

SEROLOGICAL DIAGNOSIS OF VARICELLA INFECTION: COMPARISON BETWEEN IMMUNOFLUORESCENCE AND ENZYME IMMUNOASSAY (CHORUS) – PRELIMINARY RESULTS

Tognini M¹, Pistono PG², Martorana M², Matera B², Piro F².

¹ *DIESSE Diagnostica Senese SpA, Via delle Rose, 10 – I53035 Monteriggioni (SI)*

² *Laboratorio di Virologia e Microbiologia Ospedale di Malattie infettive Amedeo di Savoia (ASL 3) corso Svizzera 164 – I-10149 Torino*

Introduction. The Varicella-Zoster Virus (VZV) infections are still a problem of interest for Public Health for the high infectivity of acute forms, the consequences of relapse (Herpes Zoster) especially in immunocompromised individuals, and the sometimes significant complications in pregnancy. The VZV infection diagnosis is essentially based on the detection of specific antibodies. The most commonly used methods include Indirect Immunofluorescence (IFA), enzyme immunoassay (ELISA) and radioimmunoassay (RIA). In our study we compared the results of our determinations of anti-VZV IgG and IgM by IFA with those obtained by an ELISA method applied to the Chorus instrument (DIESSE).

Materials and Methods. We tested 68 IgG positive and IgM negative serum samples and 19 IgG and IgM negative serum samples stored in our serum bank for anti-VZV IgG, and 43 samples anti-VZV IgG and IgM positive from patients with suspected acute infection with VZV and 32 IgM negative samples for anti-VZV IgM, in order to determine the sensitivity and specificity of the new enzyme immunoassay (CHORUS) compared to IFA, considered as the reference method.

Results. In the 68 VZV IgG positive samples, the detection of anti-VZV IgG with Chorus gave a positive result in 61 cases, negative in 2 cases and undetermined in 5 cases, while all 19 VZV IgG-IFA negative samples resulted negative with the Chorus anti-VZV IgG test (sensitivity 89.7%, specificity 100%). Discordant samples showed IFA titres < 1/32. The determination with the Chorus of anti-VZV IgM in 43 IFA positive samples resulted positive in 42 samples while it was negative in 31 out of the 32 samples negative by IFA (sensitivity 98.0%, specificity 96.9%).

Conclusions. IFA is a sensitive and specific method the implementation of which however requires time and skilled dedicated personnel; the Chorus ELISA method can represent a suitable alternative because of its rapid execution and the reduced use of human resources, providing good sensitivity and excellent specificity