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# EVALUATION OF IL-21 GENE EXPRESSION IN CELIAC PATIENTS COMPARE TO CONTROL

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**Objective:** Considering the role of adaptive immunity in the progression and pathogenesis of celiac disease, we investigated the role of Th17 by examining the gene expression of one of its related cytokines, IL-21, in duodenal biopsy of celiac patients in comparison to healthy controls.

**Methods:** In this study, duodenal biopsy were collected from 60 celiac disease patients under gluten-free (between 6 months and 2 years) and 60 healthy subjects as control group. RNA was extracted from tissue according to the protocol of the commercial kits, cDNA was synthesis, primer pairs designed and then IL-21 gene expression was run by using Real-time PCR technique.

**Result:** Out of 60 CD patients, 17.6% were female and 12.6% were male with mean age of 38.85 and in control group 55% were female and 45% were male with an average age of 35.60. The most common GI symptoms were bloating (17.6%) and diarrhoea (15.1%), and non-GI symptoms, fatigue (21.6%), weight loss (14.6%) and anaemia (16.1%). Most of the patients were Marsh III (54.2%). The result of this study was shown that IL-21 in gluten free diet (GFD) patients was expressed relatively more than healthy controls, but this difference was not statistically significant ( $P < 0.2$ ).

**Conclusions:** IL-21 plays an important role in the onset of tissue damage in celiac disease, and in this study as patients were on the gluten free diet; its expression is slightly higher than the healthy group. This gene may consider as a biomarker that can be used to follow the histological improvement.

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