Diagnostic Utility of Deamidated Gliadin Peptide Antibody in Celiac Disease Compared to Anti-tissue Transglutaminase and IgA- Endomysium Antibodies

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Abstract:

Deamidated gliadin peptide antibodies have recently been suggested as reliable tools for celiac disease (CD) diagnosis. We compared their utility for diagnosis CD in comparison to the routinely used anti-endomysial, and anti-tissue transglutaminase antibodies. We studied 65 patients (17 men, 48 women; age range, 17–63 years) who underwent intestinal biopsy because of clinical suspicion of small-bowel disorders. Serum samples were obtained at the time of biopsy for measuring IgA and IgG anti-tissue transglutaminase (tTG), IgA and IgG anti-deamidated gliadin peptide (DGP) by ELISA and IgA anti-endomesial antibody (EmA) by indirect immunoflourescence. Characterization of patients was based on histological criteria (Marsh type II lesion or greater). Biopsy revealed that 14 patients had positive criteria for CD. The remaining 51 negative patients were used as controls. Assay sensitivity and specificity for diagnosing celiac disease were 85.7% and 92.2% for IgA and 92.9 and 100% for IgG antibodies to DGP respectively. Serum IgA and IgG DGP, IgA and IgG -tTG and IgA EmA were significantly higher in CD patients than in control group (P=0.000). None of the controls was positive for IgG DGP or IgA -EmA, but 4 of 51 (7.8% ) were positive for IgA- DGP, 6 of 51 (11.8 %) were positive for IgA anti-tTG, and 2 of 51 (3.9%) were positive for IgG anti-tTG. IgG-DGP has the best sensitivity (92.9%), specificity (100%), positive predictive value (100%), and negative predictive value (96.2%). In conclusion, the DGP antibodies tests, alone or in combination with the tTG antibodies, are useful tools for screening purposes and with better patient acceptance than intestinal biopsy.

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