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Mesenteric Panniculitis Mimicking Acute Pancreatitis: A Case Report and Literature review

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Mesenteric panniculitis is a rare disease characterized by an chronic non-specific inflammation of the adipose tissue of the mesentery of the small intestine and colon. The specific etiology of the disease is unknown. The condition is referred to as retractile mesenteritis when fibrosis predominates but generally sclerosing mesenteritis is the common pathological terminology used for the condition.
CT scan is highly suggestive of the diagnosis which may be confirmed by surgical biopsies. Treatment is empiric and surgical resection is sometimes attempted for definitive therapy. We report a case of a 77 year old man presenting with CT features of mesenteric panniculitis currently in remission. The aim is to highlight this condition and possibly avoid the negative laparotomies done on suspected cases of pancreatitis in our region.

Key words: Mesenteric Panniculitis, Mimicking, Acute Pancreatitis

Case Report

A 77 year old retired Asian male who presented with a two day history of abdominal pain with distension and constipation He had been previously well and then developed progressively worsening abdominal distension with obstipation prior to which he had alteration of bowel habits for some days. He also had had 2 episodes of vomiting initially. There was no history of heartburn, dysphagia, epigastric pains, anorexia or weight loss. His past medical history included hypertension for which he was on Nefalat. He also reported a history of 'cardiac problems' for which he sought treatment abroad 18 years ago. He was not a diabetic or asthmatic. He admitted to taking one beer per day for many years but did not smoke cigarettes. He had no drug or food allergies.

On physical examination he was sick looking with no pallor, jaundice, edema or features of muscle wasting but was dehydrated. His BP was 181/84, with a pulse rate of 60/min., a respiratory rate of 20/min with no fever. His abdominal examinationrevealed diffuse tenderness, with no guarding or rigidity. There were no palpable masses felt and his bowel sounds were reduced. Anal examination revealed external hemorrhoids and on a DRE, there was no stool in the rectum and no masses felt. An abdominal X-ray showed fecal loading of the rightcolon with additional findings of calcific rounded opacities (Figure 1)

The laboratory workup revealed a leukocytosis of 11.6 $X10^9$/L with a neutrophilia of 90%. The U/E/C showed a K+ of 2.96 mmol/L and Sodium of 124.3 mmol/l. The CRP was 247.8 mg/dl. The rest of the parameters, particularly hisamylase and lipase were both normal. An echocardiogram showed mild Left LV diastolic dysfunction.

The patient was initially managed with IV fluids with K+ replacementsto correct his dehydration and electrolyte imbalances. He also was prescribedanalgesics for his abdominal pain and serial enemas to evacuate his colon. However the abdominal distension persisted and a CT scan abdomen was done and showed peri-pancreatic fat stranding with calcific densities in the glands and vessels (Figure 2).

An upper G.I endoscopy done revealed features suggesting gastritis, and a colonoscopy revealed mild rectal erythema. A diagnosis of possible resolving acute on chronic pancreatitis was made.

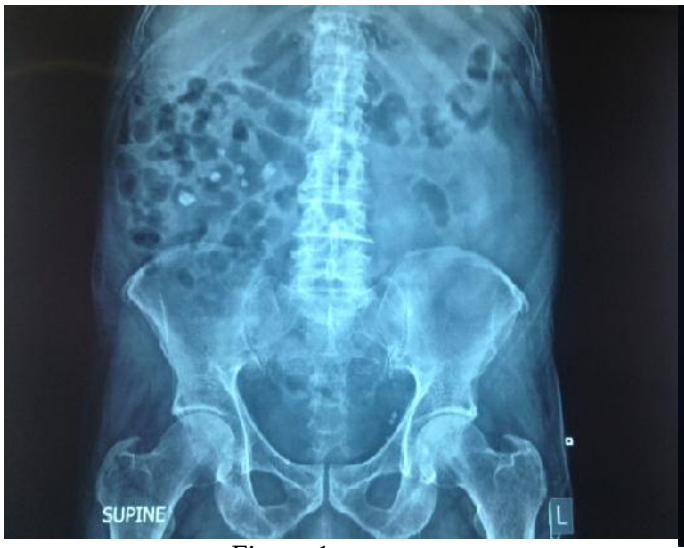

Figure 1

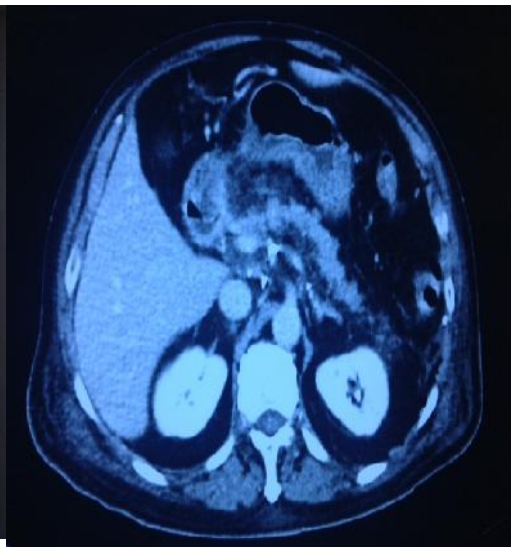

Figure 2

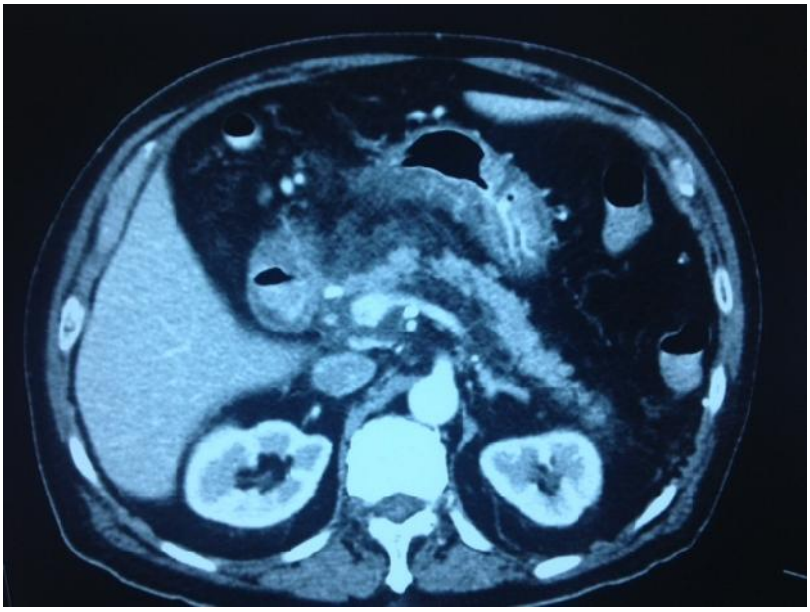

Figure 3

A repeat amylase and lipase were within normal limits. The patient was managed on parenteral nutrition and IV antibiotics with strict fluid input and output monitoring. However his abdominal distension progressively worsened with persistence of the abdominal pain, despite the normal serum amylase and lipase levels. A second opinion was sought and the possibility of surgery discussed in view of the distension and ongoing pain.

A repeat CT scan done 6 days later showed thickening of fat in the peri-pancreatic region with mild constriction of the superior mesenteric vein.(Figure 3) A diagnosis of mesenteric panniculitis (possibly early sclerosingmesenteritis) was then made.

The patient was then started on prednisone 40 mg OD and gradual resolution of his symptoms was noted. The abdominal distension resolved gradually with the patient's appetite returning to normal

with normal bowel movements. He was subsequently discharged and on follow-up was noted to progressively improve whereby his dose of prednisone was tapered down to 5mg per day. He currently remains symptom free.

Discussion

Mesenteric panniculitis is a rare inflammatory condition that is characterized by chronic and nonspecific inflammation of the adipose tissue of the intestinal mesentery[1]. Most studies have indicated that the disease is more common in men, with a male/female ratio of 2-3: 1 and several reports have indicated it to be more common in Caucasian men. Incidence increases with age, and pediatric cases are exceptional, probably because children have less mesenteric fat when compared to adults.[2]It is typically seen in the sixth decade of life[3].

Histologically, the disease progresses in three stages[4]. The first stage is mesenteric lipodystrophy, in which a layer of foamy macrophages replaces mesenteric fat. Acute inflammatory signs are minimal or non-existent; the disease tends to be clinically asymptomatic and prognosis is good. In the second stage, termed mesenteric panniculitis, histology reveals an infiltrate made up of plasma cells and a few polymorphonuclear leukocytes, foreign-body giant cells, and foamy macrophages. Most common symptoms include fever, abdominal pain, and malaise. The final stage is retractile mesenteritis, which shows collagen deposition, fibrosis, and inflammation. Collagen deposition leads to scarring and retraction of the mesentery, which in turn, leads to the formation of abdominal masses and obstructive symptoms. The exact diagnosis is often difficult and is usually made by finding one of three major pathological features: fibrosis, chronic inflammation, or fatty infiltration of the mesentery. To some extent, all three components are present in most cases[5].

Blood tests tend to be within the normal range. Neutrophilia, increased erythrocyte sedimentation rate or anemia have been reported occasionally in the retractile mesenteritis stage[6]. In general, CT changes consistent with MP may be mistaken for those seen in acute pancreatitis; in MP encapsulated, heterogeneous masses localized to the root of the mesentery or adjacent intestinal loops are seen. Most patients have a left-sided orientation of disease with scattered, well-defined soft tissue nodules of < 5 mm[7.] Many have a 'pseudotumoral stripe' of tissue surrounding the mass lesion which may be seen in conjunction with mesenteric vessels which are surrounded or displaced by fat but not invaded[8]. The findings of normal amylase and lipase levels should alert the physician about MP when a CT suggests acute pancreatitis.

A surgically obtained biopsy may be obtained to confirm the diagnosis of MP [9]. PET-CT imaging may be used to differentiate between benign and neoplastic processes of the mesentery. Zissin et al.[10]examined 19 patients with known malignancy and incidental findings of mesenteric panniculitis on CT scan with PET-CT evaluation.The absence of FDG uptake within the areas of panniculitis in 11 of the 19 patients was found to be indicative of a non-neoplastic process after clinical evaluation and follow-up. No false-negative results were reported. A PET-CT scan ordered in the present case 2 months after admission because of initial rectal bleeding to rule out malignancy of both mesenteric and exophytic renal masses demonstrated no abnormal FDG uptake in the affected mesentery or any surrounding lymph node as also no renal uptake.

Treatment of MP is empirical and based on a few selected drugs if necessary. In general, therapy has been reserved for symptomatic cases whereas incidental masses may be observed and left untreated. A wide variety of drugs including steroids, thalidomide, cyclophosphamide, progesterone, colchicine, azathioprine, tamoxifen, antibiotics and emetine, or radiotherapy are used with different degrees of therapeutic success with surgery reserved for cases in which medical therapy fails or in the presence of life-threatening complications such as bowel obstruction or perforation[11].

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