Eosinophilic Enteritis Caused Chronic Partial Small Intestinal Obstruction: A Case Report and Review of the Literature

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Abstract

This is the case - report of a rare cause of chronic small intestinal obstruction by eosinophilic enteritis. A 53 - year - old woman presented with an 8 - month history of severe intermittent abdominal colick associated with malnutrition, weight loss, and bowel habit change. Several investigations were done but failed to demonstrate the cause. Exploratory laparotomy was therefore performed and the cause of partial small bowel obstruction was found to be eosinophilic enteritis.

Key word : Eosinophilic Enteritis, Small Intestinal Obstruction

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There are many causes that increase the number of eosinophils in the small intestinal mucosa such as allergic disease, parasitic infection, vasculitis, chronic granulomatous disease,and tumor. Trying to establish allergic disease in the small intestine is problematic. Exclusion of other disorders that have a prominent eosinophilic reaction is necessary[1]. Allergic lesions in the small intestine are focal or multifocal[2,3]. Eosinophilic gastroenteritis has been recognized since 1937 as an uncommon disorder affecting one or more parts of the gut. It usually involves the gastric antrum and proximal small intestine without vasculitis. The disease takes three main forms. The mucosal form may be associated with protein- losing enteropathy, anemia and malabsorption. Patients may have a history of allergic disorders with high IgE level. Muscular involvement causes thickening and obstruction which

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may require surgery. Occasionally, it causes bleeding or fistulas. About 50 per cent of case reports since 1970 presented with obstructive form if involvement of muscular layer was found[2]. Serosal disease gives rise to abdominal pain with peritonitis and ascites[3,4,6]. It occurs in men twice more often than in women, and has a bimodal age distribution with peaks in the third and sixth decades [3,5,6]. Actually, food sensitivities or allergic reaction do not have strong evidence to support the diagnosis of eosinophilic enteritis[2]. Definite causes are unknown[7]. Circulatory eosinophilia occurs in only about 20 per cent of patients with eosinophilic enteritis[3]. Also there is some evidence to suggest a minor increase in the risk of a small bowel adenocarcinoma developing in patients with regional enteritis[5]. In the elderly group without eosinophilia, symptoms and locations of both enteritis and adenocarcinoma of the small intestine are occasionally similar. Surgery plays a role in the diagnosis and treatment in chronic partial small intestinal ostruction caused by eosinophilic enteritis. This paper reports a typical case of the mucosal type of eosinophilic enteritis at one segment of the distal jejunum caused chronic partial small intestinal obstruction.

CASE REPORT

A 53 - year - old woman was refered from a private hospital. She had chronic and severe intermittent colicky abdominal pain. The first experience of her symptom occurred 8 months before this admission. Duration of pain was half or one hour about 2 or 3 times a day. She did not have diarrhea but did have occasional vomiting. In the first 4 months she developed severe abdominal pain everyday, and was admitted to a private hospital. Plain abdominal film, chest X-ray film, ultrasound and gastroscopy were all negative though she had hypoproteinemia. Parenteral nutrition was given before she went home.

About 3 months later she was admitted to another private hospital with the same condition but also associated with 10 kg of body weight loss and occasional vomiting of old gastric content. Constipation, though it was a minor problem, occurred when she could take less amount of food than that in last 3 months. She said she did not have any mucous bloody stool; however, she did not pay attention much to her defecation. She had no previous abdominal surgery, no underlying diseases, and no history of previous allergic reaction or chemical ingestion. She had pitting edema of both legs, and no palpable abdominal mass. All laboratory investigations were normal except hypoalbuminemia, positive stool occult blood and leukocytosis with shiftting to the left. Barium enema showed upward displacement of the cecum and ultasound showed only minimal ascites. Intraabdominal mass was suggested. She was then referred to us.

We repeated all physical examinations, and laboratory investigations. On physical examination she looked mildly pale with malaise, with no fever. Her body weight was about 40 Kg. Blood pressure was 100/60 mmHg, pulse rate was 80 per minute, respiratory rate was 16 per minute. Bowel sound was hyperactive with minimal abdominal distention. No mass at the abdomen or lymph node were found, but she had pitting edema of both legs. The complete blood count revealed hematocrit of 33 per cent, WBC 9,800 cell per ml, nutrophils 53 per cent, lymphocytes 40 per cent, monocytes 6 per cent, eosinophil 1 per cent. The serum elctrolyte showed sodium 137 mmoel/l, potassium 2.9 mmole/l, chloride 113 mmole/l, and carbonate 23 mmole/l. The serum albumin was 1.6 g/dl. The tuberculin test was negative and stool exam was normal. A colonoscopy was performed with normal result. CT scan of the abdomen (Fig. 1) with intravenous contrast media was obtained followed by GI follow through (Fig. 2). One view from the GI follow through, and CT scan was suspicious of a distal

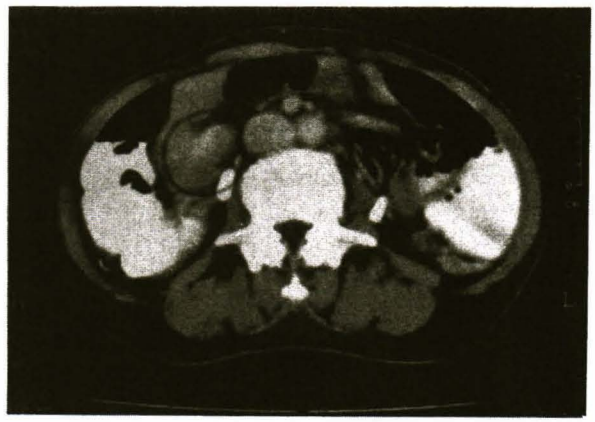

Fig. 1. CT-scan shows an ill definded mass suggesting a small bowel lesion at the anterior to right lower pole of the kidney and at right lateral to IVC.

Fig. 2. GI (follow through) study reveals thickening and nodularity of the distal jejunal loop, measuring about 5 cm in length, located in the left lower quadrant of the abdomen with thickening and dilatation of the jejunum proximal to this abnormal loop.

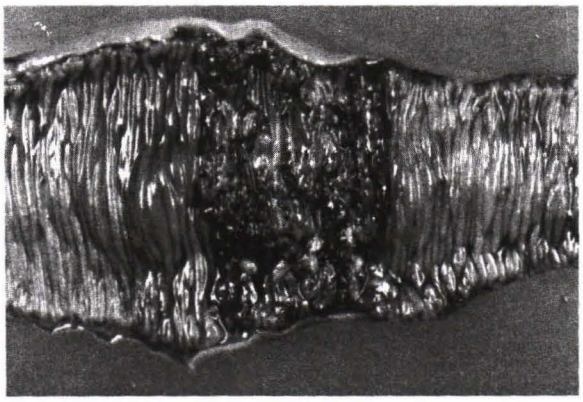

Fig. 3. Gross pathology: The affected part shows edematous mucosa with shallow ulceration covered with necrotic exudates.

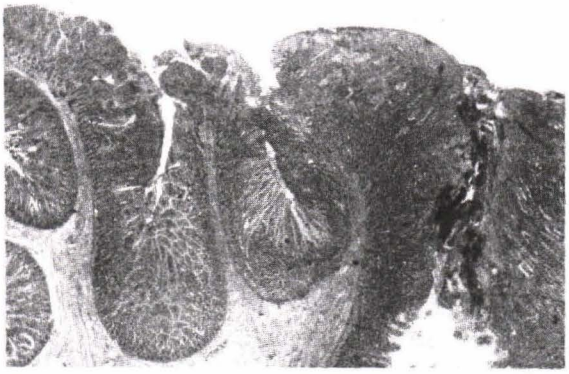

Fig. 4. Low magnification area confirms mucosal and submucosal edema with necrotic debris on the ulcerative and submucosal surface.

jejunal lesion with narrowing of the lumen. Malignancy of the small intestine could not be ruled out. We decided to do an exploratory laparotomy after nearly 2 weeks of total parenteral nutrition to improve her nutritional status.

In the operative field, there were minimally clear ascites in the abdominal cavity with an abnormal circumferential thickening segment about 10 cm in length of the distal jejunum which was 5 feet from the duodenojejunal junction. Narrowing of the lumen and dilatation of the proximal jejunal segment above the lesion were found. A nodular lesion 1 foot from the duodenojejunal junction, about 1 cm in diameter was palpable at the antimesenteric site. No adhesion was seen in the abdominal cavity. Conventional small bowel resection of the lesion with end to end anastomosis and wedge resection at the proximal jejunal lesion with simple closure were performed. The pathological report of the distal jejunum was eosinophilic enteritis with pseudomembranous inflammation, neither parasitic materials nor malignancy were seen (Fig. 3-5). The small lesion at the proximal jejunum was reported to be nodular fibromuscular hyperplasia, submucosal with stromal infiltration of eosinophils. The patient made a full recovery 5 days after the operation without any complication, and she had no recurrence of her symptoms 3 months after sugery without any medication. She gained about 8 kilograms in weight.

DISCUSSION

More than 150 cases of eosinophilic gastroenteritis were reported in the literature before 1989. The peak age of presentation was in the third decade (6). When the small intestine is involved without a gastric lesion, the term eosinophilic enteritis is

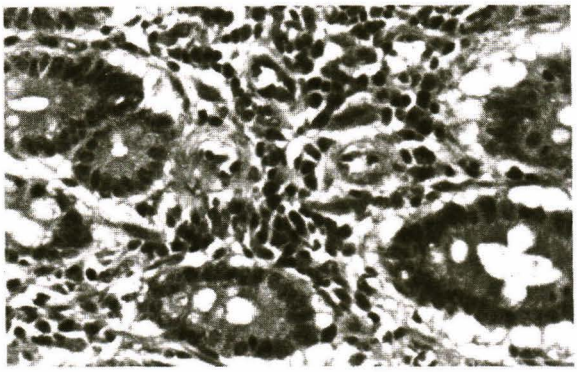

Fig. 5. High magnification of the affected mucosa reveals numerous eosinophils intermingled with other chronic inflammatory cells including lymphocytes and plasma cells. Some eosinophil have destroyed in the intestinal crypts are mixed with the necrotic debris in the mucosal ulceration.

used. It is a rare condition and difficult to diagnose. The presence of Hypereosinophilic Syndrome which consists of eosinophilic enteritis, disseminated eosinophilic disease, and eosinophilic leukemia may help to diagnose eosinophilic enteritis[7,8]. Peripheral eosinophilia is a strong differentiating index with granulomatous disease[9].

One large series of eosinophilic enteritis is well recognized in northern Queensland, Australia. This literature had 93 cases until 1990, and reported one case with adult hook worm at the terminal ileum. High serum IgE and blood eosinophilia are helpful[10]. The interaction of IgE and allergen is known as eosinophil chemotaxis. In one series, eosinophilic enteritis was related with eosinophilia in about 80 per cent of cases when acute symptoms occur[11].

Involvement of duodenum or jejunum tends to be associated with gastric disease. It usually presents as colicky abdominal pain, and diarrhea, but it rarely presents as acute intestinal obstruction, lower gastrointestinal bleeding or perforation which are extremely difficult to diagnose preoperatively[11-14]. For some patients who develop chronic symptom, corticosteroid or sodium chromoglycate therapy may be effective[15,16], while others showed negative response regardless of type of treatment[17].

In Thailand, less than 50 cases of eosinophilic enteritis were reported from 1974 to 1991. Approximately one third of them were related to parasitic infection[18-20]. Reports from northeasthern and central Thailand showed various sites and symptoms related to pathology, but they did not contain any cases of the mucosal type of the eosinophilic enteritis at the jejunum that caused intestinal obstruction[18,20].

Almost all lesions found at the terminal ileum and large intestine caused severe symptoms, and emergency conditions[18,19]. In 1986 only one of two cases with isolated jejunal disease was reported as jejunal obstruction caused by eosinophilic enteritis, transmural involvement without parasitic infection[20].

Our patient is a good example of a localized lesion of eosinophilic enteritis which caused chronic partial small intestinal obstruction. We could not exclude malignancy from the intraoperative viewpoint. For the preoperative diagnosis, this case was not a typical case of eosinophilic enteritis from the symptoms related to pathology and site. Normally, the mucosal type does not present with obstructive symptoms. This case presented here did not only have an isolated lesion at the distal jejunum without gastric or colonic lesion, but also a low eosinophil count which did not help in the diagnosis. Its cause should be idiopathic if it is not related to parasitic infection or allergy.

In summary, this paper does not point out any correct or incorrect methods for diagnosis and treatment of eosinophilic enteritis. Medical treatment may be useful when pathology is confirmed. Surgical intervention still has a role in the diagnosis and treatment of eosinophilic enteritis with chronic partial small intestinal obstruction.

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อิโอสิโนฟิลิก เอ็นเทอไรติสทำให้เกิดภาวะลำไส้อุดตันบางส่วนเรื้อรัง : รายงานผู้ป่วยและทบทวนวารสาร

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รายงานนี้กล่าวถึงผู้ป่วยโรคอิโอสิโนฟิลิกเอ็นเทอไรติสที่เป็นสาเหตุที่พบไม่บ่อยของภาวะลำไส้อุดตันบางส่วนเรื้อรัง โดยผู้หญิงอายุ 53 ปี มีอาการปวดท้องเรื้อรังประมาณ 8 เดือน มีอาการปวดท้องเป็นพัก ๆ ทานอาหารน้อยลง น้ำหนักลดมาก และมีอาการขับถ่ายเปลี่ยนแปลงแบบท้องผูกแต่ไม่มีอาการท้องเสีย ได้ทำการตรวจพิเศษหลายวิธีแต่ไม่สามารถวินิจฉัยโรค และตำแหน่งของรอยโรคได้ เนื่องจากผู้ป่วยมีอาการปวดที่เกิดจากภาวะลำไส้อุดตันบางส่วนเรื้อรัง ซึ่งรบกวนชีวิตประจำวันผู้ป่วยมาก รวมทั้งไม่สามารถวินิจฉัยแยกโรคของเนื้องอกชนิดร้ายแรงออกไปได้ จึงได้ทำการผ่าตัดเพื่อการวินิจฉัยและรักษา ได้ทบทวนกระบวนการการรักษา และผลการตรวจทางพยาธิเพื่อการวินิจฉัยที่ถูกต้อง

คำสำคัญ : อิโอสิโนฟิลิก เอ็นเทอไรติส, ลำไส้เล็กอุดตัน, รายงานผู้ป่วย

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