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ABSTRACT

Introduction: Mesenteric panniculitis is a clinical entity that could pose a diagnostic conundrum to the managing physician. Plain radiographs and sonography are unfortunately not helpful in establishing the diagnosis. But with the computerized tomogram (CT scan), the diagnosis is established. This saves the patient from earning an unwarranted surgical intervention.

Case Report: This is a report of a patient who presented with features of acute abdomen and equivocal clinical and laboratory findings. Plain radiographs and sonographic evaluation did not prove useful. However, computerized tomography was the main diagnostic modality demonstrating a hyper-enhancing rim that is unrelated to the bowel. Radiological evaluation with computerized tomography confirmed the diagnosis and this patient was managed non-operatively with good outcome.

Conclusion: Clinicians should bear in mind a clinical entity such as mesenteric panniculitis, as a differential diagnosis of abdominal pain with attendant equivocal laboratory parameters.

INTRODUCTION

Mesenteric panniculitis (MP) has been described as a rare, idiopathic pathology of the gastrointestinal tract characterized by inflammation of the mesentery. It is a self-

limiting disease with overall good prognosis. However, significant morbidity has been reported in about 20% of patients with this disease entity.^{1,2} Though MP has been described as a benign lesion, the clinical course may become severe and aggressive.¹

Clinical conditions that may be considered as differential diagnosis of MP and pose a diagnostic dilemma include epiploic appendagitis, bowel perforation (from colonic diverticulitis, colonic tumours, or inflammatory bowel disease leading to localized abscess collection with attendant localized inflammation reactions) and appendicitis among others. Overall, MP is a clinical entity that may mimic acute abdomen with resolution of symptoms on conservative management, hence the attending physician should be thorough enough in the evaluation of such patients in order to avoid unwarranted surgical exploration.

CASE PRESENTATION

AAM, a 39-year-old man, presented to the emergency room with a 2-day history of left lower abdominal pain. The pain was severe, dull and dragging, radiating all over the abdomen but more at the left side of the abdomen, unrelieved by medications and aggravated by movement. There was no change in bowel habit or loss of appetite. He had no medical co-morbidities. Clinical examination revealed a young man, in painful distress and afebrile (temp: 37.1°C). Other vital signs were within normal range. There was marked tenderness on left iliac region



Figure 1: Abdomino-Pelvic CT scan: A-Coronal section; B-Transverse section; C-Sagittal section (lesion shown in yellow)

with guarding; otherwise, the rest of the abdomen was normal.

A clinical diagnosis of sigmoid colon diverticulitis was made and he was admitted for further laboratory and radiological investigations. Laboratory parameters were all normal except for mild leukocytosis seen on full blood count (11,500). He had series of radiological tests done including plain abdominal radiographs and KUB (with contrast) to rule out urolithiasis. Both plain radiograph and KUB were essentially normal

Abdominal sonography done at admission was unhelpful because of the gaseous bowel distention. This was repeated twice within 24 hours of admission, yet the studies were unremarkable despite the persistence of the abdominal pain. This prompted the need for abdomino-pelvic CT scan that was done (after 48 hours of admission) with oral and intravenous contrast which showed an oval-shaped focal mesenteric fat stranding, not related to the bowel loops, anterior to the descending colon (in the left lower pelvis) with peripheral thin enhancing membrane (hyper-enhancing rim) measuring 2.4cm x 2cm.

He was admitted into the wards and placed on parenteral antibiotics and analgesics, with nil per oral (NPO). On 3rd day of admission, there was remarkable improvement in his condition and he was allowed to feed orally. He did well and was eventually discharged

home on the 7th day of admission to be followed-up at the out-patient clinic.

DISCUSSION

Mesenteric panniculitis was first described pathologically in 1924 as retractile mesenteritis. Over the years, based on the observations of clinicians on the clinico-pathological behaviours and radiological findings; different names have been coined to describe this lesion which include mesenteric lipodystrophy, sclerosing mesenteritis, retractile mesenteritis, mesenteric Weber-Christian disease and mesenteric fibrosis.^{3,4}

The sex predilection is unpredictable and varies from one study to another. Earlier reports from different authors have shown a female preponderance with a prevalence rate of 0.16, 0.6% and 7.8% respectively.^{5,6,7} On the contrary, male predilection was reported in another study with a prevalence of 2.55%.⁸ Controversies abound on whether MP is a pre-neoplastic condition as earlier reported in some literatures; however, meta-analytical studies have debunked this and clearly stated that there is no added risk of developing cancers in patients with MP.⁹

The pathology of this disease entails three independent but inter-related processes which explain the nature and clinical behavior of the disease. These pathological processes include mesenteric fat degeneration (lipodystrophy),

inflammatory reaction (panniculitis) and fibrosis (retraction). Hence, the resultant mesenteric thickening with focal mass lesion.¹⁰ The above-described pathological process is similarly encountered in autoimmune diseases hence, the purported clinical correlation between MP and autoimmune disorders such as inflammatory bowel diseases (Crohn's variant), psoriasis, coeliac diseases, etc.¹¹

Concerning the symptomatology of MP, abdominal pain is the most common presenting complaint and this may be localized to a particular region with occasional palpable mass thereby suggesting pathological entities that may ensue from that anatomical region (e.g colonic tumour or diverticulitis in left iliac region, appendicitis in right iliac region). Others include nausea, weight loss, flatulence, diarrhea, relapsing small bowel and colonic obstruction and bowel strictures.¹² On the other hand, some patients with MP may be asymptomatic. These symptoms could be non-specific and also encountered in patients with other conditions such as complicated inflammatory bowel diseases (Crohn's disease), colonic malignancies and diverticular disease hence the need for a thorough clinical assessment and radiological evaluation. To the unsuspecting clinician, these constellations of signs and symptoms may be mistaken for a surgical abdomen thereby subjecting the patient to operative procedure.

The symptomatology of our index patient is in tandem with the above as he did present with left lower abdominal pain and tenderness. Laboratory investigations in patients with MP may reveal normal leucocyte count, normal serum electrolytes, elevated C-reactive protein and presence of anemia with hypoalbuminaemia.¹³ This is unlike the findings in colonic perforation with marked leucocytosis, differential neutrophilia, anaemia, raised C-reactive protein and possible electrolyte derangement.

Currently, computerized tomography scan (CT scan) is the most acceptable radiological diagnostic tool. The lesion is seen as a distinct entity, unrelated to the bowel with hyper-

enhancing rim as it was seen in our index patient. These features actually differentiate mesenteric panniculitis from epiploic appendagitis (EA) (which shows the presence of a fat-density structure adjacent to colon with a thin high-density rim, known as hyperattenuating ring sign with a surrounding inflammatory fat-stranding, a central hyperdense central dot lesion [representing thrombosed vascular pedicle] with or without adjacent lymph nodes).^{14,15} These findings differentiates both MP and EA from sigmoid colon diverticulitis in which there will be out-pouching of the bowel segment with thickened and enhanced bowel wall [due to oedema] with surrounding fat stranding. In complicated diverticulitis due to perforation, there may be free air in the peritoneal cavity with attendant paracolic or intra-peritoneal abscess collection.

Generally, the treatment of MP is largely conservative as the disease is usually self-limiting in majority of cases. This conservative measure usually entails the step-ladder approach to the use of various agents either singly or in combination. The use of analgesics, broad spectrum antibiotics, steroids, immune-modulating agents, TNF-inhibitors, hormonal agents have been documented in literature and proven to be beneficial depending on the underlying cause of the pathology being treated.^{16,17} Also to be considered in the treatment plan is the severity of the disease, response to instituted treatment protocol and presence of other associated clinical conditions/ co-morbidities. In terms of definitive treatment offered, our index patient had a mild course of event and did well on generous combined analgesia with an opioid agent (pethidine) with paracetamol, and broad-spectrum antibiotics with resolution of pain and other symptoms after 72hours of admission. He was thereafter discharged home to the out-patient clinic for follow-up. However, in the presence of IBD or unresolved symptoms, such patient may need to be considered for treatment with other agents like steroids and immune-modulating agents in addition to the analgesics and antibiotics.

CONCLUSION

Mesenteric panniculitis is a clinical entity that could mislead the attending physician however with detailed clinical evaluation and supportive radiological assessment with CT scan, a diagnosis will be established and this saves the patient surgical intervention. It is expected that the managing physician should be able decipher when to consider operative intervention based on clinical symptomatology and salient radiological features of bowel obstruction and/or perforation and also to consider the judicious use of analgesics and antibiotics in the care of patients with mild form of the disease (MP).

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