Abstract

Tuberculosis (TB) remains a major public health problem worldwide, with more than nine million infections and two millions deaths each year. DNA fingerprinting is a useful technique for identification and differentiation of *Mycobacterium tuberculosis* (MTB) strains and helpful in understanding the epidemiology of TB. One hundred and three isolates of MTB isolated from pulmonary tuberculosis patients in Tehran (91) and Kermanshah (12) were fingerprinted using IS*6110* standard probe. The obtained data was analyzed using gel compare software Version II. The number of IS6*110* copies ranged from 10 to 24 per isolates. Comparing the isolates band-based similarity coefficients of 75% similarity, all isolates were grouped into 17 clusters. However, clustering was not associated with age, gender, and nationality. The MDR strains clustered under three clusters in which 67% of the isolates were in the same cluster, suggesting epidemiological dependence. This further suggests that the transmission rate of MDR strains in Tehran is higher than other MTB strains. In addition, we did not find any strain with 100% similarities in fingerprinting, hence lower chances of laboratory cross-contaminations. However, isolates from Afghans have similar pattern with those of the Iranians. Comparison between our findings with previous ones in Tehran was not possible because we could not find any study on IS*6110*-fingerprint from the available literature. Therefore, further investigations in these areas are recommended.

Keywords: *Mycobacterium tuberculosis*; IS*6110*-RFLP