DOI: 10.5350/SEMB.20160401050829

Is It a Two Variable Equations?: A Rare Association of Familial Mediterranean Fever and Celiac Disease

Yasin Sahin[1], Halil Kocamaz[2], Evrim Ozen[3]

ABSTRACT:

Is it a two variable equations?: a rare association of familial mediterranean fever and celiac disease

Objective: We present a 15-year-old male patient with a diagnosis of Familial Mediterranean Fever followed up for 6 years, then diagnosed with also Celiac disease.

Case: The patient with Familial Mediterranean Fever (FMF) was admitted to the pediatric emergency unit many times in the last month with the complaint of recurrent widespread and epigastric pain. Acute phase reactants were in normal range in nearly half of his admissions. Since he had a family history of Celiac disease, at the age of 10, he was referred for Celiac disease serology exmination, but the result was normal. Due to the presence of severe epigastric tenderness and pain at the last visit, gastroduodenoscopy was performed and multiple biopsies were obtained. After gastroduodenoscopy procedure, tissue transglutaminase (tTG) antibody IgA level was reanalysed and the result was >300 U/ml. The pathology result was also consistent with Celiac disease.

Conclusion: The diagnosis of Celiac disease is difficult in patients with FMF because both of them have similar clinical symptoms. Even if previous screening is negative for Celiac disease as in this case, Celiac disease should be considered as it may cause delay in diagnosis, particularly in patients with Familial Mediterranean Fever who have similar symptoms and a positive family history for celiac disease.

Keywords: Abdominal pain, celiac disease, child, familial mediterranean fever

ÖZET:

İki bilinmeyenli denklem mi? ailevi akdeniz ateşi ve çölyak hastalığı nadir birlikteliği

Amaç: Ailesel Akdeniz Ateşi (AAA) tanısı ile 6 yıldır takip edilen ve sonrasında Çölyak hastalığı tanısı da alan 15 yaşında erkek bir olguyu sunmak istedik.

Olgu: AAA tanısı olan hasta son 1 aydır tekrarlayan yaygın ve epigastrik karın ağrısı yakınmalarıyla defalarca kez çocuk acile başvurmuştu. Başvuruların yaklaşık olarak yarısında akut faz belirteçleri normal saptanmıştı. Ailesinde Çölyak hastalığı öyküsü olduğu için, 10 yaşında iken hastaya çölyak hastalığı serolojisi bakılmış, ancak sonucu normal tespit edilmişti. Son başvurusunda şiddetli epigastrik ağrı ve hassasiyetin olması üzerine hastaya gastroduodenoskopi yapılarak çok sayıda biyopsi alındı. Gastroduodenoskopi sonrası tekrar bakılan doku transglutaminaz antikoru IgA düzeyi > 300 U/ml saptandı. Patolojisi ise Çölyak hastalığı ile uyumlu idi.

Sonuç: Benzer klinik bulgulara sahip olduğu için AAA tanılı hastalarda Çölyak hastalığı tanısı konulması güçleşmektedir. Bu olgu nedeniyle bu tip semptomları olan AAA hastalarında daha önceden Çölyak hastalığı yönünden tetkik edilse bile özellikle aile öyküsü de varsa hastamızda da olduğu gibi tanı gecikmesine neden olabileceği için Çölyak hastalığı düşünülmelidir.

Anahtar kelimeler: Karın ağrısı, çölyak hastalığı, çocuk, ailesel akdeniz ateşi

Ş.E.E.A.H. Tıp Bülteni 2017;51(3):252-4

[1]Istanbul University, Cerrahpasa Medical Faculty, Department of Pediatric Gastroenterology, Hepatology and Nutrition, Istanbul - Turkey
[2]Pamukkale University, Faculty of Medicine, Child Gastroenterology, Hepatology and Nutrition Department, Denizli - Turkey
[3]Gaziantep University, Faculty of Medicine, Department of Child Health and Diseases, Gaziantep - Turkey

Address reprint requests to / Yazışma Adresi:
Yasin Sahin,
Istanbul University, Cerrahpasa Medical Faculty, Department of Pediatric Gastroenterology, Hepatology and Nutrition, Istanbul - Turkey

E-mail / E-posta:
ysahin977@gmail.com

Date of receipt / Geliş tarihi:
February 2, 2016 / 2 Şubat 2016

Date of acceptance / Kabul tarihi:
April 1, 2016 / 1 Nisan 2016

INTRODUCTION

FMF (Familial Mediterranean Fever) is an autosomal recessive, autoimmune, inflammatory and persistent disease characterized by recurrent fever, severe abdominal pain, polyserositis and arthritis attacks. It affects ethnic groups in the Eastern Mediterranean region, mainly Turks, Jews, Armenians and Arabs (1).

Celiac disease is an immunologically mediated systemic disease characterized by intestinal villus damage, which is triggered by gluten uptake in genetically susceptible individuals, where different clinical manifestations coexist (2).

Some findings such as diarrhea, abdominal pain, arthralgia, and arthritis seen during the course of Celiac disease can also be seen in FMF cases (3). This similarity in clinical findings makes it difficult to detect Celiac disease in FMF patients.

We present a 15-year-old male patient who was being followed up with FMF diagnosis for a long period of time, and a history of widespread epigastric pain for the last 1 month, and diagnosed with Celiac disease.

As seen in our case, even if it has been examined beforehand in FMF patients with this type of complaints, Celiac disease should be considered especially if a family story is present.

CASE

A 15-year-old male patient who was diagnosed with FMF and followed for the last 6 years admitted for many times to the pediatric emergency unit in the last 1 month with epigastric and widespread abdominal pain. Acute phase reactants which were examined due to the presence of FMF, were detected as normal in approximately half of the applications. The patient who was using 2 mg/day of colchicine for FMF diagnosis did not have any abnormal findings except for epigastric tenderness. The patient with no developmental delay had a height of 172 cm (60^{th} percentile) and a body weight of 56 kg (50^{th} percentile). FMF gene analysis revealed heterozygous V726A mutation. In laboratory analysis tha values were as follows: Wbc: 4900/mm^3, Hb: 12.9 gr/dL, MCV: 83, Plt: 184000/mm^3. The acute phase reactants were negative (CRP: 0.3 mg/dL, erythrocyte sedimentation rate: 10 mm/h). Since our patient had a brother with Celiac disease, we were informed that at age 10, his tissue transglutaminase (tTG) antibody level was examined and the result was normal. The patient underwent upper gastrointestinal endoscopy due to epigastric tenderness and recurrent severe abdominal pain. Recognizing that the duodenal mucosa was in a cracked soil appearance, a large number of biopsy specimens were taken. After endoscopy, the anti-tTG IgA level was again requested and was found above 300 U/ml (reference range: 0-20 U/ml). Histopathological findings were consistent with Marsh type 3b findings. A gluten-free diet was initiated in the patient with HLA-DQ2 positivity consistent with Celiac disease at the tissue typing. At the first-month outpatient clinic control, it was learned that the abdominal pain of the patient abated and during this period there was no emergency service application. At the follow-up examination following four months, it was found that the tTG antibody level of the patient, with no abdominal pain attack and full compliance to gluten-free diet, decreased to 49 U/ml.

DISCUSSION

Celiac disease can manifest itself with gastrointestinal complaints such as diarrhea, steatore, weight loss, abdominal pain, as well as non-gastrointestinal findings including iron deficiency anemia, liver disease, bone disease and skin disorders (4). FMF is a persistent, inherited inflammatory disease characterized by recurrent fever, abdominal pain and arthritis attacks.

FMF and Celiac disease have some common clinical findings such as diarrhea, abdominal pain, arthralgia and arthritis (3). Since the clinical findings are similar, the patients with FMF diagnosis are thought to have these findings belonging to the primary disease, as in our patient, which leads to delayed diagnosis.

In the literature, some cases with the coexistence of FMF and Celiac disease have been reported (5-7). In a study conducted in our country, EMA positivity

was detected to be 2.7% in children with chronic abdominal pain and this value was higher from the normal population (8). For this reason, it has been suggested that children with chronic abdominal pain should be screened for Celiac disease. Also, since both diseases are common in our society, this association can also be a coincidence.

In another study conducted in children and adolescents, it was reported that classical Celiac disease symptoms were seen in less than 75% of patients, 60% of the cases applied to 3 or more physicians before the correct diagnosis, and the first most common diagnosis was gastroenteritis and food allergy (9).

Consistent with the literature, there was a history of admission to the pediatric emergency unit with abdominal pain complaints for about 15 times before the case was diagnosed with Celiac disease. The delayed diagnosis of Celiac disease accompanying our case was connected to the diagnosis of FMF, because the complaints in the emergency room were evaluated as an attack of FMF and also to the detection of tTG antibodies to be at normal levels in family screening for Celiac disease 5 years ago. Celiac disease was not considered because tTG antibodies were normal. However, gastroduodenoscopy was performed at the last admission, because the complaint of epigastric pain was evident, and small intestinal biopsies were obtained. Celiac disease was diagnosed by detecting villus atrophy in his pathology. In addition, tTG antibody IgA level and HLA-DQ2 positivity recognized in the tests were also supportive.

In a study investigating the prevalence of Celiac disease on 50 patients with FMF diagnosis by Kuloğlu et al. (10), no patient with Celiac disease was detected and no association between FMF and Celiac disease was suggested.

Similar to our patient, Yılmaz et al. (7) reported a case, who was diagnosed with FMF at the age of 12, then with Celiac disease at the age of 23, following complaints of weight loss and severe diarrhea for the last 5 months.

As a result, accompanying Celiac disease should be considered if there is frequent episodes of abdominal pain, and especially family history in cases with FMF diagnosis.

REFERENCES

1. *Onen F. Familial Mediterranean fever. Rheumatol Int 2006; 26: 489-96.* **[CrossRef]**
2. *Husby S, Koletzko S, Korponay-Szabo IR, Mearin ML, Phillips A, Shamir R, et al. ESPGHAN guidelines for the diagnosis celiac disease in children and adolescents: an evidence-based approach. JPGN 2012; 54: 136-60.*
3. *Mor A, Gal R, Livneh A. Abdominal and digestive system associations of familial Mediterranean fever. Am J Gastroenterol 2003; 98: 2594-604.* **[CrossRef]**
4. *Rubio-Tapia A, Hill ID, Kelly CP, Calderwood AH, Murray JA. American College of Gastroenterology. ACG clinical guidelines: diagnosis and management of celiac disease. Am J Gastroenterol 2013; 108: 656-76.* **[CrossRef]**
5. *Baş F, Kabataş-Eryilmaz S, Günöz H, Darendeliler F, Aydın B, Bundak R. Type 1 diabetes mellitus associated with autoimmune thyroid disease, celiac disease and familial Mediterranean fever: case report. Turk J Pediatr 2009; 51: 183-6.*
6. *Kuloğlu Z, Kansu A, Tutar E, Yalçınkaya F, Ensari A, Girgin N. Association of familial Mediterranean fever and celiac disease in a 14-year-old girl with recurrent arthritis. Clin Exp Rheumatol 2008; 26 (4Suppl 50): S131.*
7. *Yilmaz Y, Baran B, Seniz NB, Dolar E. Familial Mediterranean Fever coexisting with celiac disease: is there a link with long-term colchicine treatment? J Gastrointestin Liver Dis 2009; 18: 119-20.*
8. *Saltik IN, Koçak N, Yüce A, Gürakan F. Celiac disease screening of Turkish children with recurrent abdominal pain. J Pediatr Gastroenterol Nutr 2002; 34: 424.* **[CrossRef]**
9. *Davidson AG, Hassall EG. Screening for celiac disease. CMAJ 1997 ; 157: 547-8.*
10. *Kuloğlu Z, Ozçakar ZB, Kirsaçlioğlu C, Yüksel S, Kansu A, Girgin N, et al. Is there an association between familial Mediterranean fever and celiac disease? Clin Rheumatol 2008; 27: 1135-9.* **[CrossRef]**