EVALUATION OF CELIAC DISEASE IN CHILDREN WITH HENOCH SCHOENLEIN PURPURA

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Background

IgA and IgG antibodies against gliadin, endomysium and transglutaminase were increased in celiac disease (CD) (1). Seropositivity for CD in Turkish school children is 2.5 percent (2).

Latent CD is characterized by positive antibodies, normal intestinal histology and absent symptoms/signs. However, in one third of these patients villous atrophy of the intestines develop at follow up. Complications of CD may develop in latent CD and these complications may be prevented by gluten-free diet (3).

Screening for CD is recommended in children with positive family history for CD and in children with conditions associated with CD (autoimmune diseases, selective IgA deficiency; Down, Turner and Williams syndromes) (3).

Henoch Schoenlein purpura (HSP) is thought to be associated with infectious agents or food antigens (4). Forty percent of the patients develop IgA nephropathy (IgAN).

CD is associated with IgA mediated skin diseases and IgAN (5,6). Although HSP is an IgA mediated skin/kidney disease, presence of CD has not been evaluated in patients with HSP.

Patients and Methods

Children >3 years of age with HSP who are being followed up in Pediatric Nephrology Outpatient Clinic of Dokuz Eylul University Medical Faculty were enrolled in the study (7).

Patient files were evaluated for age, gender, anthropometric development, serum IgA, creatinine, albumin and complete blood count. Anti-tissue transglutaminase IgA (ELISA), anti-endomysium IgA (IFAT), anti-gliadin (GAF3X, deaminated) IgA (IFAT) ve anti-gliadin (GAF3X, deaminated) IgG (ELISA) antibody titers were determined in all patients. Endoscopic examination and intestinal biopsy were performed in seropositive patients.

CD rate in HSP patients was compared with CD frequency in Turkish school children by significance test for the difference between two percentages.

Results

42 patients were enrolled in the study. Demographic features of the patients are seen in Table 1.

There were only 2 patients below -2 SDS for height and weight; these patients were seronegative for CD.

None of the patients had azotemia, anemia or hypoalbuminemia.

Serum IgA levels and CD serology test results are seen in Table 2.

Endoscopic evaluation was performed in 3 patients with positive CD serology; one of them was proved to have CD.

CD serolopositivity rate among children with HSP was found to be higher than healthy Turkish school children ($p<0.001$, OR 5.5, RR 5.0).

Table 1: Demographic features of the patients.

Gender • Boys / Girls	25 (60%) / 17 (40%)
Present age (month)	126 ± 49
Age at diagnosis (month)	94 ± 39
Height SDS	0.6 ± 1.3
Weight SDS	0.6 ± 1.2
BMI SDS	0.4 ± 1.2
Growth failure	2 (5%)

Table 2: Serum IgA levels and celiac disease serology of the patients.

Serum IgA (mg/dL)	201 ± 111
IgA deficiency	0
anti-tissue transglutaminase IgA	4 (10%)
anti-endomysium IgA	2 (5%)
anti-gliadin IgA	1 (2.5%)
anti-gliadin IgG	1 (2.5%)
General serology	5 (12%)

Discussion

CD has been associated with IgA mediated skin (dermatitis herpetiformis etc) and systemic (IgAN) diseases (5,6).

It has been stated that rectal mucosal sensitivity for gluten and subclinic inflammation in patients with IgAN could be responsiible from the pathogenesis (5).

There are many indirect evidence pointing to a close association between HSP and IgAN: development of HSP and IgAN in monozygotic twins, development of HSP in patients with IgAN, presence of similar IgA immune system abnormalities (like IgA1 O-glycoform abnormalitiy) (8).

There are only two case reports describing the association of HSP and CD (6,9). However, CD has not been evaluated systematically in HSP patients.

In this study, seropositivity rate for CD is found to be 12%, and this rate is significantly higher than the rate in helathy children. Although the patient number is small, this result underlies the possible benefit of CD screening in HSP patients.

Kaynaklar

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