

Mycobacterium Genome Extraction from Lymph Nodes of Sarcoidosis Cases Using Transbronchial Needle Aspiration: A Cross-Sectional Descriptive Essay On 1223 Patients

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Abstract : Background: Sarcoidosis and Tuberculosis are both considered granulomatous chronic diseases with some similar pulmonary and extra-pulmonary manifestations. It is hypothesized that given these morphological similarities, the genome of mycobacterium could have an impact on the development of Sarcoidosis. Identifying the potential correlation of these diseases may assist in the management of sarcoidosis. Herein, we aimed to inspect the lymph node biopsy of sarcoidosis patients for the existence of the HSP-65 mycobacterium DNA sequence. Methods: This cross-sectional survey was conducted on 1188 Sarcoidosis patients without active/latent tuberculosis infection who were diagnosed in Masih Daneshvari Hospital in Tehran, Iran, from January 2020 to January 2022. Trans-bronchial needle aspiration (TBNA) was performed due to bilateral hilar lymphadenopathy to take a specimen. Results: The under-evaluated patients were mainly women (N=815 (68.6%)), non-smoker (N=1016 (85.5%)), and middle-aged (50.1 (SD=4.22)) with average angiotensin-converting enzyme (ACE) index of 75.6 (SD=6.42). Dyslipidemias (n=314 (26.4%)), Hypertension (n=295 (24.8%)), Diabetes mellitus (n=131 (11.0%)), and chronic heart diseases (n=97 (8.2%)) had the highest prevalence between comorbidities. Skin lesions (n= 655 (55.1%)), ophthalmic (n=341 (28.7%)), and cardiac involvement (n=229 (19.3%)) were obtained as the most common extra-pulmonary characteristics of the patients. Amongst 1188 enrolled patients who were not afflicted with Mycobacterium tuberculosis based on smear/culture essay, clinical symptoms, and Chest x-ray screening, 121 (10.2%) cases had detectable amplified DNA for Mycobacterium Tuberculosis extracted from mediastinal lung lymph nodes. Conclusion: In this survey, the mycobacterium genome was detected in almost 1 per 10 case biopsies of sarcoidosis. The remarkable number of cases (n=1188) evaluated in this study was the strength of this study which supported the hypothesis regarding sarcoidosis and mycobacterium genome correlation. Further investigation, such as case-control surveys, is required to better clarify this association.

Keywords : mycobacterium tuberculosis, sarcoidosis, genome, DNA, trans-bronchial needle aspiration

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