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Case report / Приказ болесника

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Recurrent aphthous stomatitis as the only clinical sign of celiac disease in obese adolescent – case report and literature review

Рекурентни афтозни стоматитис као једини клинички знак целијачне болести код обезног адолесцента – приказ болесника и преглед литературе

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SUMMARY

Introduction Recurrent aphthous stomatitis (RAS) is a relatively common oral mucosal lesion of unclear etiology. It occurs in otherwise healthy people, but also in various infectious and non-infectious diseases, including celiac disease (CD). We present an obese adolescent with RAS as the only clinical sign of CD.

Case outline Adolescent aged 15 2/12 years come with very pronounced RAS in the last 5 months. He had no other difficulties. Obese from the age of 12. Other data without peculiarities. On admission, 165 cm tall (P25), obese (BMI 27 kg/m²), in the final stage of puberty, with stretch marks in the distal areas of the abdomen, thighs and gluteus and very pronounced pain-sensitive aphthae in the buccal and labial mucosa accompanied by swelling of the lips and perioral region. Except for lower serum iron levels (8 µmol/l), routine laboratory blood tests were within the reference range. The serological test for CD was positive (antibodies to tissue transglutaminase IgA 78.5 U/ml, anti-endomysial antibodies IgA positive). Endoscopy revealed reflux esophagitis, without any other pathological findings. Stereomicroscopic and pathohistological analysis of the duodenal mucosa samples showed mild destructive enteropathy (Marsh IIIa). Pathohistological examination of the gastric mucosa revealed grade I-II lymphocytic gastritis. The urease test for *Helicobacter pylori* was negative. A gluten-free diet resulted in the withdrawal of aphthous stomatitis and no recurrence later.

Conclusion Within the differential-diagnostic analysis of the RAS causes CB should be considered as well. Additionally, obesity does not exclude the presence of the CB.

Keywords: recurrent aphthous stomatitis, celiac disease, obesity

САЖЕТАК

Увод Рекурентни афтозни стоматитис (РАС) представља релативно честу оралну мукозну лезију нејасне етиологије. Јавља се код иначе здравих особа, али и у склопу различитих инфективних и неинфективних обољења укључујући и целијачну болест (ЦБ). Приказујемо обезног адолесцента са РАС као јединим клиничким знаком ЦБ.

Приказ болесника Адолесцент узраста 15 2/12 година долази са веома израженим РАС задњих пет месеци. Друге сметње није имао. Гојазан од 12. године. Остали подаци без особености. На пријему висок 165 цм (П25), гојазан (БМИ 27 kg/m²), у завршној фази пубертета, са стријама у подручју дисталних подручја абдомена, бутина и глутеуса и веома израженим болно осетљивим афтама у подручју букалне и лабијалне слузокоже праћеним отоком усана и периоралног региона. Сем нижег нивоа серумског гвожђа (8 µmol/l), рутинске лабораторијске анализе крви су биле у референтном оквиру. Серолошки тест на ЦБ је био позитиван (антитела на ткивну трансглутаминазу IgA 78,5 U/ml, антиендомијумска антитела IgA класе позитивна).

Ендоскопијом је констатован рефлукс езофагитис, без другог патолошког налаза. Стереомикроскопска и патохистолошка анализа узорака слузокоже дуоденума је показала лакшу деструктивну ентеропатију (*Marsh IIIa*). Патохистолошким прегледом слузокоже желуца установљен је лимфоцитни гастритис I-II степена. Уреаза тест на *Helicobacter pylori* је био негативан. Дијета без глутена резултирала је повлачењем афтозног стоматитиса и без рецидива у каснијем току.

Закључак У оквиру дифенцијално-дијагностичког разматрања узрока РАС треба узети у обзир и ЦБ. Додатно, гојазност не искључује присуство ЦБ.

Кључне речи: рекурентни афтозни стоматитис, целијачна болест, обезитет

INTRODUCTION

Recurrent aphthous stomatitis (RAS) is a relatively common oral mucosal lesion [1-5]. It occurs in children as well as in adults and the elderly [1, 2]. The most common age of onset is the second and third decade of life, becoming less common with advancing age [1]. It is slightly more common in females than in males [3]. In the United States, it is found in 0.89 to 1.64% of the general population, and in some countries even more often [1]. The cause of RAS is not clear [1, 3]. It is seen in otherwise healthy people, but also in various infectious

and non-infectious diseases, including celiac disease (CD) [1, 6-15]. In addition, RAS is associated with genetic predisposition, iron and vitamin B12 deficiency, local mechanical injuries, stress, and hormonal imbalance [16, 17, 18]. We present an obese adolescent with RAS as the only clinical manifestation that indicated a CD.

CASE REPORT

A boy aged 15 2/12 years referred for examination and treatment due to very pronounced RAS in the last 5 months (Figure 1 and 2). He had no other difficulties. Oral aphthous eruptions were not associated with infection, local trauma, stress, or any other factor. Personal and family history in terms of allergic diathesis is negative. Standard local therapeutic measures did not give the desired effect. From the age of 12, he began to gain weight. Also, he complained of occasional episodes of postprandial heartburn. Other data from personal and family history without peculiarities. On admission, 165 cm tall (P25), obese (BMI 27 kg/m²), in the final stage of puberty, with stretch marks in the distal areas of the abdomen, thighs and gluteus and very pronounced pain-sensitive aphthae in the buccal and labial mucosa accompanied by swelling of the lips and perioral region. Erythrocyte sedimentation rate, C-reactive protein, blood count, bilirubin, SGPT, SGOT, creatinine, lipid profile, creatinine and other laboratory analyzes, except lower serum iron levels (8 µmol/l), were within the reference range. IgA antibodies to tissue transglutaminase (AtTG) were elevated (78.5 U/ml) and anti-endomysial antibodies IgA positive.

Esophagogastroduodenoscopy revealed reflux esophagitis, without any other pathological findings. Stereomicroscopic and pathohistological analysis of the duodenal mucosal samples showed mild destructive enteropathy (Marsh IIIa) (Figure 2). Pathohistological examination of the gastric mucosa revealed grade I-II lymphocytic gastritis. The urease test for *Helicobacter pylori* was negative. A gluten-free diet resulted in the

withdrawal of aphthous stomatitis and no recurrence later. In addition, he received instructions related to the correction of diet and the inclusion of appropriate physical activity in order to normalize body weight. At the control examination after 3 months, normal values of serum iron and ferritin were registered, and after 6 months and AtTG. The degree of obesity, however, remained unchanged.

DISCUSSION

CD is systemic autoimmune diseases induced by gluten and related prolamins of wheat, rye and barley [19]. It occurs as a result of a polygenic predisposition in a set of HLA DQ2 and HLA DQ8 genes that play a central role [19]. Although present in all population groups, the most common is in the white population (~1%) [20]. A basis of the disease and the key finding in its diagnostics is symptomatic or asymptomatic gluten-sensitive enteropathy, a nonspecific inflammation of the small intestinal mucosa that disappears on a gluten-free diet [19]. In addition to enteropathy, the disease is also characterized by a full spectrum of extraintestinal manifestations, including RAS [19, 21-25]. What makes our patient unusual is the fact that RAS was the only sign to indicate CD. In addition, he was obese, which is also atypical for CDs [19]. According to the data obtained from the father and the boy himself, the eruptions to the standard local therapy-resistant 5-month RAS were not related to intercurrent infections, local mechanical injuries, and stressful situations [10, 13, 14, 16]. Also, he did not show a tendency to allergic manifestations [13]. Having in mind this fact, regardless of the boy's obesity, serological screening was performed on CD. Since AtTG IgA were elevated (78.5 U/ml) and anti-endomysial antibodies IgA positive, in accordance with the criteria of the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition for the diagnosis of CD, enterobiopsy was performed [19]. The morphological appearance of the small intestinal mucosa, both stereomicroscopically and pathohistologically, was consistent

with the diagnosis of CD. A gluten-free diet resulted in complete withdrawal of RAS, as found by other authors [26, 27]. In the further course with a strict gluten-free diet, he did not have recurrences of aphthous stomatitis. At the control examination after 3 months, normal values of serum iron and ferritin were registered, and after 6 months AtTG as well.

In conclusion, the combination of RAS and obesity in clinical presentation with CD is extremely rare. Hence, referring of our experience, CD should be kept in mind, even in obese patients, as a cause of RAS.

Ethical standards: Written consent for the publication of this article was obtained from the patient's parents.

Conflict of interest: None declared.

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Figure 1. Deep aphthous change treated with gentian violet



Figure 2. Our patient with stereomicroscopic (top) and pathohistological (bottom) appearance of the small intestinal mucosa