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Abstract (poster session)

Comparison of two commercial automated immunoassay systems for the diagnosis of Epstein-Barr Virus (EBV) infection: a preliminary evaluation

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Background and objective. The Epstein-Barr's virus (EBV), an ubiquitous herpesvirus, is the etiologic agent responsible for the infectious mononucleosis and it is considered as a risk factor for the development of several diseases including lymphomas, nasopharyngeal carcinoma and lymphoproliferative syndromes in immunocompromised patients. The diagnosis of EBV's infection is based on serological methods which detect anti-virocapsid (VCA) IgG and IgM or anti-nuclear antigen (EBNA) IgG antibodies in case of acute or past infections, respectively. The aim of this study was to compare the ability of two different commercial automatic systems, such as the Immulite 2000 (Siemens) and Liaison (DiaSorin), to establish the right serological profile of EBV infection based on the assay of both anti-VCA IgG and IgM and anti-EBNA IgG. Methods. Three-hundred sera, randomly chosen from both inpatients and outpatients of the Institute of Microbiology of the Catholic University Medical School with the suspect of EBV infection, were assayed for anti-EBV antibodies. All the specimens were tested simultaneously by the chemiluminescent-based immunoassays Immulite and Liaison. Those samples which showed conflicting results for one or more parameters were resolved by the immunoblot system Euroline (Euroimmune). Results. Two-hundred and eighty-one out of 300 (93.7%), 292 out of 300 (97,3%) and 279 out of 300 (93,0%) samples showed concordant results for the detection of anti-VCA IgM and IgG and anti-EBNA IgG, respectively, by both the analytical methods. Eighteen specimens which were detected as IgG anti-EBNA positive by the Immulite but negative by the Liaison, were confirmed as positive through the Euroline. Eleven samples which were detected as IgM anti VCA positive by the Liaison but negative by the Immulite, were confirmed negative through the immunoblot. Conclusions. Based on the above summarized results, the Immulite seemed to be more sensitive and specific than the Liaison for the detection of anti-EBNA IgG and anti-VCA IgM respectively, whereas both the systems were comparable for the detection of anti-VCA IgG. In the next future, it will be mandatory to confirm these results by increasing the sample size and completing the assessment of serological profile through westernblot and immunofluorescence against native proteins. This approach will allow to obtain complete serological reports necessary to follow the antibody shift for a right diagnosis of EBV infection.