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Title: High incidence of the Beijing strains among multi drug resistance isolates of Mycobacterium tuberculosis from extra pulmonary tuberculosis cases in northern India

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Body: Background: The emergence and spread of drug resistance tuberculosis has worsened the global resurgence of tuberculosis. Beijing strains are responsible for massive spread and outbreaks of Multidrug resistance Mycobacterium tuberculosis (MDR-TB) in worldwide as well as in India. Objectives: The aim of study presented here was to investigate incidence of Beijing genotypic among MDR-TB isolates from extra pulmonary tuberculosis cases (EPTB) in Northern India. Methods: A total of 756 specimens from patients of EPTB cases with varied presentation were studied. A total of 164 M. tuberculosis complex (MTBC) isolates recovered during the period Sept 2007-Dec 2010 were tested for drug susceptibility against SHRE by radiometric BACTEC method. MDR-TB isolates were sequenced in rpoB and katG gene for mutation analysis. All MDR-TB strains were processed by new multiplex polymerase chain reaction (PCR) for identification of Beijing strains and non Beijing strains. Results: Of these 164 MTBC, 100(60.9%) strains were fully susceptible and 64(39.1%) strains were resistance. 21 (12.8%) strains were confirmed MDR-TB by genotypic method. The proportional of Beijing strains was significantly higher among MDR-TB strains (72.7%, $p < 0.05$). Genotypic analysis of rpoB gene revealed significantly higher rate of Ser531Leu mutation rate among Beijing vs. non Beijing strains (50% vs. 33.4%, $p < 0.05$). While mutation for Ser315Thr in katG gene was common among Beijing vs. non Beijing strains (68.2% vs. 50%, $p < 0.05$). Conclusion: We found high incidence of Beijing strains among MDR-TB strains from EPTB cases in Northern India.