Reminder of important clinical lesson

Secondary omental torsion

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A middle-aged woman presented with symptoms and signs of acute abdomen. Clinically a suspicion of acute appendicitis was raised, although the abdominal x-ray and ultrasound were normal. She was managed conservatively, which she failed to respond. In the view of persisting pain, a contrast enhanced CT (CECT) was done. CECT showed a whirling mass of fatty and fibrous tissue adherent to the anterior abdominal wall suggestive of omental torsion and the diagnosis was confirmed on laparotomy and she underwent excision of the ischaemic omentum. Omental torsion though rare, should be included in the differential diagnosis of acute abdomen. High index of suspicion is required to diagnose this entity. CECT abdomen shows the classical finding of fatty mass with whirling pattern. It is seldom considered in the differential diagnosis preoperatively based on clinical findings and the diagnosis is only established during the surgical procedure.

BACKGROUND

Usually pain in the right iliac fossa with typical presentation and signs is often labelled as acute appendicitis and pain after previous surgery as adhesive colic. We report a patient with an unusual cause of an acute abdomen.

CASE PRESENTATION

A 50-year-old obese lady presented with sudden severe abdominal pain of 2 days duration. The pain was confined to the right upper abdomen with no vomiting, gastrointestinal bleeding or alteration of bowel habit. She had undergone tubal ligation 4 years back with a midline infraumbilical incision. On examination, she had tachycardia, abdomen was minimally distended with tenderness in the right hypochondrium and right iliac fossa with no guarding. Clinically a suspicion of acute appendicitis was raised.

INVESTIGATIONS

Laboratory parameters, abdominal x-rays and ultrasound were unremarkable. In view of persisting pain with an unsettled abdomen, a contrast enhanced CT (CECT) of abdomen was advised. CECT revealed a fatty mass with a whirling pattern adherent to the right anterior abdominal wall (figure 1A). The small and large bowel was normal with no free fluid or pneumoperitoneum. Possibility of omental torsion was raised. She started having worsening of abdominal pain with tenderness and guarding.

DIFFERENTIAL DIAGNOSIS

- Acute appendicitis
- Adhesive colic

TREATMENT

In the view of clinical worsening, she was subjected to a laparotomy. On exploration, an ischaemic flap of greater omentum was discovered in the right upper quadrant of the abdomen, which was adherent to the inferior margin of the liver. After dissecting it off from the liver margin, the

segment of omentum was seen to have rotated 360° on a proximal pedicle (figure 1B). The pedicle was ligated and the ischaemic segment of omentum was excised. A part of the omentum was also seen adherent to the anterior abdominal wall at the scar of previous tubectomy, which was excised.

OUTCOME AND FOLLOW-UP

Her postoperative period was uneventful and she was discharged after 5 days. She continues to remain asymptomatic on follow-up.

DISCUSSION

Omental torsion can be primary or secondary.¹ Primary torsion is unipolar with one end of the omentum free, while secondary is bipolar where the end opposite to the vascular pedicle is fixed to adhesions or some other pathological condition. The cause of primary omental torsion remains unknown but several predisposing factors have been described for example, anatomical variations including tongue like projections from the free edge of the omentum, bifid omentum, accessory omentum.²

Secondary omental torsion is due to an acquired attachment following hernia repair, a surgical scar, tumours or perforated bowel.³ In our case torsion occurred due to adhesions to the tubectomy scar. The greater omentum is mobile as it has no attachments except on its superior attachment. Torsion is usually caused by partial or total rotation around its main axis, causing compromised perfusion of the omentum and infarction.⁴ The right side of the omentum is more prone to torsion due to its larger size, as was seen in our case.

Clinically, primary and secondary omental torsions are similar and occur in the fourth and fifth decades, males being affected twice as commonly as females. The most frequent presentation is pain in the right iliac fossa, which is usually sudden in onset, and is constant with a gradual increase in severity, as was observed in our case. It can

Figure 1 (A) CECT abdomen showing a fatty mass with whirling pattern adherent to the anterior abdominal wall (white arrow).

mimic other acute abdominal states such as acute appendicitis, torsion of appendix epiploica or diverticulitis.⁴ Goti *et al* reported that symptoms simulate acute appendicitis in 66% of cases and cholecystitis in 22%. Progressive peritonitis usually dictates laparotomy and an accurate diagnosis is rarely made before surgery.⁵

Although ultrasound may show oval-shaped mass adherent to the abdominal wall in the region of maximum tenderness, it is subjective and failed to reveal any specific findings in our case. CT scan is very sensitive for showing an omental mass but not specific for making a diagnosis of torsion. Classic signs of omental torsion on CECT are a) a whirling mass of fatty and fibrous tissue around a vascular pedicle b) a spiral fat pattern, c) a fatty mass with a whirling pattern d) a circumscribed fatty mass with hyper-attenuated streaks and e) a concentric distribution of fibrous folds.⁶

Conservative management with analgesics and antibiotics can be attempted in subset of patients who are diagnosed on imaging.⁷ Although CECT revealed classical findings of omental torsion in our case, we contemplated surgery in the view of clinical worsening. Treatment involves resection of the diseased segment of omentum and to correct any secondary pathology, if present. It has been observed that, if the omentum is not excised it may become atrophic and fibrotic and, on rare occasions, the pedicle may even autoamputate, leading to clinical regression.⁸ The main complications of an untreated situation are omental necrosis due of haemorrhagic infarction, peritonitis or bowel obstruction. Laparoscopic management of primary omental torsion has also been described in literature.⁹ Although the role of laparoscopy had been described, we did not consider it in our patient, as she appeared clinically unfit (tachycardia, tachypnea) to withstand the procedure. Omental torsion may be much more common than the number of cases reported in the literature.

Learning points

- High index of suspicion is required in diagnosis of omental torsion.
- Omental torsion should be considered in the differential diagnosis of acute abdomen.
- CECT scan of abdomen shows the classical feature of a whirling mass of fatty and fibrous tissue around a vascular pedicle.

Competing interests None.

Patient consent Obtained.

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