

Case Report

Adenocarcinoma ileum: a rare cause of ileal stricture mimicking intestinal tuberculosis: a case report and literature review

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ABSTRACT

One of the commonest causes of small intestinal obstruction in India is tuberculosis. The terminal ileum and ileocaecal junction are the most common sites of small bowel involvement, and the most common abnormality is short-segment strictures. We report a patient who presented with small intestinal obstruction due to a solitary ileal stricture, but turned out to be a rare condition that can mimic intestinal tuberculosis. A 60-years-old man, with recurrent episodes of pain abdomen for 1 year, presented to our surgical emergency with evidence of small intestinal obstruction. A CT scan revealed a short segment stricture (2.7 cm) in mid ileal loop with luminal narrowing and marked proximal dilation of proximal ileal loops with a few sub centimetric mesenteric lymph nodes. On laparotomy with a suspected diagnosis of intestinal tuberculosis, it turned to be an adenocarcinoma of the ileum- a rare condition that can mimic intestinal tuberculosis. One of the commonest causes of small intestinal obstruction in India is abdominal tuberculosis. However, all cases of small intestinal obstruction are not tuberculosis. Adenocarcinoma of ileum is a very rare entity. This case report shows that a surgeon should have a high index of suspicion in an elderly patient presenting with small intestinal obstruction, with CT demonstrating isolated short-segment small bowel thickening, as it could be a presentation of obstructing type adenocarcinoma of the small intestine.

Keywords: Adenocarcinoma ileum, Small intestinal obstruction, Ileal stricture, Small intestinal tuberculosis

INTRODUCTION

The common causes of small intestinal obstruction in the Indian subcontinent are hernias, adhesions and tuberculosis.¹ However, in the absence of a hernia, in a non-operated abdomen, the first diagnosis is almost always tuberculosis. Ileal strictures in India are invariably due to tuberculosis, while in the west, Crohns is the usual culprit. The terminal ileum and ileocaecal junction are the most common sites of small bowel involvement in intestinal tuberculosis. The most common abnormality is short-segment strictures with symmetrical concentric mural thickening and homogeneous mural enhancement.²

We here present a case of a patient who presented with small intestinal obstruction due to a solitary ileal stricture.

He was taken up for an emergency laparotomy with a suspected diagnosis of intestinal tuberculosis. It turned to be an adenocarcinoma of the ileum- a rare condition that can mimic intestinal tuberculosis, and for which a high index of suspicion is required.

CASE REPORT

A 60-years-old man presented to our surgical emergency with complaints of recurrent dull aching pain in the central abdomen, associated with ball rolling movements in the abdomen, occasional vomiting, and constipation for past 1 year. He also had a history of abdominal distension and bloating. There was no history of anorexia, weight loss, evening rise of temperature, or symptoms of pulmonary tuberculosis. On examination, there was no pallor, and

abdominal examination revealed abdominal distension, with mild tenderness present in the central abdomen, along with raised bowel sounds.

The hemogram and serum biochemistry were normal. An ultrasound of the abdomen showed gross small bowel loop dilatation with no free fluid. A CECT of the abdomen showed a short segment stricture (2.7 cm) in mid ileal loop with luminal narrowing and marked proximal dilation of proximal ileal and jejunal loops with a few sub centimetric mesenteric lymph nodes (Figure 1).



Figure 1: CE CT scan of the abdomen showing the short segment ileal stricture. The encircled area shows the ileal stricture with the grossly dilated proximal ileum seen anteriorly and the collapsed distal ileal segment postero-medially with the ileal stricture in between.

Patient was planned for laparotomy with provisional diagnosis of small intestinal obstruction, possibly of tubercular etiology. During laparotomy, a single 5 cm stricture was present 2 feet proximal to ileocecal junction, with inter-bowel adhesions present at the distal part of ileal stricture, and multiple small mesenteric lymph nodes. The rest of the small and large bowel was normal. There was no other stricture, enlarged lymph nodes, or ascites. Resection of the distal ileal stricture with end-to-end anastomosis was done. The resected specimen was sent for histopathology.

Histopathology showed a well differentiated adenocarcinoma of the ileum pT2 pN0. Margins were free of tumor, with no lympho-vascular or perineural invasion. Resected lymph nodes showed no evidence of tumor deposits.

Patient was doing well on follow-up.

DISCUSSION

Common causes of small intestinal obstruction in developing countries like India are hernias (30-40%), adhesions (about 30%), and tuberculosis (about 10%), along with malignancy, Crohn disease, volvulus, and parasitic infections.¹ However, in the absence of a hernia, in a non-operated abdomen, the first diagnosis is almost always tuberculosis.

Clinical presentation of abdominal tuberculosis can be acute, chronic, or acute on chronic. Most patients have constitutional symptoms of fever (40-70%), pain (80-95%), diarrhoea (11-20%), constipation, alternating constipation and diarrhoea, weight loss (40-90%), anorexia and malaise. Pain can be either colicky due to luminal compromise, or dull and continuous when the mesenteric lymph nodes are involved. Other clinical features depend upon the site, nature and extent of involvement.³ Ileal strictures in India are invariably due to tuberculosis, while in the west, Crohns is the usual culprit. The terminal ileum and ileocaecal junction are the most common sites of small bowel involvement in intestinal TB. The most common abnormality is short-segment stricture with symmetrical concentric mural thickening and homogeneous mural enhancement.²

Malignancy in small bowel is a rare entity. The incidence of small bowel carcinoma worldwide is very rare, with an annual incidence of only 2.2 cases per 100,000 persons and is increasing.^{4,5} Of them carcinoid tumor is more common than adenocarcinoma. Adenocarcinoma of ileum is least common amongst all small bowel malignancies. The common types of small bowel malignancies are carcinoid tumors (44%), adenocarcinoma (33%), lymphomas (15%) and sarcomas (8%).⁵ The most common location for small bowel adenocarcinoma is in the duodenum (57%) followed by jejunum (29%) and the ileum (10%).⁶

Risk factors for small bowel adenocarcinoma include alcohol intake, smoking, dietary fiber intake, dietary fat intake.⁶⁻⁸ Other risk factors are FAP, Crohns disease, peutz jegher syndrome, and celiac disease. Of them Crohns disease and celiac disease are the most important known risk factors, but other associations may coexist.^{4,5,8}

Adenocarcinoma of ileum can present as stenosing type with features of obstruction, or bleeding type. Stenosis related symptoms are rarely manifested in early disease as small intestinal products are liquid, and less likely to obstruct. Clinical presentation is nonspecific, including abdominal pain, nausea, vomiting, occult GI bleeding and weight loss which are associated with majority of intra-abdominal conditions. Due to this presentation, diagnosis usually occurs at an advanced stage.^{9,10}

Diagnosis can be suspected or made by UGI barium study, ultrasonography, CECT scan, MRI, capsule endoscopy, double balloon enteroscopy, or diagnostic laparoscopy. CT scan is usually the first form of investigation for nonspecific abdominal symptoms. It is able to detect 80%

of patients with small bowel tumors.¹¹ The most common modality for diagnosis is contrast enhanced CT scan with intravenous and oral contrast. Thickened bowel wall is a common finding on CT scan in patients with abdominal pain. The bowel wall thickening can be caused by various diseases, of them tuberculosis is by far the most common in tropical countries like India.¹² Thus, small bowel malignancy, being extremely uncommon, comes very low down in the differential diagnosis. Similarly, in this case, the CT scan demonstrated an ileal stricture with mesenteric lymphadenopathy, a classical CT finding of tuberculosis which led to a provisional diagnosis of abdominal tuberculosis.

Tumor markers are neither sensitive nor specific for making a diagnosis of small bowel malignancy.¹³

Poor prognostic factors include advanced age, poorly differentiated tumor, primary site in duodenum, pT4 tumor stage, positive resection margins, positive lymphovascular invasion, number of lymph nodes metastasis, resection of primary tumor, low albumin, abnormal platelet count.¹⁴

Surgery is the primary treatment for locoregionally limited small bowel adenocarcinoma. Best management is wide resection with negative margins and regional lymphadenectomy with adequate lymph node evaluation. This is in contrast to duodenal carcinoma where pancreaticoduodenectomy should be performed, and distal ileal tumors where hemicolectomy should be done to obtain negative margins.^{5,15}

Several studies have confirmed the survival benefit of adjuvant chemotherapy to increase the disease-free survival, especially in patients with poorly differentiated adenocarcinoma and inadequate lymph node sampling. Those who receive chemotherapy usually receive, Lomustine (CCNU), 5-FU either alone, or in combination with other treatments.^{16,17}

There is no role of radiotherapy. Jejunoileal adenocarcinoma is radioresistant, thus radiation therapy is restricted to palliative setting.¹⁸

CONCLUSION

The commonest cause of small intestinal obstruction in India is abdominal tuberculosis. However, all cases of small intestinal obstruction are not tuberculosis. Adenocarcinoma of ileum is a very rare entity. This case report shows that a surgeon should have a high index of suspicion in an elderly patient presenting with small intestinal obstruction, with CT demonstrating isolated short-segment small bowel thickening, as it could be a presentation of obstructing type adenocarcinoma of the small intestine.

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