An atypical acute small-bowel obstruction

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Observation

A 54-year-old woman presented to the emergency department with a sudden onset of severe abdominal pain. The patient had been vomiting for the preceding 24 hours. She had no particular past surgical or medical history, except for a long history of chronic abdominal pain that was partially relieved by oral administration of antispasmodic drug (phloroglucinol). Clinically, the abdomen was distended, with abdominal guarding during palpation but abdominal sounds were present. The results of biological tests were within the normal range. MDCT of the abdomen and pelvis was performed after intravenous administration of an iodinated contrast material during the portal phase (Figs. 1–3).

Figure 1. Abdominopelvic MDCT in the axial plane.

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What is your diagnosis?

Based on the clinical and MDCT imaging findings, which of the following items is the most plausible diagnosis?

- small bowel obstruction by volvulus of a mesenteric lipoma;
- small bowel obstruction due to external compression by a dermoid cyst.

Diagnosis

Small bowel obstruction by volvulus of a mesenteric lipoma.

Results

MDCT shows distension of small bowel loops, with a flat-dilated junction segment indicating mechanical obstruction. The ileal loops along with mesenteric vessels are twisted. This “whirl sign” (Fig. 4) is characteristic of obstruction due to volvulus, with the twisted vessels converging towards the site of torsion, where a homogenous, well circumscribed large fatty mass attached to the ileum can be seen (Figs. 5 and 6).

During laparotomy a yellowish encapsulated lesion, with a pedicle attached to the antimesenteric border of the ileum was found. It seemed to be twisted on itself (Fig. 7). Surgical treatment included complete resection of the lesion and adjacent segments of the small bowel. Histopathological analysis of surgical specimen showed mature adipocytes with no nuclear atypia, as well as a hemorrhagic component confirming the final diagnosis of a giant mesenteric lipoma. The ileal loop was necrotic with no signs of malignancy.

Discussion

A lipoma is a common benign mesenchymatous tumor, composed of mature adipocytes, which cannot be histologically differentiated from normal fat, but whose biochemical and ultrastructural features are different. It can be located in any part of the body that contains adipose tissue with a predominance in subcutaneous and muscular soft tissue [1,2].

On MDCT scan, lipoma usually presents as a mass with negative attenuation values ranging between −20 and

Figure 2. Abdominopelvic MDCT in the coronal plane.

Figure 3. Abdominopelvic MDCT in the sagittal plane.

Figure 4. Abdominopelvic MDCT in the axial plane shows the whirl sign (dark arrow) and small bowel distension (light arrow).
sequences across the lesion as well as a fibrous capsule. Some lipomas can have large fibrous septa with a nodular organization mimicking liposarcoma that is well differentiated on imaging [1].

The mesenteric location of lipoma is relatively rare. In the gastrointestinal tract lipoma usually develops in the colon (75%) and small bowel (25%) mainly originating in the submucosa where its soft consistency allows passage of intestinal contents without causing obstruction.

Gastrointestinal lipoma can be complicated by chronic abdominal pain, recurrent, self-resolving episodes of obstruction that may cause true obstruction by different mechanisms such as obstruction, intussusception or torsion of the vascular pedicle. In our patient, the process of obstruction was due to the large size of the lipoma that pulled on the section of the small bowel it was attached to, causing hypermobility, until it turned on its own axis with the resulting associated ischemic phenomenon. They are usually asymptomatic and discovered incidentally, so the exact prevalence of this condition remains unknown [3].

Besides lipoma, fat content can be macroscopically visible in myriad abdominal diseases such as a myelolipoma, angiomylolipoma, teratoma, epiploic appendagitis [4], infarct of the greater omentum [5,6], and mesenteric panniculitis [7] but the main differential diagnosis of benign lipoma is liposarcoma [1].

A mesenteric lipoma can be considered to be an unusual cause of chronic abdominal pain. MDCT helps confirm mechanical small bowel obstruction and suggest gastrointestinal lipoma as the causative lesion [8]. Surgical treatment is the rule, including total resection of the mass because of a risk of recurrence and the associated ischemic damage of the small bowel.

**Disclosure of interest**

The authors declare that they have no conflicts of interest concerning this article.
References


