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**Celiac Disease Prevalence Among Children with Dermatologic Pathology: Cross-Sectional Study with Clinical Case Series**

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***Background.*** *Celiac disease (gluten enteropathy) is relatively rare disease. However, such patients have higher risk of skin pathology than general the population, and their therapy efficacy is limited by the use of gluten-free diet. Therefore, screening of dermatologic patients on celiac disease may be relevant.* ***Objective****. Our aim was to study the prevalence of celiac disease among children with skin pathology.* ***Methods.*** *The study included children hospitalized in dermatology department. Screening for celiac disease included detection in blood serum of antibodies (IgA, IgG, IgM) to tissue transglutaminase via rapid tests. In case of positive result of rapid test, we have repeated the estimation of antibodies (IgA, IgG) to tissue transglutaminase via immunochemiluminescent method with ImmunoCAP technology or via enzyme immunoassay. In case of positive serological test, we have performed HLA typing to determine haplotypes of DQ2 and DQ8, as well as esophagogastroduodenojejunoscopy (EGDJS) with biopsy of the duodenal and jejunal mucosa for further histological verification of the diagnosis.* ***Results.*** *We examined 1,000 children with various dermatologic pathologies. Rapid tests showed positive result in 21 patients (2.1%; 95% CI 1.3–3.2%). The presence of antibodies to tissue transglutaminase was confirmed via additional serological examination in all cases. HLA-haplotypes DQ2/8 were revealed in all patients with positive rapid test results. Typical form of gluten enteropathy was confirmed in 18/21 patients (86%) according to a histological study, thus, estimated prevalence of celiac disease is 1.8% (95% CI 1.1–2.8%).* ***Conclusion.*** *The prevalence of celiac disease remains underestimated among children with skin diseases. More studies are needed on the diagnostic features of rapid tests on tissue transglutaminase, as well as the benefits of screening for celiac disease to achieve patient-relevant clinical outcomes of skin pathology with wider gluten-free diet.*

***Keywords:*** *children, skin diseases, celiac disease, rapid tests, tissue transglutaminase, antibodies*

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**STUDY LIMITATIONS**

The sample size is limited by the number of rapid tests available in the study. The larger sample could identify other rarer dermatoses associated with celiac disease, as several previous studies have shown. It was impossible to estimate the prevalence of celiac disease separately in each skin pathology considering this pathology rarity. Thus, the obtained result on celiac disease prevalence applies only to the population of patients with dermatological pathology. Moreover, the sample in this study contained only hospitalised patients who differ from the general population of patients with dermatological diseases. This fact may affect the celiac disease prevalence estimations presented above.

The diagnostic sensitivity of the rapid test for antibodies to tissue transglutaminase is, on average, relatively high (85.7%) according to the manufacturer's instruction. However, it cannot be excluded that rapid tests could miss about 30% of celiac disease cases in our sample as the lower threshold of 95% CI for this diagnostic parameter is 69.7%. Thus, it is possible that actual celiac disease prevalence among patients with skin diseases can be significantly higher.

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**DISCLOSURE OF INTEREST**

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