

Original Article: Correlation of Modified Marsch Grades with Serum Anti Tissue Transglutaminase Antibody Levels in Celiac Disease

Anum Usman*, **Mudassira***, **Khalida Moeed****, **Noor Khan Lakhanna*** and **Humaira Zafar***

*Department of Pathology, Al Nafees Medical College & Hospital, Islamabad, **Department of Anatomy, Loralai Medical College, Loralai

Abstract:

Objective: To correlate the histopathological grades of celiac disease using Modified Marsch grading system with serum IgA anti-tissue transglutaminase antibody levels.

Study Design Prospective Cross-sectional study

Study Place Department of Pathology, Al Nafees Medical College& Hospital

Duration of Study May 7, 2015 To December 10,2015

Methodology: Informed consent was taken from all the enrolled patients in written form depending upon inclusion and exclusion criteria. Endoscopic biopsy from all patients was processed routinely for histopathological analysis. Modified Marsch grading system was used for grading the morphological findings. Anti-Tissue transglutaminase (tTG) IgA antibodies were measured by the ELISA (Enzyme-Linked Immunosorbent Assay) technique. Both serological marker and biopsy data were correlated using Regression analysis test and Spearman rho test in SPSS version 20.

Results: In this study 77 patients were included, out of which 55 were labeled as celiac disease patients. There were 38.9% males and 61.1% females. By the Modified Marsch Grading System, there were 9.1% cases in Marsch 1 and 13% in Marsch 2 whereas Marsch-3a, Marsch-3b and Marsch-3c included 15.6%, 19.5% and 14.3% cases respectively. After correlation with tTG IgA Ab titers, 27.2% patients had negative serology. Total 22% patients in both Marsch 1 & 2 were serologically positive and had IgA tTG Ab titers > 11 units/ml whereas majority of patients with Marsch 3a had tTG IgA Ab titers between 11 to 100 units/ml. Marsch grades 3b and 3c strongly correlated with increasing values of serology as IgA tTG Ab titers > 100 units/ml.

Conclusion: Celiac disease grades obtained by using Modified Marsch System significantly correlates with tTG IgA Ab titers

Key Words: Anti Tissue Transglutaminase, Celiac disease, Serology, Marsch, Histopathology.