Abstract

Background and Aims: Systemic Lupus Erythematosus (SLE) is a chronic inflammatory autoimmune disease with multiple organ damage due to the production of autoantibodies, including autoantibodies to antigens of brain, renal and vascular tissues, ribosomes, nuclear antigens, and phospholipids. Epstein-Barr virus is a gamma-herpes virus that ubiquitously infects the majority of the world's population. The virus maintains latency in B cells and occasionally reactivates the lytic cycle, The virus infection elicits an IgG response to viral capsid antigen, followed by an IgG response to early antigen, Several recent studies connected The virus infection and happening of SL; so this study was carried out to determine sero-prevalence of Epstein-Barr virus among adult patients with systemic lupus erythematosus; and identify the clinical manifestation of SLE, find out the association of positive IgG with high titre for EBV-VCA with clinical manifestation for SLE patients.

Subjects and Methods: In this cross-sectional study, 142 patients with SLE diagnosed based on American College of Rheumatology criteria were selected. All were included in the study after obtaining informed consent for participation. Whole blood samples were taken and serum were separated to determine anti-EBV IgG antibodies using the ELISA method. Data were collected from all patients using a predesigned questionnaire, that; include demographic data, clinical data, and laboratory results. Data were statistically analyzed using Epi Info version 7.2, where p value <0.05 was considered as statistically significant.

Results: Females represent 81% of the total patients, while males represent only 19%, with a male:female ratio equal to 1: 4.3, most of the patients were adults over 20 years old, with a mean age ± and SD of 35.8 ± 13.7 years. The most common signs were joint pain (95.1%), fever (92.3%), persistent fatigue (83.8%), followed by joint swelling (69.7%), less frequent such as ankle swelling (33.8%), and chest pain during deep breathing (28.9%) and cutaneous lupus (discoid lupus) (26.8%), while butterfly rash was very rare (15.5%). On the other hand, all the patients were positive for ANA and ds-DNA. There was a high statistical association of positive dsDNA antibody with cutaneous lupus (discoid lupus), where the rate was 81.6%, OR = 2.6, 95% CI = 1.1-6.6, χ^2 was 4.6 and p was 0.03, while no statistical association was found with other signs.

Conclusions: EBV may have an important role in the pathogenesis and activity of SLE. ANA, anti-dsDNA, and other diagnostic antibody markers should be checked in all patients with suspected SLE and follow-up of patients with EBV infection is very important to assess the status of patients at risk of developing SLE. More studies are needed to achieve a more comprehensive understanding of EBV as a trigger for SLE and other autoimmune diseases, risk factors, and characteristics of SLE in Yemen.