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The serum concentration of soluble apoptosis-associated molecules in coeliac disease

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Introduction and objectives: The exact role of soluble apoptosis-related mediators in celiac disease is still not fully understood. Serum sFas-sFasL may play a role in the pathogenesis, and the aim of this study was to assess the circulating soluble Fas and Fas ligand levels in celiac disease and compare that with the normal individuals.

Methodology: This prospective study included 50 adults with newly diagnosed celiac disease (CD-group/CDG) and 25 non-celiac adults (N-CD group/N-CDG) as controls. The circulating Fas and sFasL levels were assessed by ELISA kits. All duodenal histological parameters were evaluated, classified and histological lesions were graded according to criteria proposed by our group. Results were expressed as the mean±standard error (SE), range and percentage. The serum sFas and sFasL levels and duodenal histological results were analyzed using statistical methods, Mann-Whitney U test, One-way ANOVA and Linear regression using SPSS packed program (version 22 software, SPSS Inc. Chicago, Illinois, USA). The *P* values<0.05 were considered statistically significant.

Results: The mean age of CDG was 31.28±12.83 (15-62 years) years, with a male: female of 1:1. In the CDG, mean serum sFas was significantly lower (*p*<0.001) than N-CDG. However, the mean serum sFasL was significantly higher (*p*=0.018) than N-CDG. One-way ANOVA indicated no relationship between the grade of duodenal mucosal damage and concentration of serum sFas (*p*=0.35). On the other hand, one-way ANOVA indicated a statistically significant relationship between different grades of duodenal mucosal damage and sFasL (*p*=0.04).

Discussion and conclusion: The concentration of serum soluble Fas and FasL are significantly altered in CD. Altered serum sFas does not correlate with histological grades of duodenal mucosal lesions. Further studies are required to see any relation between membrane-bound Fas or FasL and the grading of duodenal mucosal lesions, which may help better understand the pathogenesis of celiac disease.

Keywords: celiac disease, soluble Fas, Fas ligand, apoptosis, serum

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