

## **THE ROLE AND DIAGNOSTIC SIGNIFICANCE OF HLA-DQ TYPING IN SUSPECTED GLUTEN INTOLERANCE**

Olgica Sibinovska, Meri Kirijas, Gorjan Milanovski, Teodora Brnjarchevska – Blazevska, Tamara Savevska, Kristina Stamatovska, Sanja Kicevska, Stefani Iljoska, Olivija Efinska - Mladenovska, Aleksandar Petlichkovski

Institute for Immunobiology and Human Genetics, Medical Faculty in Skopje, Republic of North Macedonia

Celiac disease, defined as immune-mediated small intestinal enteropathy caused by exposure to gluten, is an increasingly prevalent diagnosis. There is a huge demand for testing which burdens the fragile resources of labs providing immunogenetic tests.

The aim of this study is to evaluate the frequency of the HLA-DQ haplotypes in patients referred to our Institute, and in those positive for anti-TTG or DGP antibodies.

A total of 404 patients aged 1 to 59 years were included in this study, all of them tested for anti-gliadin antibodies using automated EUROIMMUN ELISA platform and genotyped for HLA-DQ using the SSO Luminex technology.

In the analyzed cohort, 15 individuals were positive for tTGA IgA (3.71%) and 20 positive for DGP IgA (4.95%). The most frequent haplotype present in 48.51% of all individuals (196/404) was the DQ7 haplotype (DQA1\*03:01- DQB1\*03:01 or DQA1\*05:05- DQB1\*03:01), followed by HLA-DQ5 haplotype (DQA1\*01:01/01:02/01:03/01:04 -DQB1\*05:01/05:02/05:03) with 44.3 % (179/404). The HLA-DQ2 haplotype was present in 34.15 % of tested individuals (138/404). The HLA-DQ6, -DQ8, -DQ4 and -DQ9 were found in lower frequencies. Fourteen out of fifteen patients positive for tTGA (93.33 %), carried the DQ2 or DQ8 haplotypes, while one was genotyped as DQ7 homozygote (6.67%). In the group of DGA IgA positive patients, HLA-DQ2 had prevalence of 80% (16/20) while in the remaining 20% of patients DQ4, DQ6 or DQ7 haplotypes were found.

A thorough analyses on bigger cohorts are necessary to evaluate the predictive value of these tests in the diagnostic algorithm for people with gluten related symptoms.