Eosinophilic Gastroenteritis: An Unusual Cause of Ascites in an Adolescent Patient

Eozinofilik Gastroenterit: Adölesan Bir Hastada Nadir Görülen Bir Assit Nedeni

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Abstract

Eosinophilic gastroenteritis (EGE) is a rare disorder and eosinophilic infiltration of the gastrointestinal tract is characteristic for it. Eosinophilic ascites may seen in lymphoma, eosinophilic gastroenteritis, peritoneal dialysis, and parasitic infections too. Rarest type is the serosal type characterized by primary serosal disease, peripheral eosinophilia and eosinophilic ascites. Here we report a case of serosal EGE. We have discussed clinical cornerstones for diagnosis and response to treatment.

A male patient age of 16 presented to the clinic with complaints of self-limiting diarrhea which stop within three weeks and abdominal distension. In physical examination tachypnea, orthopnea and marked abdominal distension were seen. In laboratory tests significant eosinophilia in blood and abdominal fluid were seen. Therapy with corticosteroids resulted in resolution of both the gastrointestinal symptoms and the ascites without hesitation. He had not any complaint during four months follow-up; ascites regressed and examination was normal.

EGE is a rare disorder and it should be flashed in patients who presented with unexplained ascites. Since diagnosis of EGE is a diagnosis of exclusion and, apart from malignancies, there are many other secondary causes of eosinophilic intestinal infiltration that must be excluded.

Key Words: Eosinophilic gastroenteritis, ascites, corticosteroids, adolescent patient

Öz

Eozinofilik Gastroenterit (EGE) gastrointestinal sistemin infiltrasyonu ile karakterize nadir bir bozukluktur. Eozinofilik asit ise lenfoma, EGE, periton diyalizi ve paraziter enfeksiyonlarla birliktelik gösterebilir. Serozal tip en nadir tip olup, primer seroza hastalığı, eozinofilik asit ve periferik eozinofili ile karakterizedir. Biz burada, tipik tanısal özellikleri ve tedavi cevabı ile birlikte bir serozal tip EGE vakasını sunduk.

On altı yaşında erkek hasta kliniğe karında şişlik ve üç hafta önce başlayıp kendi kendine gerileyen ishal şikâyeti ile başvurdu. Fizik muayenede ortopne, takipne ve belirgin abdominal distansiyon görüldü. Laboratuvar testlerinde belirgin periferal eozinofili ve abdominal sıvıda eozinofil sayısında artış saptandı. Hastaya toplamda altı hafta boyunca steroid tedavisi verildi ve sonuçta gastrointestinal semptomların ve asitin tamamen geçtiği görüldü.

Eozinofilik gastroenterit nadir bir bozukluk olmakla birlikte açıklanamayan asit varlığında akılda tutulmalıdır. Eozinofilik gastroenterit, özellikle primer malinitelerde bir dışlama tanısı olmakla birlikte, intestinal infiltrasyona sebep olan birçok sekonder neden de bulunmakta ve tanı için bunların da dışlanması gerekmektedir.

Anahtar Kelimeler: Eozinofilik gastroenterit, asit, kortikosteroidler, adolesan hasta

INTRODUCTION

Eosinophilic ascites is an uncommon trouble and may be seen in eosinophilic gastroenteritis, lymphoma, peritoneal dialysis and parasitic infections. Eosinophilic ascites is likely the most atypical presentation of eosinophilic gastroenteritis (EGE) and is usually seen in the serosal type of EGE. EGE is also a rare disorder which has specific findings like blood and tissue eosinophilia, in the absence of known causes. It presents with nonspecific symptoms like diarrhea, nausea and abdominal pain. Rarest type is the serosal type characterized by primary serosal disease, peripheral eosinophilia and eosinophilic ascites (1-3).

We document a case of EGE with hallmarks of the serosal type, presented with ascites.

CASE REPORT

A male patient age of 16 presented to the clinic with complaints of self-limiting diarrhea which

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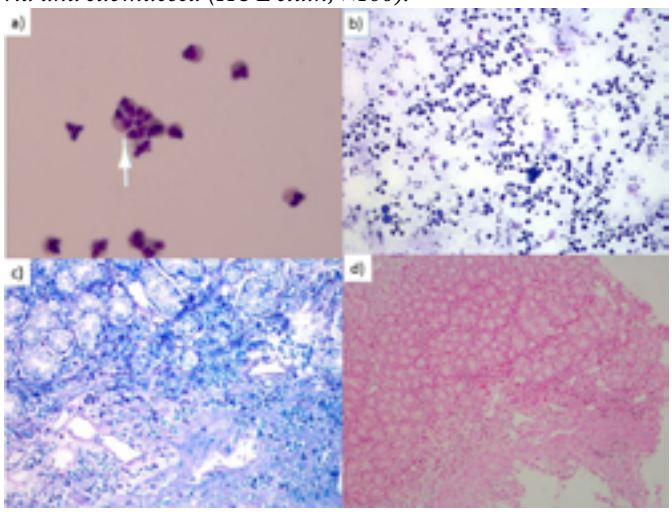
stop within three weeks and abdominal distension. There isn't any allergy or inflammatory bowel disease symptom that could be associated with eosinophilic intestinal infiltration or ascites in his past medical and family history. Physical examination major findings were tachypnea, orthopnea and massive distention in the abdomen. Pallor, jaundice or peripheral edema evidences were not seen. Abdominal ultrasonography proved massive ascites, and liver or renal disease's signs or portal hypertension were not seen. Contrast-enhanced abdominal computed tomography supported the presence of free peritoneal fluid. Laboratory examination showed eosinophilic leukocytosis in peripheral blood with 60% eosinophils (total leukocyte count 16680 cells/mm3). Liver function tests were within normal values. In stool examination there were no evidence for ova, bacteria and parasites. IgE levels, erythrocyte sedimentation rate and C-reactive protein were normal. Paracentesis material was evaluated with direct microscopy and eosinophilia was seen. A PPD test was made for exposure of tuberculosis bacillus and its result was negative. Adenosine De Aminase result was also negative. Cultures from the fluid made for possible pathogens also evaluated as negative. Salmonella and Brucella examinations seen as negative. Echocardiographic findings were normal. Diagnostic paracentesis material was moderately cellular, 70% eosinophils was seen and negative for malignant cells. It was also sterile (Figure 1). Upper endoscopy demonstrated mild hiatal hernia, diffuse pangastritis, bulbitis and eosinophilic gastritis (Figure 2). Bone marrow aspiration and biopsy showed normocellularity with a marked increase in mature eosinophils without blasts.

Figure 1: a) Diagnostic paracentesis demonstrates ascitic fluid rich in eosinophils (May Grunwald Giemsa, x100). b) Eosinophils were remarkably increased in the ascites (Giemsa, x 200). c) Eosinophilic cells in the ascites fluid of the patient (Giemsa, x 200). d) Endoscopic biopsy of gastric mucosa demonstrated eosinophilic infiltration with inflammatory cells in the lamina propria and submucosa (H&E stain, ×100).



For possibility of peritonitis, antibiotherapy of ceftriaxone and metronidazole has begun.

After the following two days from diagnostic paracentesis patient complain about tachypnea and orthopnea again. Another paracentesis was made for the patient's clinical state and about 2 L fluid was drained off. After that his complaints was regressed.

The findings confirmed a diagnosis of serosal EGE. The patient was treated with IV prednisone 40 mg daily with rapid symptomatic improvement and normalization of the eosinophilia within a 5 day after initiation of steroid therapy. In last complete blood count evaluation of patient shows 0,1% eosinophils. It was confirmed with the direct microscopy. At the 8. day of steroid therapy, prednisone dose decreased to 30 mg daily. Steroid treatment to be completed in six weeks in total was applied to the patient. The patient responded very well to this therapy and was therefore discharged. Four months later, a follow-up ultrasound of the abdomen demonstrated virtually complete resolution of his intra-abdominal fluid. He gave up the treatment and is doing well at the time this letter was composed.

DISCUSSION

We reported a case of eosinophilic gastroenteritis that presented with ascites, after took the consent of patient for publication. Eosinophilic gastroenteritis is an uncommon disease. Although its rarity, it has been reported in pediatric patients of all ages. It may occur in both sexes but males are affected a little bit higher frequency. Eosinophilic gastroenteritis' (EGE) origin is unknown. In its etiology food allergy and immunological abnormalities have been speculated. The diagnosis of EGE is difficult due to its various form of clinical presentations, and it requires a high index of clinical suspicion. EGE should be included in differential diagnosis in patients with peripheral eosinophilia, present with gastrointestinal symptoms, because eosinophilia is observed at peripheral blood in 30% to 80% of the cases. Three layers of gastrointestinal tract may be affected concurrently. Mucosal disorder usually presents with protein-losing enteropathy, mucosal bleeding, and/or malabsorption. The serosal type mostly presents with eosinophilic ascites and peritonitis (1, 4, 5).

The incidence of the predominant serosal type was the lowest. Our case was admitted with abdominal swelling, and ascites was detected in physical examination and abdominal ultrasonography. When ascites is sampled in patients with eosinophilic gastroenteritis, a fluid content of exudative form with considerably high eosinophil count is usually present. The diagnosis of serosal type EGE is still difficult. Because it is uncommonly seen and has non-specific clinical features to evoke this disorder. Clinical features mostly seen in serosal type EGE include abdominal distension (38.1%), diarrhea (52.3%), nausea and vomiting (57.1%) and abdominal pain (90.4%). In the diagnostic assesment of patients with abdominal pain, ascites and peripheral hypereosinophilia, the physician should effort a high index of clinical suspicion. The hallmark of diagnosis of serosal EGE is approvement of peripheral eosinophilia and eosinophil rich ascitic fluid on diagnostic paracentesis (5).

Parasitic infections (Toxocara Canis, Strongyloides Stercoralis), tuberculosis, peritoneal dialysis, hydatid

cyst rupture, chronic pancreatitis, hypereosinophilic syndrome, bacterial peritone infections, malignancies (ovarian cancer, Hodgkin lymphoma, peritoneal carcinomatosis), Churg-Strauss Disease and inflammatory bowel disease like Crohn's disease should be kept in mind for differential diagnosis (3, 6-8). In our case we evaluated patient for malignancy, allergic diseases, parasitic infections, collagen tissue disorders and tuberculosis and neither of them has been detected.

Systemic corticosteroids are the cornerstone of therapy and fix symptoms and endoscopic lesions dramatically in the majority of patients. In most serosal type of EGE patients, rapid steroid response is probable. Generally, a prednisone maintenance dose is needed to keep patient's symptoms well in hand. When a divided dose of prednisone was given to patients in 20-40 mg daily, it is highly effective for symptomatic remission in 80% of patients within a week. Eosinophil counts returns to normal within two weeks after beginning of therapy (3, 6-8). Other treatment choices like leukotriene receptor antagonists, antihistamines, anti-interleukin, immunosuppressants or cell inhibitors may also be considered instead of steroids (8). Enteric coated capsules of budesonide and sodium cromoglicate which is a mast cell membrane stabilizer, have been also used successfully for some atopic EGE cases (2-4). In our case we started the steroid therapy dosage 40 mg/day and peripheral eosinophilia and ascites resolved dramatically in eight days.

In conclusion, EGE is a heterogeneous condition with several type presentations; therefore high index of suspicion is necessary for diagnosis. Eosinophilic Ascites is a rare presentation of EGE and should be kept in mind when assessing a young patient with stubborn gastrointestinal symptoms, eosinophilia and ascites in the absence of liver disease. Endoscopic examination of gastrointestinal tract is a main way which may carry the physician to the diagnosis and should be performed in suspicion of EGE. Existence of ascitic fluid eosinophilia and a noticeable answer to steroid therapy in terms of absence of any malignancy, confirm the diagnosis of EGE and Eosinophilic Ascites, as was observed in our patient.

Conflict of Interest

Authors declare no conflict of interest.

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