediately and 95% in 3 months after training program ($p < 0.0001$). There was statistical significant difference in the knowledge of HIV and the implementation of universal precaution ($P < .0001$). Observed compliance with universal precautions procedures before and after training workshop ranged from 71.7% to 98 % for glove use, 75.5 to 99% for handwashing after glove removal, 53.8% to 83% for wearing mask. The results also indicated that some nurses (37.7%) still recapped needles.

Conclusion:

The training session significantly improved the nurses' knowledge and implementation of universal precautions among nurses in emergency department.