

TITLE: EVALUATION OF *MYCOBACTERIUM TUBERCULOSIS* ISOLATES WITH *RD_{Rio}* GENOTYPE IN PATIENTS WITH PULMONARY TB IN THE SÃO PAULO STATE.

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ABSTRACT:

Tuberculosis is an infectious disease that despite many efforts remains a public health problem. In 2007, Lazzarini *et al.* have identified *Mycobacterium tuberculosis* (*M. tuberculosis*) isolates with the *RD_{Rio}* deletion and are therefore related to the most severe form of the disease, focusing on virulence and pathogenicity studies. This study aimed to verify the frequency of *RD_{Rio}* genotype in the State of São Paulo and to correlate clinical and epidemiological aspects. A panel of 389 *M. tuberculosis* isolates from patients with pulmonary tuberculosis from the Bauru and São José do Rio Preto regions from 2012 to 2015 were evaluated for the presence of *RD_{Rio}* genotype. A total of 116 isolates showed the *RD_{Rio}*. Regarding the epidemiological data of these patients, the deletion was more frequent in men (82.7%) than in women (17.3%), with predominance of white in relation to black and asian. The bacilloscopy was positive in 57 patients and in 15 patients, pulmonary cavity was observed in the radiological examination, all of which presented the *RD_{Rio}* in their isolates. The antimicrobial susceptibility test (AST) of 41 isolates was not performed. In 72 isolates we verified sensitivity to all drugs, in 2 monoresistance (INH) and 1 with double resistance (INH and RFP) and all of them presented the deletion *RD_{Rio}*. The presence of cavitory TB in the radiological findings seems to be strongly related to the presence of the *RD_{Rio}* genotype. No association with drug resistance was observed, however, previous studies have shown that this deletion is associated with drug resistance. Considering that *RD_{Rio}* is a globally distributed genotype, such findings highlight the importance of a better screening of mutations associated with drug resistance, in order to monitor the increase in the transmission of multidrug resistant isolates in certain human populations.