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

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The incidence of Measles in Italy used to be approximately 150 cases per 100 000 inhabitants in the pre-vaccination era. Following the introduction of the voluntary vaccination in 1976, the incidence went significantly reducing down up to 46 cases per 100 000 inhabitants in the period 1990-96. Currently, approximately 56% of Italian children are vaccinated, even though large variations from one region to another are found. The acquired immunity after infection or vaccination persists throughout life.

The methods nowadays more widely used for the detection of anti-Measles IgG and IgM include the indirect fluorescent antibody (IFA), the Radioimmunoassay (RIA) and the enzyme immunoassay (ELISA).

In our study, we compared the results of IFA determinations of anti-Measles IgG and IgM titres with those obtained by a new ELISA method applied to the Chorus system (DIESSE Diagnostica Sense SpA).

Materials and Methods. We tested for anti-Measles IgG: 84 serum samples IgM negative and IgG positive and 27 sera IgG and IgM negative stored in our serum bank, and for anti-Measles IgM: 45 IgM and IgG positive sera from patients with suspicion of acute Measles and 31 IgM and IgG negative samples. We evaluated the sensitivity and specificity of the new enzyme immunoassay (CHORUS) in comparison to IFA, considered as the reference method.

Results. Detection of anti-Measles IgG: out of 84 IFA positive samples, 83 were found positive and 1 negative by the Chorus method, while all of the 27 negative samples resulted negative with the Chorus (sensitivity 98.8%, specificity 100%). Detection of anti-Measles IgM: all of the 45 samples positive in IFA were also positive with the Chorus, and all of the 31 samples negative by the IFA scored negative with the Chorus (sensitivity and specificity 100%).

Conclusions. The detection of anti-Measles IgG and IgM by ELISA with the instrument Chorus is an excellent alternative to immunofluorescence in terms of sensitivity and specificity, with the advantage of the automation and greater speed of execution