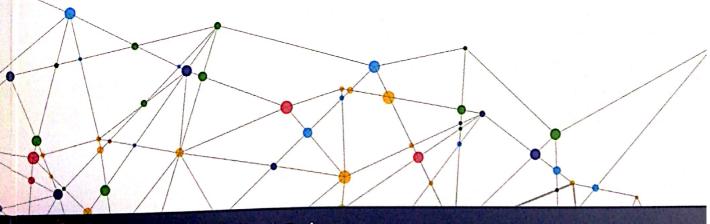
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RAJARATA NTERNATIONAL RESEARCH CONFERENCE 6-7 November Mihintale

Rajarata University of Sri Lanka



Faculty of Applied Sciences Rajarata University of Sri Lanka

Nearly One Third of Drug Resistant Mycobacterium tuberculosis Strains reported in Sri Lanka Belong to Beijing Lineage; A Preliminary Investigation

06 Nov.

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Mycobacterium tuberculosis (MTB), the causative bacterium of Tuberculosis (TB), has seven lineages, wherein; Beijing Lineage (BL) is predilected with Drug Resistance (DR) elsewhere. Herein, we intended to study the association of DR and BL in Sri Lanka; as such information is limited in the country. 77 MTB isolates obtained from pulmonary TB patients diagnosed from Kandy and Welisara (Period; Feb 2018-May 2019) were tested for drug susceptibility using proportion method and Mycobacterial Growth Indicator Tube. DNA was extracted from isolates with resistance to at least one drug. A multiplex PCR was conducted using primers targeting Rv0627c, a gene with single nucleotide polymorphism unique to BL. Reaction mixture, contained 0.33mM dNTP, 0.33μM primers; Fw-GTCACTGAACGTGGCCGGCTC, R1-TCGGTCAC-CGTTT TTGTAGGT GACCGTC, $0.13\mu M$ R2-AGCAACCTCGCAATCT-GACC, 1xPCR buffer, 2.25mM MgCl2 and 0.8U Taq-DNA polymerase. Thermo-cycle program was set at 950C-1min denaturation, 35 cycles (denaturation at 950C-10s, annealing at 660C-30s, and elongation at 720C-30s), final extension at 720C-3 min. A confirmed Beijing strain and H37Rv were used as positive and negative controls. Accordingly, one Extensively-Drug Resistant (XDR), two Multi-Drug Resistant, four resistant to RIF and EMB, one resistant to INH and EMB and eight mono-resistant isolates (two INH, four EMB, two RIF) were identified (16/77;20.77%), amongst which one INH-resistant, one RIF-resistant, one EMB-resistant, one isolate resistant to RIF and EMB and another XDR-TB isolate belonged to BL (5/18;27.77%). Accordingly, approximately one third of the drug resistant TB strains belonged to BL and it is significant that XDR-TB is from Beijing, which should be further studied through molecular methods.

Keywords: Beijing lineage, Tuberculosis