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Epstein-Barr Virus Antibodies in a Sample of Egyptian Patients with Relapsing-remitting Multiple Sclerosis

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Background: An association between Epstein–Barr virus (EBV) and multiple sclerosis (MS) has always been postulated. This study aims to detect the association of EBV as a risk factor of MS in a sample of Egyptian patients and its relationship to the clinical and radiological features of the disease.

Methods: In all, 86 Egyptian patients with the diagnosis of relapsing–remitting MS (RRMS) were recruited consecutively from MS Unit of Neurology Department at Ain Shams University Hospital and were compared to 64 healthy age- and sex-matched controls in this case–control prospective observational study. Patients’ medical history and general and neuro-logical examination including assessment of the functional disability using Expanded Disability Status Scale (EDSS) were obtained, and all subjects underwent serum sampling for detection of the anti-EBV IgG antibodies using enzyme-linked immunosorbent assay (ELISA) technique.

Results: Data showed that 92.9% of the patients had positive anti-EBV antibodies compared to 30.3% of the controls ($p < 0.001$) detected. The seropositive patients had significantly longer duration of illness ($p = 0.024$), higher number of relapses ($p = 0.026$), and higher EDSS scores ($p = 0.001$). While EBV antibody titer was significantly directly correlated to the duration of illness ($p = 0.014$).

Conclusion: These data together with earlier reports strengthen the hypothesis that EBV infection or the immune response to EBV antigens has a potential role in pathogenesis of MS illness and progression of the disease.