and experimental groups using multistage cluster sampling. The experimental group received four (4) sessions of 30-minutes nurse delivered adjunct MI every week for one month, while the control group received standard health education. MI is a counseling style that used specific questions to direct behavior change by expressing empathy, developing discrepancy, rolling with resistance and supporting self-efficacy. Adherence was measured using Medication Adherence Self-Efficacy Scale and Sputum AFB microscopy before and 2 weeks after the intervention. A panel of experts reviewed the questionnaire to ensure validity, and the instrument to internal consistency.

**Results:** Knowledge about the disease and its treatment combined with motivation can increase self-efficacy to treatment adherence (Ngamvitroj, 2007). MI as adjunct to health education can increase treatment adherence (Riekart, 2011). Consequently, a rapid decrease in the number of M. tuberculosis in sputum. Moreover, studies have shown that MI has significant psychological (75%) and physiological (72%) effect to diseases (Rubak, 2005).

**Conclusion:** Motivational Interviewing delivered by the nurse as an adjunct to the standard health education is effective in enhancing treatment adherence of PTB patients in the health center.

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### Background

The National Tuberculosis Control Program (NTP) guidelines emphasize that all presumptive Drug Resistant Tuberculosis (DRTB) with history of previous tuberculosis (TB) treatment and with Multi-Drug Resistant Tuberculosis (MDRTB) contacts should be screened for MDR. Due to lack of tools to identify the referral outcome of presumptive DRTB, the RJPI developed an MDRTB Presumptive Masterlist to account referrals from health center to MDR treatment centers. The study aims to understand gaps in the referral pathway experienced by Local Government Units (LGUs) and Non-Government Organizations (NGOs) from initial consultation until initiation of treatment.

**Methods & Materials:** A retrospective descriptive study of patients' data registered on MDRTB Presumptive Masterlist of eighteen Directly Observed Treatment Short-Course (DOTS) facilities in District 1 Tondo, Manila and Payatas, Quezon City from October 2012 to September 2013, were reviewed and analyzed using structured questionnaire. Unpaired t-test used in comparing the turnaround time between LGUs and NGOs including time between Direct Sputum Smear Microscopy (DSSM) results presented to patient and referred to MDR treatment center. A p-value < 0.05 was considered statistically significant. All analysis performed using EZR with graphical user interface for R.

**Results:** A total of 378 Presumptive DRTB was identified and listed in the masterlist. Among them, 97% (368/378) referred and 90% (333/368) screened at MDR Treatment center. Among screened, 85% (283/333) completed the process of MDR screening and provided with an appropriate treatment based on NTP guidelines. 9.5% (35/368) were not screened mainly due to lost to follow up. The duration of time between sample collected and examined at laboratory of NGOs was significantly longer than LGUs (n = 283; p < 0.001). The time duration between the release of DSSM results and presentation of patient at NGOs was significantly shorter than LGUs (p = 0.009).

**Conclusion:** Development of MDRTB Presumptive Masterlist has facilitated tracking of patients due for diagnosis and treatment. Referral system between health center and MDR treatment centers should be strengthened for proper patient endorsement and provided with an appropriate action. The NGOs should lessen diagnosis delays and LGUs should follow up patient for early start of TB treatment.

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### Predictors, outcome, profile of anti-tubercular drug induced hepatitis – A prospective nested case - control study in a South Indian tertiary hospital


**Christian Medical College, Vellore, Vellore, India**

**Background:** Tuberculosis (TB) remains a major global health problem. The first line anti-tubercular drugs are hepatotoxic. Despite adequate knowledge, we are still unable to predict anti-tubercular drug induced liver injury (DILI) before initiation of treatment.

**Methods & Materials:** This case-control study was nested in a cohort of patients from Christian Medical College, Vellore who were newly diagnosed to have tuberculosis and started on treatment. It was carried out from April 2013 to May 2014. All patients who present with suspected ATT related hepatotoxicity were also enrolled in the study. All patients on treatment were clinically assessed for symptoms of hepatitis at every visit until completion of treatment. The risk factors for ATT induced hepatitis were identified by bivariate analysis and logistic regression analysis with odds ratio and 95% confidence interval.

**Results:** A total of 393 patients were eligible for our study which included 5 patients presenting with DILI. Patients on DOTS regimen had lower rates of HIV infection and disseminated disease but had greater under nutrition when compared with patients on daily regimen. 43 patients out of 393 patients developed DILI. The incidence of anti-tubercular drug induced liver injury was 9.7% (95% CI 7-13.2%) with lower incidence among patients on DOTS regimen (14% Vs 3.5%). HIV infection, daily regimen, disseminated disease, hypoalbuminemia and chronic liver disease were independent risk factors for development of DILI. A prediction score of > 5 based on the above risk factors will predict DILI with a sensitivity and specificity of 74% and 67% respectively. All cause mortality in
DILI was 4.7% (2 patients). 36 patients (84%) had complete resolution of hepatitis. Rechallenge by both ATS and BTS guidelines had similar successful rechallenge rates.

**Conclusion:** The incidence of anti-tubercular DILI was 9.7%. The study suggests that the combination of risk factors of extensive TB disease, HIV infection and undernutrition increase the vulnerability to DILI particularly with daily TB treatment regimen, emphasizing the role of acquired risk factors in the development of DILI. The predictive scoring system proposed from our study needs to be validated by a well designed prospective study.

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**Thyroid tuberculosis: report of a case and review of literature**  
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**Background:** Thyroid tuberculosis is a rare disease, this is probably the polymorphic clinical presentation and confusing with other thyroid diseases including cancer and thyroid hemorrhagic cysts.

Ultrasound is currently a diagnostic and monitoring means, and treatment based on the use of anti-TB first to follow a non-treatment of associated endocrinopathy.

Its diagnosis is often delayed, responsible for a significant morbidity and mortality.

The objective of the study was to describe the clinical, radiological signs that should prompt clinicians to watch for the disease.

**Methods & Materials:** This is a young man of 38 years without medical history including no history of pulmonary or extrapulmonary tuberculosis or TB contagion, admitted to Department of Infectious and Tropical Diseases in support of a retroviral infection (HIV1 revealed by prolonged fever and cervical lymphadenopathy before the tremor headache and dizziness.

In two months, the clinical picture worsened by the appearance of polyadenopathy associated with poly encrypted to 12 kg weight loss confirmed HIV1.

Infectious and Tropical Diseases in support of a retroviral infection (p < 0.05).

**Conclusion:** Thyroid tuberculosis is a rare entity but should be considered in the differential diagnosis of cervical masses.

FNA or fine-needle biopsy guided diagnostic procedures are safe and inexpensive, that can prevent the use of unnecessary thyroidectomy.

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**Trend of multidrug resistance extra pulmonary tuberculosis cases presenting to a tertiary care hospitals in Northern part of India**  
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**Background:** The emergence and spread of multidrug-resistant tuberculosis (MDR-TB) is a major public health problem in India. Extra pulmonary tuberculosis (EPTB) among MDR-TB is contributing to the burden of disease and does not receive specific attention in international control strategies. The aim of this study is to investigate trends and patterns of MDR-TB from clinical isolates from EPTB cases in Northern India.

**Methods & Materials:** A total of 1206 specimens were processed from patients suspected of having EPTB with varied presentation. Specimens were processed by Ziehl Neelson staining, BacT/ALERT 3D culture, identification of Mycobacterium tuberculosis complex (MTBC) by IS6110-PCR. First line drug susceptibility testing was performed by 1% proportional method by BacT/ALERT 3D system. MDR-TB isolates were further characterized by GenoType® MTBDRplus assay.

**Results:** Specimens from 260 (21.5%) cases were culture positive for mycobacteria. Of these 192 (73.8%) were M. tuberculosis complex isolates. These 78 (41.6%) strains were resistance to one or more antitubercular drug. MDR-TB resistance by phenotypic method was obtained in 28 (14.5%) cases. However 28 (14.5%) strains were confirmed MDR-TB by genotypic method. The most prominent mutations in rpoB, katG and inhA genes were 78% in S531L, 95% in S315T1, and 21% in C15T region respectively (p < 0.05).

**Conclusion:** The high prevalence of MDR-TB among EPTB cases is obtained in this region of India. 78% in S531L and 95% in S315T1 were most prominent mutation patterns in MDR-TB cases. Early recognition of MDR strain by molecular method can help in minimizing the risk of further resistance and limits spread of drug-resistant strains.

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