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Eosinophilic ascites: A case report and literature review

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ABSTRACT: Eosinophilic gastroenteritis (EGE) is a rare condition characterized by eosinophilic infiltration of the gastrointestinal tract. Depending upon the layer of involvement it is classified into three types namely, mucosal, muscular and subserosal. The most rare variety is the subserosal which present with ascites. We present the case of a patient with no prior comorbidities who presented to us with history of on and off ascites since 2 years . On clinical examination he had ascites and his investigations revealed peripheral eosinophilia , ascitic fluid study showing predominant eosinophils, upper and lower GI endoscopy biopsy showed marked eosinophilic infiltration of the mucosa. Subsequent treatment with oral prednisone resulted in the normalization of laboratory and radiologic abnormalities. Despite its rarity, eosinophilic gastroenteritis needs to be recognized by the clinician because the disease is treatable, and timely diagnosis and initiation of treatment could be of major importance.

Key words: Eosinophilic gastroenteritis,Ascites

I. INTRODUCTION

Eosinophilic gastroenteritis (EGE) is a rare gastrointestinal disease with features of eosinophilia and eosinophilic infiltration of the gastrointestinal tract. EGE is classified into three types depending on the dominant gastrointestinal layer of eosinophilic infiltration[1] . The subserosal involvement is the rarest of the types and is characterized by ascites [2]. The diagnosis of eosinophilic ascites is difficult because of its rarity. It is characterized by symptoms like abdominal distension, nausea, vomiting, abdominal pain, diarrhea, weight loss, and malabsorption. Despite its rarity, eosinophilic gastroenteritis needs to be recognized by the clinician because this condition is treatable.

PATIENT INFORMATION

A 38-year-old Indian male with no significant past medical history presented with on and off abdominal distention with occasional vomiting of 2 years duration. He was evaluated from multiple hospitals for this complaints but it was inconclusive. He denied any history of evening rise of temperature, weight loss, cough , change in bowel habits and sick contacts. In addition, he denied any chest pain, shortness of breath, joint swelling and skin rash. The patient was not taking any prescribed or over the counter medications or herbal compounds, and denied a history of allergies to food or medication.

His physical examination showed that the abdomen was moderately distended, with normal bowel sounds and moderate ascites. There was no hepatosplenomegaly or abdominal masses. A complete blood count and comprehensive metabolic panel were significant for an elevated white blood count of 12600 /µL with 71% eosinophils. His Absolute eosinophil count was 10300. Liver and renal function tests were within normal limits. Stool examination on three different occasions were negative for parasites. Abdominal and pelvis ultrasound examination showed moderate ascites . Abdominal and pelvis computer tomography (CT) showed moderate ascites with a Minimal circumferential pyloric wall thickening (8-9 mm) and Right minimal pleural effusion. The patient then underwent esophagogastroduodenoscopy, which demonstrated antral gastritis and biopsies from mid esophagus , antrum and duodenum showed heavy infiltration of eosinophils more than 20 cells/HPF.

Abdominal paracentesis after centrifuging showed 470750 cells /ml with 100% eosinophils, protein 4.6 g/dL , albumin 2.6 g/dL and SAAG of 0.6. A possibility of Hyper Eosinophilic Syndrome was also considered but there was no other organ involvement clinically as well as imaging wise. His work up for other causes for eosinophilia like abdominal tuberculosis, vasculitis (Churg-Strauss syndrome), malignancy , and Crohn's disease were negative. The constellation of clinical presentation and histopathological findings were suggestive of eosinophilic gastroenteritis. The patient was started on oral prednisone (40 mg/day). Two weeks later, with noticeable symptomatic improvement, the prednisone was tapered off over a 2-week period. After the completion of the steroids, the patient's ascites completely resolved and now the patient is under close follow up .

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II. DISCUSSION

Eosinophilic gastroenteritis is a rare disease . The exact incidence of Eosinophilic gastroenteritis is not known in India or world and only 280 cases have been reported in the medical literature till date [3]. In India, Venkataraman et al reported 7 cases over a period of 10 years [4]. Klein et al [1] classified EGE into three types depending upon the layer of eosinophil infiltration (1). Mucosal disease is characterized by iron deficiency anemia, protein-losing enteropathy and malabsorption. Muscular involvement is characterized by localized or diffuse thickening of the bowel wall with features of pyloric narrowing and obstructive symptoms; and predominant subserosal disease characterized by eosinophil-rich ascites . Mucosal involvement is the most common type (70%) followed by muscularis (20%) and subserosal infiltration of eosinophils (10%) [5] .

EGE usually manifest in third to fifth decade with slight male predominance [3]. Eosinophilic enteritis is noted in patients with atopy. Talley et al [6] have defined three diagnostic criteria for EGE (1) presence of gastrointestinal symptoms; (2) biopsies of the gastrointestinal tract showing eosinophilic infiltration or characteristic radiologic findings with peripheral eosinophilia or eosinophil-rich ascites with; and (3) no evidence of parasitic or extraintestinal disease.

Eosinophilic GI disease is a diagnosis of exclusion and important conditions to be ruled out are parasitic infection (Stronglyloides stercoralis, Toxocara canis), abdominal tuberculosis, rupture of hydatid cyst, chronic pancreatitis, vasculitis (Churg-Strauss syndrome), hypereosinophilic syndrome, malignancy , and Crohn's disease.

In my case the patient responded to oral steroids . He is maintained on low dose steroids and he was also advised six food elimination diet.

III. CONCLUSION

Eosinophilic GI disease is a rare condition which has to be included in the differential diagnosis of ascites because identifying the condition is important as it can be treated.

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