Sclerosing mesenteritis: An unusual cause of intestinal obstruction

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ABSTRACT

Mesenteric panniculitis is a rare, benign, and complex disorder. This is a chronic inflammatory process of mesenteric adipose tissue of unknown etiology. Based on the histopathological spectrum seen i.e., chronic inflammation, fat necrosis, and fibrosis, they are grouped into mesenteric panniculitis, mesenteric lipodystrophy, and sclerosing mesenteritis. Diagnosis is suggested by radio imaging modalities such as computed tomography scan that has to be confirmed by histopathological examination (HPE). Mesenteric panniculitis is usually seen in adults with an average age incidence of 60 years. Males are more affected compared to females. We present two cases of mesenteric panniculitis presenting at a young age of 16 and 20 years, respectively. Many benign and malignant conditions of the abdomen mimic mesenteric panniculitis clinically, which stress on the importance of HPE for definitive management.

Key words: Inflammation, lipodystrophy, mesenteritis, panniculitis, sclerosing

INTRODUCTION

Mesenteric panniculitis commonly affects men between the fifth and seventh decades of life.[1] Jura et al. first described this entity in 1924 and called it retractile mesenteritis. Later in 1960, Ogden coined the term mesenteric panniculitis. This is an idiopathic inflammatory and fibrotic process that affects the adipose tissue of the small intestine mesentery. [1] These patients may present with recurrent episodes of moderate to severe abdominal pain, nausea, vomiting, malaise, and fever. Clinical manifestations are due to the mass effect of the lesion that is causing obstruction to the lumen of the intestine and also mesenteric blood vessels.[1] However, in few cases, the disease may remain asymptomatic.[2,3] In symptomatic patients, it is important to differentiate this entity from many other benign and malignant conditions that have similar clinical presentation. Even though imaging studies suggest the diagnosis, histopathological examination (HPE) is the mainstay for confirmation in order to avoid mismanagement.

CASE REPORTS

Case report 1
A 16-year-old male was admitted with chief complaints of fever, vomiting, and severe abdominal pain.

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No history of injury or previous surgery. On examination, patient had abdominal tenderness, guarding, and mild distension of abdomen. No organomegaly, lymphadenopathy, or any other significant findings were noted. Investigations revealed peripheral neutrophilic leukocytosis (15,500/mm$^3$), normal hemoglobin, high erythrocyte sedimentation rate (40 mm/1$^{st}$ h), low serum sodium and normal serum calcium levels. There was an episode of similar complaints a year before the present admission. Computed tomography (CT scan) of abdomen at that time revealed a well-circumscribed, inhomogeneous fat attenuating mass lesion measuring 10.0 cm × 5.0 cm in the right iliac fossa, encircling the mesenteric vessels, and containing discrete soft tissue nodules without involvement of adjacent small bowel. Radiological diagnosis was mesenteric panniculitis. The patient was treated conservatively with antituberculous treatment for 6 months, after which he discontinued and lost to follow-up. Six months later, he was admitted in another hospital with symptoms of intestinal obstruction.

CT abdomen at the time of present admission showed a heterogeneous soft tissue density mass with areas of fat attenuation measuring 14.8 cm × 10.6 cm involving mesenteric fat in the right hypochondrium and lumbar region surrounding the mesenteric vessels causing mass effect over the adjacent small bowel, with dilated fluid-filled small bowel loops, suggestive of mesenteric panniculitis and small intestinal obstruction [Figure 1a].

The patient underwent surgery. A segment of small intestine was resected along with the mesenteric mass [Figure 1b] and was sent to our laboratory for HPE. Small bowel measured 25 cm, and mesentery along with a soft tissue mass measured 15 cm × 10 cm × 6 cm size. Cut section showed yellowish and focal whitish areas.

Microscopic examination showed lobules of adipose tissue with intervening areas of fibroblastic proliferation, and lymphoid aggregates at places showing germinal centers. Rest of the adipose tissue showed scattered lymphocytes, neutrophils, histiocytes, and thin-walled dilated blood vessels [Figure 1c and d]. Features were suggestive of sclerosing mesenteritis (mesenteric panniculitis).

Postoperative period was uneventful. He was not given any specific treatment for sclerosing mesenteritis. The patient was asymptomatic after 1 year. Ultrasound scan was normal.

**Case report 2**

A 20-year-old female was admitted with complaints of vomiting and diarrhea associated with fever. The patient gave a history of open appendectomy 10 days prior to this admission in a local hospital. Ultrasound abdomen showed normal bowel loops with minimal intra-abdominal fluid. Plain X-ray abdomen showed no fluid levels. She was treated conservatively and discharged after 4 days of observation. Again after 4 days, she was readmitted with complaints of abdominal pain which were continuous and associated with vomiting, fever, and chills. No history of constipation. Ultrasound and CT abdomen showed ascites, decreased peristaltic activity, inflammatory changes, and thickening of left lumbar mesentery [Figure 2a]. The patient developed signs and symptoms of intestinal obstruction and was taken up for exploratory laparotomy. Intraoperatively there was thickened mesentery and omentum and adherent bowel loops. Abdomen was closed after taking only biopsy from omentum and mesentery as the patient’s condition was deteriorating. As the abdominal pain was persistent spiral CT was done which revealed ischemic small bowel, duodenal obstruction and caking of mesentery in left hypochondrial and lumbar regions. No specific treatment could be offered in this case as patient’s condition further deteriorated and she succumbed to death inspite of the best efforts. Omental and mesenteric biopsies showed extensive fibrosis with sheets of histiocytes and lymphocytes [Figure 2b-d]. A diagnosis of sclerosing mesenteritis was given.

**DISCUSSION**

Mesenteric panniculitis is a rare, benign condition affecting mesenteric adipose tissue. Association with autoimmune disease was also reported.\(^{[4,5]}\) This predominantly occurs in males between sixth and
seventh decades of life.\textsuperscript{[9]} In our case both the patients presented at a very young age 16 years and 20 years, respectively.

Both our patients presented with abdomen pain initially. In a series of seven cases by Kerdsirichairat et al., abdominal pain was seen in 54% of cases, palpable mass in 23%, and intestinal obstruction in 14% of cases.\textsuperscript{[6]}

This condition is now thought to be much more common than reported which may be because of the advent of advanced imaging modalities like CT scan. Findings are variable because of the wide spectrum of the disease. Morbidity and mortality are due to small bowel obstruction, perforation, ischemic colitis, and vascular thrombosis. In such cases, differential diagnosis is broad and includes infections, trauma, granulomatous disorders, pancreatitis, autoimmune diseases, malignant neoplasms such as lymphoma, carcinoid tumor, and gastrointestinal tract neoplasms, etc.; CT scan has been proposed as the imaging modality of choice, and some suggest that changes are classical, and diagnosis can be made by CT alone.\textsuperscript{[5,6]} Definitive diagnosis is possible only by biopsy and HPE. In both the cases reported here, CT features were suggestive of mesenteric panniculitis.

Most of the cases resolve spontaneously. In symptomatic cases, response to steroids was excellent and result in complete resolution.\textsuperscript{[7]} Immunosuppressive agents like cyclophosphamide, azathioprine, methotrexate, tamoxifen, and colchicine have been used.\textsuperscript{[4,8]} Incidental masses may be observed and left untreated or medical management may be given on individual case basis. Surgery is essential when medical treatment fails or if the patient presents complications such as small bowel obstruction, as found in both the cases, and perforation.\textsuperscript{[8]}

In both our cases, surgical intervention was required. In the first case, even though the radiological diagnosis was suggestive of mesenteric panniculitis, due to lack of proper medical treatment and follow-up, there was progression of disease leading to surgical intervention after 1 year.

Sclerosing mesenteritis is a great mimicker of other benign as well as malignant conditions, and biopsy is essential for a definite diagnosis.\textsuperscript{[8,9]} There were reports where this condition was initially diagnosed as acute appendicitis,\textsuperscript{[5]} appendicular mass,\textsuperscript{[10]} ileocecal abscess, or pancreatic cancer.\textsuperscript{[11]} In our second case, the patient was operated initially for acute appendicitis.

CONCLUSION

Mesenteric panniculitis is a benign condition that does not require surgical intervention when diagnosed and treated early. Surgical intervention is indicated in the presence of complications such as intestinal obstruction and ischemia. This condition was commonly reported in elderly individuals; however, few cases have been diagnosed in young adults as seen in our cases. In order to avoid misdiagnosis awareness of this condition is required among surgeons, radiologists, and histopathologists. We stress on the importance of HPE, which is essential for confirmation of diagnosis and definitive treatment.

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Conflicts of interest
There are no conflicts of interest.

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