Clinical Sings of Adult Coeliac Disease (Case Report)

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Investigations of epidemiological and clinical peculiarities of adult coeliac disease in Lithuania have been started not long ago, after introduction of peroral aspiration biopsy of small intestine and serological tests in the laboratory of the Center of Propaedeutics and Nursing Studies, Vilnius University, and M. Marcinkevičius Hospital in Vilnius. The incidence of coeliac disease in general European population recently has significantly increased. Thus one can assume that this enteropathy in Lithuania also is not rare, but not diagnosed and seldom considered in cases of gastrointestinal and extraintestinal symptoms of unclear aetiology. The active form comprises only a very small part of all cases of coeliac disease. Thus, in suspected cases it would be recommended to perform serological tests, and in case of positive results to conduct mucous membrane bioptate morphological analysis for diagnosis confirmation as well. The disease is successfully treated by aglutenic diet, vitamin and microelement substitution therapy. Glucocorticoid therapy of especially difficult forms is recommended.

Key words: adult coeliac disease, epidemiological study, clinical, peculiarities, Lithuania

Coeliac disease, or glutenic enteropathy, is characterised by malabsorption syndrome which reveals itself by inflammation of small intestine mucous membrane caused by consumption of diets containing glutene or related prolamines (1). The term "coeliac disease" takes its origin from the word "koilia" – disease of bowels (Areteus from Kappadokia, 2nd millennium BC). For the first time the disease was described by Samuel Gee (1888), when he discussed the "Coeliac Disease" characterised by impaired digestion of 1–5-year-old children. Of these children, soft inflated belly, thin limbs and diarrhoea with abundant and light-colour faeces are typical. W. K. Dicke from Hague was the first who discovered gliadine of wheat, the crucial toxic factor for small intestine mucosa (1950). Finally, Margot Shiner from London described atrophy of small intestine microvilli of diseased children, for whom peroral aspiration biopsies were performed using Watson's capsule. Till now, microvilli atrophy combined with hypertrophy of crypts and increased density of intraepithelial lymphocytes have been the principal diagnostic criteria of glutenic enteropathy (2). Clinical and histological improvement is noted after prescription of aglutenic diet. The disease relapses if products containing glutene are started to consume (3). Recently, the incidence of glutenic enteropathy and the age of its manifestation have changed significantly. According to data of S. Bode et al., the peak age of patients is *ca*. 40 years, while according to other authors it fluctuates between 38–48 years (4). When precise serological tests (determination of anti-gliadine, anti-endomysium and anti-tissue transglutaminase antibodies) were applied, a relatively high incidence of the disease was established – 1 in 120–300 persons in Europe and North America. However, this does not reflect the real frequency of the disease, as its not active, but low-symptomatic and latent forms are prevailing when extra-intestinal symptoms are more typical (5).

Glutenic enteropathy develops in genetically predisposed subjects due to T-lymphocyte immune response to glutene. In over 95 percent of patients, a specific HLA-DQ (α*0501, β*0201) heterodimere is detected (6). The mechanism of small intestine lesion caused by glutene is not yet finally elucidated. Amino acids of gliadine are deaminated by tissue transglutaminase, and a complex related to DQ2 and DQ8 is produced in lamina propria of the mucous membrane, which is recognised by T-cells of the intestine. The tissue transgultaminase enzyme is one of autoimune response targets in case of glutenic

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enteropathy. A new mechanism of pathogenesis impairing tolerance and causing autoimmune diseases is being analysed. The produced autoantibodies are considered to suppress the differentiation of villi and crypts (7).

In Lithuania, investigations of the epidemiological and clinical peculiarities of adult coeliac disease have been started not long ago, after introduction of peroral aspiration biopsy of small intestine and serological tests in the laboratory of the Center of Propaedeutics and Nursing Studies, Vilnius University, and M. Marcinkevičius Hospital in Vilnius. Earlier in our country the diagnosis of this disease in adults was very rare.

In Department of Gastroenterology of M. Marcinkevičius Hospital, an active (severe) form of glutenic enteropathy was established for two female patients.

Case No. 1. A female aged 35 years after acute viral enteritis for 1.5 years suffered from chronic diarrhoea with fatty faeces, diffuse aching abdominal pain, inflated abdomen, rumble in intestines, permanent tiredness, weakness. Later, oedemas, hypotension, haemorrhages, amenorrhoea, depression became evident. The patient lost about 20 kg of weight during one year. After admission to hospital, the patient's weight was only 38 kg and the body mass index 14. Examination revealed dry scaling of skin, bruises on extremities, slightly inflated soft belly, marked peripheral oedemas. Blood test showed the following changes: haemoglobin concentration 109 g/l, erythrocyte count 3.5×10^{12}, MCV 94 fl, MCH 31 pg, total protein 40.6 g/l, albumins 27.5 g/l, serum iron 8.2 mkmol/l, prothrombin activity 31 percent. Serological tests were positive for anti-gliadine and anti-tissue transglutaminase antibodies. Peroral aspiration biopsy of mucous lining of small intestine with Crosby's capsule was performed. Morphological examination revealed a complete atrophy of villi and an increased density of intra-epithelial lymphocytes (Fig. 1). Strict aglutenic diet, peroral glucocorticoids, iron, vitamins and microelements were prescribed. After two months, a clinical improvement was noted: the frequency of bowel evacuations decreased, oedemas disappeared, the patient started to gain body weight, blood test indices improved (haemoglobin concentration 118 g/l, total protein 60 g/l, albumins 36 g/l, prothrombin activity 78 percent). After 6 months, small intestine biopsy was repeated and a histological improvement was noted as a lower density of intra-epithelial lymphocytes, as well as partial atrophy of intestinal villi, *i.e*. restoration of intestinal villi architecture (Fig. 2).

Case No. 2. A female aged 44 years addressed for consultation. From 10 years of age she had periodically suffered from loose, foamy faeces with unpleasant smell, abdominal inflations and aching pains, tiredness without evident causes, low arterial blood pressure, dismenorrhoea, miscarriage and low birth weight baby in the anamnesis. During the last few years, hypochromic microcytic anaemia of obscure aetiology was noted. Blood test results: haemoglobin concentration 95 g/l, erythrocyte count 4.7×10^{12}, MCV 67 fl, MCH 20 pg, total protein 65 g/l, albumins 33 g/l, serum iron 11 mkmol/l, prothrombin activity 45 percent. Serological tests were positive for anti-gliadine and anti-tissue transglutaminase antibodies. Peroral aspiration biopsy of mucous lining of small intestine revealed an increased density of intra-epithelial lymphocytes and a partial atrophy of intestinal villi. Strict aglutenic diet, vitamins and microelements were prescribed. After six months a marked clinical improvement was noted (all above-mentioned complaints disappeared), and a repeated biopsy revealed the normal architecture of villi and crypts, but a slightly increased density of intraepithelial lymphocytes.

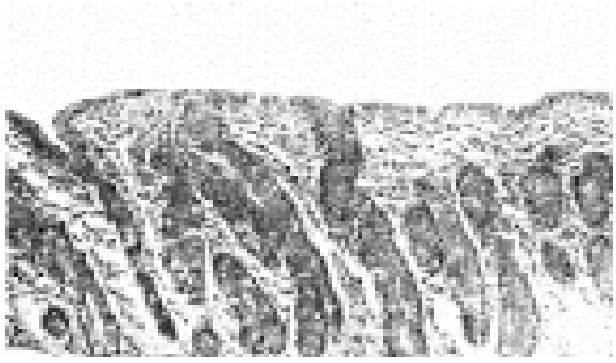

Fig. 1. Complete atrophy of intestinal villi and increased density of intra-epithelial lymphocytes

Fig. 2. Partial atrophy of intestinal villi

DISCUSSION AND CONCLUSIONS

Incidence of glutenic enteropathy in general European population recently has significantly increased.

Thus it is possible to assume that in Lithuania this enteropathy is not rare as well, but not diagnosed and seldom considered in case of gastrointestinal and extra-intestinal symptoms of obscure aetiology. Recently, glutenic enteropathy has been more frequently diagnosed for older patients and starts with atypical symptoms (anaemia, dementia, neuropathy, arthralgy, dental enamel defects, spinocerebellar syndrome, etc.) (8). The active form of the disease comprises only a very small part of all cases of glutenic enteropathy. Thus, in suspected cases it is recommended to perform serological tests and, if the results are positive, to conduct morphological examination of bioptate from the mucous lining of the small intestine. Early diagnosis and treatment of not only the active form of glutenic enteropathies, but also of its subclinical forms is very important, as these patients are under higher risks of late complications (anaemia, osteoporosis, malignant tumours, especially intestinal lymphoma of T-cells) (9). Glutenic enteropathy should be differentiated from other infectious and non-infectious diarrhoeas. As the above-discussed cases demonstrate, the symptoms can occur gradually. The disease is treated successfully with aglutenic diet and vitamin and microelement substitution. Glucocorticoid therapy is advised in especially severe cases.

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SUAUGUSIŲJŲ GLIUTENINĖ ENTEROPATIJA LIETUVOJE (KLINIKINIS ATVEJIS)

S a n t r a u k a

Lietuvoje suaugusiųjų gliuteninės enteropatijos epidemiologiniai ir klinikiniai ypatumai pradėti tyrinėti neseniai, įdiegus plonųjų žarnų peroralinę aspiracinę biopsiją ir serologinius testus Vilniaus universiteto propedeutikos ir slaugos studijų centro laboratorijoje ir M. Marcinkevičiaus ligoninėje Vilniuje. Pastaruoju metu gliuteninė enteropatija gerokai išplito Europos bendrojoje populiacijoje. Taigi galima daryti prielaidą, kad ir Lietuvoje ši enteropatija nėra reta, tik nediagnozuojama arba apie ją retai pagalvojama esant neiaiškios etiologijos gastrointestiniams ar ekstraintestiniams simptomams. Aktyvi ligos forma sudaro tik labia mažą visų gliuteninės enteropatijos atvejų dalį. Įtariant šią ligą reikėtų atlikti serologinius testus, o gavus teigiamus rezultatus atlikti ir plonosios žarnos gleivinės bioptato morfologinį tyrimą. Liga sėkmingai gydoma begliutene dieta, vitaminais bei mikroelementais. Ypač sunkias ligos formas tikslinga gydyti gliukokortikoidais.

Raktažodžiai: suaugusiųjų gliuteninė enteropatija, epidemiologiniai tyrimai, klinikiniai ypatumai, Lietuva