A Small Bowel Volvulus Caused by a Mesenteric Lipoma: Report of a Case

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Abstract
A 31-year-old man underwent a laparotomy for acute intestinal obstruction symptoms, which he had intermittently experienced for 14 years. The cause of the obstruction was due to a volvulus of the small bowel caused by a mesenteric lipoma. This is a rare finding, which is ideally diagnosed by computed tomography, with surgery the best and most highly recommended treatment. This particular presentation, to the best of our knowledge, has not yet been previously reported in the English language.

Key words Mesenteric lipoma · Intestinal obstruction · Volvulus

Case Report
A 31-year-old man presented in October 1999 with a 2-day history of severe upper and central abdominal pain. The pain was colicky in nature and confined to the abdomen, with nausea, vomiting, sweating, and no flatus having been experienced for a day. The patient described how these symptoms had intermittently occurred for the past 14 years. Over the last 2 years the patient had presented to a gastroenterologist as an outpatient. Investigations were performed including esophagogastroduodenoscopy (OGD), which identified a small hiatus hernia <5 cm. An ultrasound scan of the abdomen and a small bowel meal were both normal. The patient had also been treated empirically with Omeprazole 20 mg once daily, but with no effect.

On this admission his abdomen was distended, tympanic, tender in the central and epigastric regions, with normal bowel sounds and no palpable mass. Blood tests revealed no abnormalities, with a white blood cell count of $9.9 \times 10^9/l$. An abdominal radiograph did, however, identify an abnormally dilated loop of small bowel (Fig. 1). Initial conservative management with intravenous fluids and nasogastric tube aspiration for 24 h did not resolve the patient’s obstruction. In view of this and his previous 14-year history, with added recent investigations as an outpatient, a laparotomy was considered appropriate.

At laparotomy, a mesenteric lipoma was identified (Fig. 2a, b) of the terminal ileum approximately 20 cm proximal to the ileocecal valve. The lipoma extended to the antimesenteric border of the small bowel, and was free of any adhesions or signs of necrosis. A small segment of ileum appeared to have “stretched” over the lipoma. The ileum segment was patent, viable with signs of some edema, and appeared to have formed a volvulus effect by literally “flopping” from side to side thereby causing an intermittent obstruction. The intermittent nature of the obstruction was confirmed by the good viability of the ileum segment.

The lipoma was resected with the ileum segment. Macroscopically this was a 4.5-cm length of ileum with a $10 \times 9.5 \times 5$ cm mesenteric lipoma attached. Histology confirmed a lipoma with no evidence of necrosis or malignancy. The patient made a good recovery with no further symptoms reported at follow-up 1 year later.

Discussion
A lipoma is a benign tumor of mature fat.1 This can occur almost anywhere in the trunk, extremities, and even intraperitoneally, which is extremely rare,1–3 with a small overall malignant potential.2 Lipomas have an increased incidence in people with obesity, diabetes
vague abdominal pain, weight loss, and anorexia. Rarer still are giant lipomata and multiple lipomata of the ileum, which also can present with small bowel obstruction as a result of volvulus. This patient did not have any premorbid conditions and he was an athletic, slender-built man. A number of consultations over the past 14 years provided no diagnosis for his symptoms.

Diagnosis of mesenteric lipoma is rarely made preoperatively but ultrasound can identify a well-encapsulated homogeneous echogenic mass with good through-transmission. These sonographic appearances can help distinguish it from a neuroblastoma and lymphoma. Ultrasound, though, is rarely used to look at the mesentery of bowel, and will detect lipoma like this as a homogeneous mass of uncertain origin and probably as an incidental finding. However, both computed tomography (CT) and/or magnetic resonance imaging are considered to be more useful in making an accurate diagnosis, especially with CT depicting loops of small bowel forming a whirl-like pattern. A CT scan of the patient’s abdomen had not been performed, which would have been the next preferred form of investigation. CT has been suggested to identify the possible causes of small bowel obstruction in the acute phase. In view of our patient’s stable condition with no signs of sepsis, this may have been an option. Nevertheless, the patient would require surgery as resection remains the best and most recommended form of treatment due to lipoma’s small malignant potential and low recurrence rate.

This case demonstrated a 14-year intermittent small bowel obstruction secondary to a volvulus caused by a mesenteric lipoma. CT remains the ideal diagnostic tool with surgery the best and most recommended treatment for this condition.

![Fig. 1. Plain abdominal radiograph identifying an abnormal dilated loop of small bowel in the right upper quadrant](image_url)

![Fig. 2. a Lipoma at the antemesenteric border of the small bowel. b Small bowel mesenteric lipoma](image_url)