#44 - THE ASSOCIATION OF IGA TISSUE TRANSGLUTAMINASE ANTIBODIES TO IGG DEAMIDATED GLIADIN PEPTIDE ANTIBODIES AS A CONFIRMATORY STRATEGY FOR CELIAC DISEASE NON-BIOPSY DIAGNOSIS. A MULTICENTER, POST HOC, PROSPECTIVE BIOPSY-BASED STUDY.

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Background/Aim: Previous studies have proposed a non-biopsy serological diagnosis based on the sequential use of IgA tissue transglutaminase (tTG) and IgA endomysial autoantibodies, a combination that detects the same antibody using different assays with varying sensitivity. However, a firm conclusion on its suitability or that of a different combination for adults remains elusive. We investigated the performance of concurrent testing of two serologic tests targeting two independent antigens (IgA anti-tTG and IgG anti-deamidated gliadin peptides –DGP-), as an effective approach for CeD diagnosis in adults.

Methods: Prospective, multicenter, binational study collected a series of consecutive patients with a high pre-test probability for CeD. Between 2018 and 2020, adults were enrolled at four Italian and one Argentinian center. Patients were evaluated for serology and duodenal biopsy at local centers. Serology was also blindly analyzed by a central laboratory (Werfen, San Diego, USA) for IgA tTG and IgG DGP by Aptiva PMAT (Particle Multi-Analyte Technology) assays (Werfen, San Diego, CA). CeD diagnosis required histological confirmation of Marsh 3 damage.

Results: 187 patients were enrolled (138 with histological diagnosis of CeD and 49 not confirmed as CeD). Sensitivity and specificity were slightly higher for IgA tTG than IgG DGP at the manufacturer's cutoff of 5 units. Assays sensitivities decreased as the cutoff is increased while specificity increased. Double positive tests were predictive of CeD in 98.4% of patients at >1x upper limit of normal (ULN). Sixty-one/138 (44.2%) CeD patients had double positive results at >10x ULN with a 100% positive predictive value. The strategy was superior to that of IgA tTG as a single serology.

Conclusions: Dual positive for IgA tTG + IgG DGP serology, both at concentrations >10x ULN, was absolutely predictive of CeD, suggesting this specific subset of patients could safely omit the requirement of biopsy for CeD diagnosis.