AUTOIMMUNE BULLOUS DISEASES

COMPARATIVE DIAGNOSTIC PERFORMANCE OF ELISA AND IMMUNOBLOT FOR THE SEROLOGICAL DIAGNOSIS OF DERMATITIS HERPETIFORMIS

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Introduction: The immunoserological diagnosis of dermatitis herpetiformis (DH) involved detection of IgA antibodies against transglutaminases (epidermal and tissue – eTG, tTG, respectively) and nonapeptides of gliadin (npG).
Nowadays, a multiplex approach like multianalyte indirect immunofluorescence, profile ELISA and strips of immunoblot assay bearing immobilized antigens is being developed.

Objective: The aims were to compare diagnostic performance of monoanalyte ELISA (anti-tTG IgA) and multianalyte blot assay (anti-tTG/npG IgA) as well as to assess compatibility of immunoblot with ELISA and direct immunofluorescence (DIF) in diagnosing DH.

Materials and Methods: Altogether, selected sera from 40 Slavic individuals were tested (16 DH patients and 24 healthy individuals). ELISA test and immunoblot assay were performed. Statistical analyses were done.

Results: There were associations between the values of positive/negative samples detected by anti-tTG IgA ELISA and immunoblot with tTG and npG ($p<0.05$), as well as between particular antigens in immunoblot (tTG versus npG) ($p<0.05$).
There were no associations between anti-tTG, npG IgA detection in DH patients (immunoblot, ELISA) and DIF ($p >0.05$).
The diagnostic sensitivity and specificity of ELISA in comparison with immunoblot was, respectively: (i) tTG ELISA versus immunoblot with tTG – 66% and 100% ($p<0.0001$), (ii) tTG ELISA versus immunoblot with npG – 91% and 92% ($p<0.0001$), (iii) immunoblot detecting tTG versus npG – 100% and 83% ($p<0.0001$).
A better rate of agreement in IgA detection was observed among tTG ELISA and npG immunoblot (0.82), than with tTG ELISA and tTG immunoblot (0.73) or tTG immunoblot and npG immunoblot (0.67). The interrate agreement among DIF and ELISA as well as immunoblot was weak.

Conclusions: It seems that immunoblot with tTG and npG may be an alternative way to ELISA in managing DH patients. The evaluation of available clinical, histological and immunological data combined may still suggest DH, despite initially inconclusive DIF readings.