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Mycobacterium tuberculosis infection in systemic lupus erythematosus patients

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Background: Despite the importance of the detection and treatment of LTBI to control TB in developing countries, especially in immunosuppressed patients, the frequency of TB or LTBI in SLE patients living in Egypt has not been reported yet. Also, no studies have evaluated the performance of Interferon-gamma Release Assays in detection of M. tuberculosis infection in those patients.

Objectives: To estimate prevalence of TB infection in adult SLE patients and its relation to disease duration, activity, damage and treatment and to compare the performance of Interferon Gamma Release Assay (IGRA) and Tuberculin Skin Test (TST) in detection of TB infection in those patients.

Methods: The study enrolled 100 adult SLE patients fulfilling the American College of Rheumatology (ACR) 1997 criteria. All were subjected to the following; detailed history taking with special emphasis on: age, sex, disease duration, Bacille Calmette-Guérin (BCG) vaccination, immunosuppressive drug therapy and family history of tuberculosis, full clinical examination, assessment of SLE disease activity using the British Isles Lupus Assessment Group (BILAG) disease activity index and disease damage using Systemic Lupus International Collaborative Clinics/American College of Rheumatology (SLICC/ACR) Damage Index, TST, QuantiFERON-TB GOLD In-Tube (QFT-GIT) test, CXR, CBC, ESR, kidney function tests, urine analysis, Protein/ Creatinine ratio. The studied patients then were divided according to the QFT-GIT test results into 2 groups; Group 1: Patients with positive QFT-GIT and Group 2: Patients with negative QFT-GIT.

Results: The mean age of the study population was 29.82±7.9 years, 90% of them were females and 10% were males. 100% of them had a history of BCG vaccination; none of them had a previous history of TB infection or contact to members with TB infection. In this study, QFT-GIT was positive in 13 (13%) patients and negative in 87 (87%) patients. TST was positive in 2 (2%) patients and negative in 98 (98%) patients. 15 (15%) patients was diagnosed as Latent Tuberculosis Infection (LTBI) (either with positive TST or with QFT). No patients identified with active TB. The agreement between the QFT-GIT and TST was poor. The study showed no significant difference between patients with positive and negative QFT-GIT results as regard disease duration corticosteroids and other immunosuppressive drugs used, BILAG and SLICC damage indices, CXR and other laboratory investigations.

Conclusions: The prevalence of LTBI in SLE patients in our study was 15% with poor agreement between the QFT-GIT and TST. No significant difference between patients with positive and negative QFT-GIT results as regard disease duration, corticosteroids and other immunosuppressive drugs used, BILAG and SLICC damage indices.

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