



EOSINOPHILIC GASTRITIS- A RARE CAUSE OF GASTRIC WALL THICKNESS - A RARE CASE REPORT

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ABSTRACT

Idiopathic eosinophilic gastroenteritis is a rare inflammatory disease of unknown origin, characterized by diffuse eosinophilic infiltration of the gastrointestinal tract, accompanied by varying abdominal symptoms related to the location, severity and depth of invasion. A 63-year old male was admitted to our hospital with complaints of abdominal pain and constipation. Physical examination revealed a distended abdomen with diffuse tenderness. Ultrasound showed free fluid in peritoneal cavity. An emergency laparotomy was performed for a diagnosis of peritonitis due to intestinal obstruction. Pylorus of stomach showed thickening of wall. A Gastric perforation with indurated and rolled margins was identified, gastrojejunostomy was performed and provisional diagnosis of malignant growth with complication of perforation was made but histologically, thickened wall of the stomach revealed dense infiltration of eosinophils and eosinophilic gastroenteritis was diagnosed.

KEYWORDS: Eosinophils, Gastroenteritis, Eosinophilic gastroenteritis, Corticosteroid.

INTRODUCTION

Inflammatory changes with eosinophilic infiltration of the walls of the gastrointestinal tract may occur in two forms. One is a circumscribed polypoid lesion and the other consists of a diffuse infiltrative thickening of the walls. The former is known as general eosinophilic granuloma and the diffuse type has been called in eosinophilic gastroduodenopathy/eosinophilic gastroenteritis ^[1]. Diffuse eosinophilic gastroenteritis involves the distal portion of the stomach and proximal portion of duodenum and can cause pyloric obstruction. The pathogenesis and etiology of eosinophilic gastroenteritis remain unclear.^[2] Talley et al identified three main diagnostic criteria: (1) the presence of gastrointestinal symptoms, (2) biopsies demonstrating eosinophilic infiltration of one or more areas of the gastrointestinal tract, and (3) no evidence of parasitic or extraintestinal disease.^[3] It was reported that peripheral eosinophilia is uniformly associated with eosinophilic

gastroenteritis.^[4,5] However, the definitive diagnosis of eosinophilic gastroenteritis requires histologic evidence of eosinophilic infiltration.^[6] We present a case of eosinophilic gastroenteritis that underwent emergency laparotomy for acute intestinal obstruction with perforation. This case is being presented for its rarity in literature

CASE REPORT

A 63 yr old male presented in emergency department of our hospital with chief complaints of pain abdomen and constipation for 4 days and obstipation for one day. Patient had history of addiction to bhuki (Poppy husk) for 30 years. He had no history of drug allergy, asthma or allergic rhinitis. Per abdomen examination showed that his abdomen was distended and rigid with tenderness. Laboratory investigation showed a white cell count of 6200/mm³ with 2% eosinophils. Blood urea and serum creatinine levels were 82mg/dl and 2.5 mg/dl. X ray abdomen

showed air under the diaphragm. Ultrasound showed free fluid with echoes in peritoneal cavity with pre hepatic and perisplenic collection. Exploratory laparotomy was performed and 2 liter of fluid with fecal smell and a 3x3 cm perforation was found over anterior surface of stomach near pylorus and its margins were indurated and rolled out. 2/3rd of lower stomach was removed and gastrojejunostomy done. Provisional diagnosis of gastric malignancy with perforation was made. The specimen was sent to our department for histopathological examination. Patient died following next day of surgery.

Pathological Findings- Gross Examination: Received distal part of stomach with proximal duodenum measuring 13x7x3 cm. On cutting, pylorus of the stomach showed wall thickening. Normal rugal folds can also be appreciated. Representative sections submitted. (Figure 1A, B).



Figure 1A: Specimen of stomach with proximal duodenum measuring 13x7x3 cm.



Figure 1B: cut open specimen of stomach shows thickened wall of pylorus part.

Microscopic Examination: Histologically, there was seen dense inflammatory infiltrate comprising of mainly eosinophils in the submucosa and muscle layer (30 eosinophils/HPF). (Figure 2A, B).

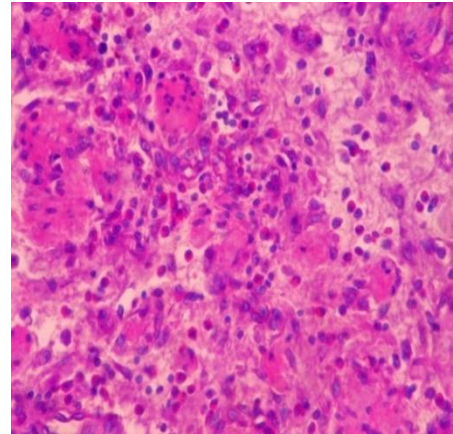


Figure 2A: 400X, H& E, Diffuse infiltration of muscle bundles by eosinophils.

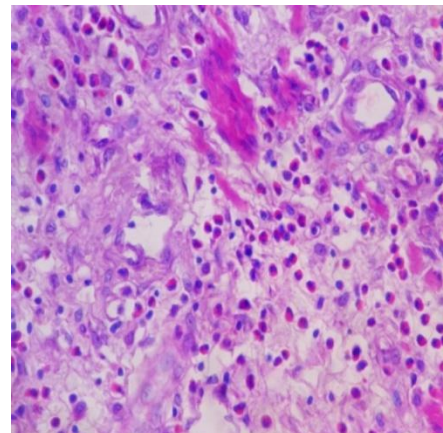


Figure 2B: 400X, H&E, shows numerous eosinophils.

DISCUSSION

Eosinophilic gastroenteritis is a rare, poorly understood entity with involvement of the eosinophilic leukocyte as the common denominator. The histologic hallmark is infiltration of the mucosa of the gastrointestinal tract by eosinophils.^[3] Eosinophilic gastroenteritis can occur in a variety of ways. It can affect any part of gastrointestinal tract but most commonly it involves the stomach and proximal small bowel.^[7] Although it is sporadic in distribution, familial occurrence has been reported.^[8] It can affect both sexes although it seems to be more common in men. The peak age at presentation is in the third

decade.^[9] Etiopathogenesis is unknown. It may be associated with allergic phenomenon. This lesion probably represents a local reaction to ingested allergens.^[7] As our patient also had history of bhuki intake.

Eosinophilic gastroenteritis was first described in 1937. In 1970, Kleins proposed that the disease can be classified into three types: a) predominant mucosa involvement, b) predominant muscle layer involvement and c) predominant subserosal involvement. Involvement of different layers of the intestinal wall usually gives rise to different clinical manifestations. The mucosal form of eosinophilic gastroenteritis (most common variant) is characterized by vomiting, abdominal pain, diarrhoea, blood loss in stools, iron-deficiency anemia, malabsorption and protein-losing enteropathy. The muscularis form is characterized by infiltration of eosinophils predominantly in the muscle layer, leading to thickening of the bowel wall, which might result in gastrointestinal obstructive symptoms. The serosal form occurs in a minority of patients with eosinophilic gastroenteritis and is characterized by exudative ascites with higher peripheral eosinophil counts compared with the other forms. In our case, eosinophils infiltrated muscle layers of the wall. Thickening of the muscle layers narrowed the lumen, causing obstruction without peripheral eosinophilia.^[10] So our patient also presented with pyloric obstruction with complication of perforation.

Differential diagnosis of eosinophilic gastroenteritis includes a variety of disorders such as polyarteritis nodosa, Crohn's disease, intestinal lymphoma, idiopathic hypereosinophilic syndrome, gastric cancer, inflammatory fibroid polyp and parasitic infestation^[7]. The diagnosis of eosinophilic gastroenteritis should be considered if the relevant clinical signs are present in conjunction with an elevated peripheral eosinophil count. However, it must be emphasized that peripheral eosinophilia may not be present in all cases.^[7] Treatment with corticosteroids produces rapid relief of symptoms and clinical signs. The course of the disease is characterized by frequent exacerbations and remissions. The long-term prognosis is relatively benign. Patients suffering from eosinophilic gastroenteritis require regular surveillance and prompt treatment in order to avoid possible complications. Although surgeons

should avoid unnecessary surgery, surgical intervention may sometimes be required when a definitive diagnosis cannot be made or when obstruction or perforation occurs, as in this patient.^[11]

CONCLUSION

Natural history of eosinophilic gastroenteritis has not been well documented, so long-term follow-up is required. Moreover, these diseases can often be a manifestation of another primary disease process, routine surveillance of the cardiopulmonary systems is recommended. Surgeons should be aware of this condition however in cases of perforation, surgery is indicated.

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