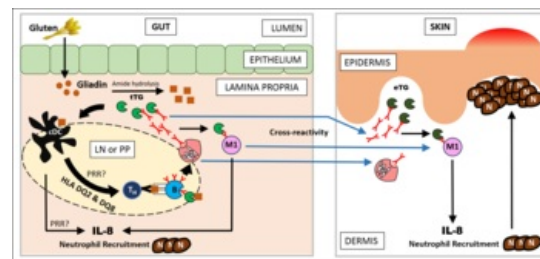


Celiac disease screening

Celiac **serological markers** include IgA and IgG (AGA-A) antibodies to gliadine AGA-G), antibodies to reticulin (ARA) and endomysium (EmA) class IgA and antibodies to tissue transglutaminase class IgA and IgG (atTG-A, atTG-G). None of these markers is 100 per cent specific and at the same time 100 per cent sensitive. The sensitivity and specificity of these tests ranges from 31-100% depending on the antigen/substrate used, the cut-off value setting, the methodology used and the standardisation of the test. The latest methods recommend detection of antibodies against synthetically prepared gliadine-specific nonapeptides and deamidated gliadin peptides, respectively.

Algorithms of screening programmes include the sequential or even parallel determination of individual markers, but the positive result must in any case be confirmed by histological examination. In remission with a gluten-free diet, the level of antibodies decreases and therefore their determination can be used very well for long-term monitoring, follow-up, and monitoring of adherence to a gluten-free diet. The latest methods for screening are immunochromatographic, rapid tests and include primarily the method of determination of antibodies to tissue transglutaminase and gliadine, there are also methods like DotBlot, a sequential ELISA process tied to a single stripe test.

The importance of screening is particularly important in patients with other autoimmune diseases. For example, the risk of asymptomatic celiac disease, without clinical signs, is higher in type 1 diabetics 10x than in the general population, i.e. the incidence is not 1:200 but 1:20. The increased risk is similar for other autoimmune diseases (autoimmune thyroidopathy, etc.). In the study conducted on the CBLD 1. In a population of 200 patients, LF UK and VFN showed significantly higher numbers of positive markers of celiac sprue in type 1 diabetic patients with advanced autoimmune (positive anti-GAD) than in anti-GAD negative patients. Celiac sprue (CS, gluten enteropathy) is an autoimmune disease with genetically-related binding (HLA-DQ2/DQ8). Methods of molecular biology, PCRs, allow the detection of specific markers - HLA-DQ. The importance of HLA-DQ typing in screening is currently under discussion.



Cross-reactivity hypothesis for the onset of dermatitis herpetiformis in patients with celiac disease



Gliadin

Links

Related articles

- Celiac disease
- Determination of antibodies to gliadine, endomysium or atTG in faeces

Bibliography

- RASHTAK, S, et al. Comparative usefulness of deamidated gliadin antibodies in the diagnosis of celiac disease. *Clin Gastroenterol Hepatol*. 2008, vol. 6, no. 4, s. 426-32, ISSN 1542-3565 (Print), 1542-7714 (Electronic). PMID: 18304884 (<https://pubmed.ncbi.nlm.nih.gov/18304884/>).
- ANKELO, M, et al. Antibody responses to deamidated gliadin peptide show high specificity and parallel antibodies to tissue transglutaminase in developing coeliac disease. *Clin Exp Immunol*. 2007, vol. 150, no. 2, s. 285-93, ISSN 0009-9104 (Print), 1365-2249 (Electronic). PMID: 17803713 (<https://pubmed.ncbi.nlm.nih.gov/17803713/>).
- VOLTA, U, et al. Usefulness of antibodies to deamidated gliadin peptides in celiac disease diagnosis and follow-up. *Dig Dis Sci*. 2008, vol. 53, no. 6, s. 1582-8, ISSN 0163-2116 (Print), 1573-2568 (Electronic). PMID: 17985240 (<https://pubmed.ncbi.nlm.nih.gov/17985240/>).
- HADITHI, M, et al. Accuracy of serologic tests and HLA-DQ typing for diagnosing celiac disease. *Ann Intern Med*. 2007, vol. 147, no. 5, s. 294-302, ISSN 0003-4819 (Print), 1539-3704 (Electronic). PMID: 17785484 (<https://pubmed.ncbi.nlm.nih.gov/17785484/>).
- BONAMICO, M, et al. Serologic and genetic markers of celiac disease: a sequential study in the screening of first degree relatives. *J Pediatr Gastroenterol Nutr*. 2006, vol. 42, no. 2, s. 150-4, ISSN 0277-2116 (Print), 1536-4801 (Electronic). PMID: 16456406 (<https://pubmed.ncbi.nlm.nih.gov/16456406/>).
- JISKRA, J, et al. IgA and IgG anti-gliadin, IgA anti-tissue transglutaminase and anti-endomysial antibodies in patients with autoimmune thyroid diseases and their relationship to thyroidal replacement therapy. *Physiol Res*. 2003, vol. 52, no. 1, s. 79-88, ISSN 0862-8408 (Print), 1802-9973 (Electronic). PMID: 12625811 (<https://pubmed.ncbi.nlm.nih.gov/12625811/>).
- MATTEUCCI, E, et al. Screening for coeliac disease in families of adults with Type 1 diabetes based on serological markers. *Diabetes Nutr Metab*. 2001, vol. 14, no. 1, s. 37-42, ISSN 0394-3402 (Print), 1720-8343 (Electronic). PMID: 11345164 (<https://pubmed.ncbi.nlm.nih.gov/11345164/>).
- MELONI, GF, et al. Prevalence of silent celiac disease in patients with autoimmune thyroiditis from Northern Sardinia. *J Endocrinol Invest*. 2001, vol. 24, no. 5, s. 298-302, ISSN 0391-4097 (Print), 1720-8386

- (Electronic). PMID: 11407647 (<https://pubmed.ncbi.nlm.nih.gov/11407647/>).
- VOLTA, U, et al. Coeliac disease in patients with autoimmune thyroiditis. *Digestion*. 2001, vol. 64, no. 1, s. 61-5, ISSN 0012-2823 (Print), 1421-9867 (Electronic). PMID: 11549838 (<https://pubmed.ncbi.nlm.nih.gov/11549838/>).
 - BERTI, I, et al. Usefulness of screening program for celiac disease in autoimmune thyroiditis. *Dig Dis Sci*. 2000, vol. 45, no. 2, s. 403-6, ISSN 0163-2116 (Print), 1573-2568 (Electronic). PMID: 10711459 (<https://pubmed.ncbi.nlm.nih.gov/10711459/>).
 - KORDONOURI, O, et al. Autoantibodies to tissue transglutaminase are sensitive serological parameters for detecting silent coeliac disease in patients with Type 1 diabetes mellitus. *Diabet Med*. 2000, vol. 17, no. 6, s. 441-4, ISSN 0742-3071 (Print), 1464-5491 (Electronic). PMID: 10975212 (<https://pubmed.ncbi.nlm.nih.gov/10975212/>).
 - SCHÖBER, E, et al. Screening by anti-endomysium antibody for celiac disease in diabetic children and adolescents in Austria. *J Pediatr Gastroenterol Nutr*. 2000, vol. 30, no. 4, s. 391-6, ISSN 0277-2116 (Print), 1536-4801 (Electronic). PMID: 10776949 (<https://pubmed.ncbi.nlm.nih.gov/10776949/>).

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