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Case Report

Secondary Omental Torsion Following Central Pancreatectomy Managed Conservatively: A Case Report

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Abstract

Omental torsion is a rare condition caused by twisting of the greater omentum, leading to compromised blood flow and ischemia. Because its symptoms mimic other acute abdominal conditions, diagnosis is often delayed and typically made intraoperatively.

We report the case of a 60-year-old male underwent central pancreatectomy with Roux-en-Y reconstruction for an epidermoid tumour accompanied by elevated CEA levels. Four months postoperatively, he presented with acute abdomen in the absence of bowel obstruction, CECT confirmed the presence of omental torsion. Patient was admitted for two days and later was discharged and treated conservatively with close monitoring. One-year follow-up demonstrated significant regression of the twisted omentum.

Omental torsion is an uncommon finding. Early and accurate diagnosis plays a crucial role in guiding management decisions. Literature suggests that with appropriate and close follow-up, conservative management is a valid option, emphasizing the need for clinical correlation and radiological expertise to avoid unnecessary surgery.

Keywords: Omental Torsion; Abdominal; Radiological; Surgery

Introduction

Omental torsion is an unusual surgical condition accounting for only 1.1% cases of acute abdominal pain worldwide [1]. It's caused by twisting of the greater omentum along its long axis compromising vascularization leading to ischemia and potential peritonitis. Clinical presentation is usually nonspecific which causes frequent misdiagnosis, and therefore delay in appropriate management. Diagnosis is often made intraoperatively, as signs and symptoms mostly mimic other acute abdominal conditions. Herein, we describe a case of solitary omental torsion 4 months after central pancreatectomy.

Case Presentation

In our manuscript, we report the case of 60-year-old male patient who underwent a central pancreatectomy for a solid tumour in the body accompanied by elevated CEA level. Four months postoperatively, the patient developed acute abdominal pain associated with mild nausea and fever with anorexia. Our differential diagnosis was post-operative collection or pancreatic pseudocyst or intestinal obstruction. Physical examination showed T 37.8, abdominal tenderness with rebound and voluntary guarding. WBC was 17,000. Amylase and lactic acid were slightly elevated then eventually were normalized.

Ultrasonography was inconclusive, contrast enhanced computed tomography was done and ruled out pseudocyst or any collection. However, revealed a well-defined encapsulated lesion measuring 45 × 23 × 70 mm in the anterior omentum on the right side of the abdomen, containing both fat and fluid (8 HU) and surrounding fat stranding, abutting the posterior aspect of the anterior abdominal wall over an area measuring 45 × 100 ×160 mm (Figure 1). Notably, there was no evidence of swirling of the mesenteric vessels or any sign of intestinal occlusion on imaging.

Patient was admitted for pain control and anti-biotherapy. Symptoms were alleviated and he was eventually discharged on pain killers, anti-inflammatory and antibiotics. CECT was done on 3 months (Figure 2) and 6 months (Figure 3) respectively and demonstrated gradual regression of the encapsulated twisted omentum and disappearance of the fluid within it. One year follow up noted no residual abdominal pain.

Discussion

Torsion is of the omentum is a rare surgical condition accounting for only 1.1% cases of acute abdominal pain worldwide [1]. It is commonly seen in children and the elderly, with a male-to-female predilection of about 2:1 [2]. Omental torsion involves the twisting of the greater omentum, either partially or completely, mostly in a clockwise direction forming an irreversible state. This leads to compromised vascularization and therefore ischemia, necrosis, serosanguineous fluid production, and peritonitis [3].

The ethology of omental torsion in unknown, however, Donhauser and Loke [4] classified it into primary and secondary depending on the underlying cause. Primary omental torsion (Unipolar) is usually associated with anatomical variations in the omentum which predisposes its rotation and risk factors like obesity that leads to abnormal fat distribution [5]. While secondary omental torsion (Bipolar) is due to intra-abdominal pathologies like postsurgical adhesions, inflammatory pathologies of other organs, cysts, tumors, hernias, etc. Secondary omental torsion is more common and is increasingly recognized as a complication of abdominal surgery. It

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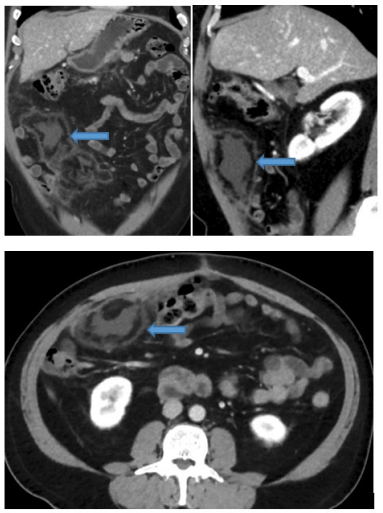

Figure 1: CECT, coronal, sagittal and axial views showing a large well-defined encapsulated lesion containing fluids surrounded by fat stranding indicating omental torsion.

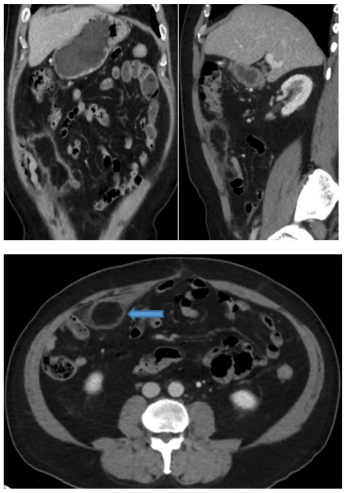

Figure 2: 3 months FU CECT demonstrating radiologic improvement in terms of size and inflammation.

occurs most frequently after procedures such as colonic resection, gastric bypass, and cesarean section. Nonetheless, to date, the cases presented by Javed, et al [6] represent the sole reported instances of secondary omental infarction occurring post-pancreatectomy. The latter study reported 12 cases of omental infarction secondary to distal pancreatectomy with concurrent splenectomy.

Omental torsion presents with nonspecific gastrointestinal symptoms resulting in frequent misdiagnosis. Constant pain is the predominant manifestation and its location depends on the affected site of the omentum, rarely occurring in the right upper abdominal quadrant. The inflammatory process frequently happens on the right lower quadrant of the abdomen due to the length and characteristics of the greater omentum [7]. However, the evolution of symptoms is usually slower and less intense than other surgical pathologies like acute appendicitis, hence the diagnosis is usually made during exploratory laparotomy. It can also be mistaken as any other abdominal lesion and some papers reported that only 0.2% to 4.8% of all clinical cases of omental torsion can be correctly diagnosed preoperatively [8,9].

Although no specific examination reported, the widespread use of CT scans for abdominal pain has improved the detection of omental torsion. Two distinct radiological signs on CT imaging can suggest the presence of omental torsion. The "vascular pedicle sign" which shows a central point of the mesenteric vessel enhancer surrounding the smaller mesenteric branches with multiple turns. And the "whirlpool sign" that is described as a nebulous fatty mass with concentric fatty lines, twisting the blood vessels within the greater momentum, which revolve around a central vascular line [10]. The latter sign may affirm torsion. Nonetheless, not all omental torsion cases have a typical radiological appearance, which poses a diagnostic challenge due to similarity with other omental conditions like segmental omental infarction and primary epiploic appendagitis.

Conservative management should always be considered as a recent literature review indicates a success rate of 23.6% [11]. While the large majority of cases were successfully managed by surgical resection, it is believed that most surgeons opt to operate. The decision between conservative and surgical management is influenced by several factors. Surgical intervention is favoured in case of severity and persistence of symptoms between 24-28 hours, lack of clinical improvement, the emergence of complications, as well as significant diagnostic uncertainty. In our case, conservative management was pursued due to the patient's stable condition with the certainty of regular follow-up and close observation post-pancreatectomy. This approach aligns with current guidelines that favour non-surgical treatment when symptoms are mild and the patient can be reliably monitored, allowing prompt intervention if the clinical situation changes [12]. In addition, accurate and timely radiological assessment played a crucial role in early detection and follow-up, enabling tailored and effective management.

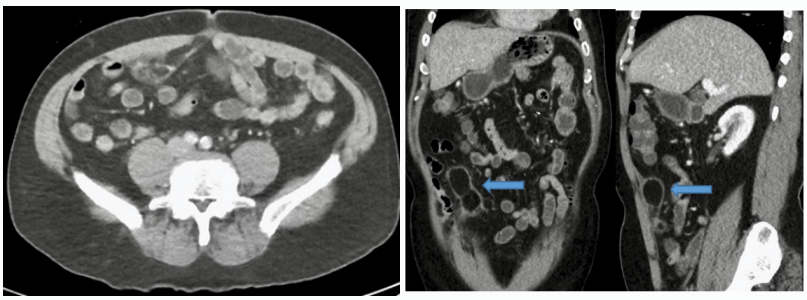

Figure 3: 9-month FU, CECT showed marked regression of the omental torsion.

Conclusion

Omental torsion is an uncommon medical emergency that needs to be included in the differential diagnosis for acute abdominal pain especially after surgery. Knowledge about this rare clinical entity is essential to avoid unnecessary surgical exploration. Our case illustrates successful conservative treatment of secondary omental torsion following central pancreatectomy.

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