

SEROLOGICAL DIAGNOSIS OF EPSTEIN BARR VIRUS INFECTION: COMPARISON BETWEEN CHEMILUMINESCENCE (LIAISON) AND IMMUNOENZYMATIC (CHORUS) METHODS.

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Introduction. Epstein Barr virus (EBV) belongs to the family of herpes viruses, gamma-herpesvirus subfamily, with a linear double-stranded DNA. The virus infects approximately 90% of the world's population, causing usually asymptomatic infections. EBV is the causative agent of infectious mononucleosis (IMN) and is also associated with two geographically well-defined tumors: Burkitt's lymphoma and undifferentiated naso-pharyngeal carcinoma (NPC).

The diagnosis of IMN is based on serological tests: the Paul-Bunnell test and the determination of anti-EBV VCA (Viral Capsid Antigen) IgM / IgG, EBNA (Epstein Barr Nuclear Antigen) IgG, EA (Early Antigen) IgG/IgM. The search for specific anti-EBV markers is more sensitive and specific than the Paul-Bunnell test, especially in children. The aim of our study was to compare the Chorus (DIESSE Diagnostic Senese) and Liaison (DiaSorin, currently in use in our laboratory) systems for the serological diagnosis of infection Epstein Barr virus (EBV) infection.

Methods. The study was performed on 143 samples, divided into three groups of patients:

Group 1: 23 samples from patients with a presumptive diagnosis of infectious mononucleosis;

Group 2: 20 samples from patients seronegative for EBV;

Group 3: 100 samples from apparently healthy adults.

Serological diagnosis was performed by assaying the specific antibodies, VCA IgG and IgM and EBNA IgG by EIA (Chorus) and CLIA (Liaison) and an indirect fluorescent antibody test (IFI) for anti-VCA IgM in cases of disagreement.

Results. In Group 1 patients, an agreement of 87% (n.20/23) was obtained, with 3 inconsistencies due to false negative IgM anti-VCA results, 2 for the EIA Chorus and 1 for the CLIA Liaison respectively.

The percentages of agreement in the other groups were: 100% in the group 2 patients (20/20) while for Group 3 patients: 96% for IgM anti-VCA, 93% for IgG anti-VCA and 98% for IgG anti-EBNA. The discrepancies were in total 13: 4 false-positive IgM VCA, 1 for Chorus EIA and 3 for CLIA Liaison respectively; 7 false negative VCA-IgG, 5 for EIA Chorus and 2 with CLIA Liaison and finally 2 false negative EBNA IgG by CLIA Liaison.

Conclusions. In conclusion, the two systems show a high degree of correlation in the serological diagnosis of EBV infection, and the discrepancies observed for anti-VCA may be explained by the different nature of the antigen used: native in the EIA Chorus system and recombinant in the Liaison system. Both methods are automated and assure a high quality performance.