

Primary omental gangrene presenting as acute abdomen

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ABSTRACT

Primary omental gangrene is a very rare but important cause of an acute abdomen. We came across a case of an acute abdomen which was taken up for emergency laparoscopic appendicectomy. On laparoscopy, torsion of the free part of the omentum, leading to distal gangrene, was found. Intraoperative diagnosis of primary omental gangrene was made. Pre-operative diagnosis of this condition is difficult. Through our case report, we want to highlight about this rare cause of pain abdomen as knowledge of this pathology is important to the surgeon because it mimics the other common causes of the acute surgical abdomen.

KEY WORDS: Primary Omental Gangrene; Rare Cause; Acute Abdomen; Intraoperative Diagnosis

INTRODUCTION

Primary omental gangrene is a condition in which a pedicle of the omental apron gets twisted on its longer axis to such an extent that its vascularity is compromised. It occurs because a mobile, thick segment of omentum rotates around a proximal fixed point in the absence of any secondary intra-abdominal pathology. Eitel, in 1899, first reported a case of omental torsion associated with a hernia.^[1] Primary omental gangrene has an incidence of 0.0016–0.37% when compared with appendicitis ratio of <4 cases per 1000 cases of appendicitis.^[2] It is difficult to diagnose preoperatively, and an accurate pre-operative diagnosis is reported in only 0.6–4.8% of all cases.^[3]


CASE REPORT

A 22-year-old male patient presented in our emergency with the complaint of pain abdomen in the periumbilical region,

which had shifted to the right lower quadrant of the abdomen for the past 2 days. It was not relieved with medical treatment. He had a history of one episode of vomiting. There was no history of anorexia and fever. The patient had a history of abdominal massage. On clinical examination, his pulse was 118/min; the abdomen showed tenderness and rebound tenderness in the right iliac fossa. B/L testis was normal on palpation. Laboratory findings showed raised white blood cells count 12,640/mm³ with 81.6% polymorph nuclear cells. Ultrasound abdomen was inconclusive. Alvarado score was calculated to be 8 and a clinical diagnosis of acute appendicitis was made. The patient was taken up for emergency laparoscopic appendicectomy. On laparoscopy, minimal serosanguinous fluid in the right paracolic area and ascending colon adhesions with anterolateral abdominal wall were noted [Figure 1]. Further, dissection revealed that free right part of omentum was twisted on itself 3–4 times, leading to distal gangrene [Figure 2]. An appendix was absolutely normal. No other pathology was found. Resection of the gangrenous portion of the omentum was performed laparoscopically. Postoperatively, the patient had an uneventful course.

DISCUSSION

Omental torsion, leading to gangrene of the omentum, is usually secondary to intra-abdominal pathology.^[3] Primary

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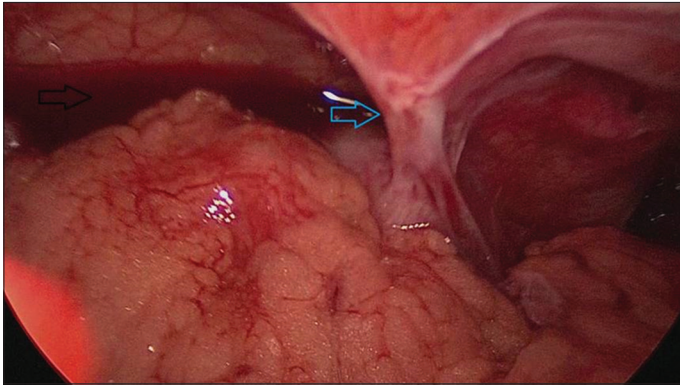


Figure 1: Black arrow showing serosanguinous fluid in the right paracolic gutter. Blue arrow showing colonic adhesions with anterolateral abdominal wall

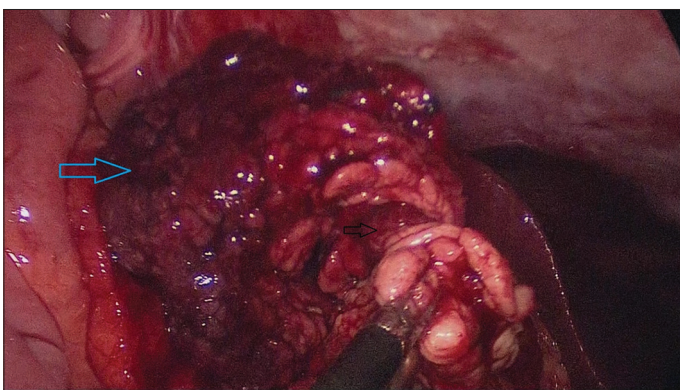


Figure 2: Blue arrow showing gangrene distal portion of omentum. Black arrow showing the twisting point of omentum

omental gangrene is a rare condition and difficult to diagnose preoperatively. It can mimic various other causes of an acute abdomen. Unfortunately, the symptoms and clinical findings do not present in any characteristic pattern that suggests the diagnosis. The differential diagnosis of omental gangrene should include acute appendicitis, acute cholecystitis, Meckel's diverticulitis, cecal diverticulitis, duodenal perforation, and intestinal obstruction. In female patients in addition to the above differential diagnosis, reproductive organ pathologies such as ovarian cyst torsion, fallopian tube inflammation, and ectopic pregnancy should be considered. In children, mesenteric adenitis and Meckel's diverticulum are to be kept in mind.^[4] The correct etiology is not clear in idiopathic omental gangrene. Greater omentum anomalies such as bifid omentum, accessory omentum, and anomalous vascular blood supply are considered as predisposing factors for omental torsion. Other precipitating factors leading to an increased risk for omental torsion include trauma, coughing, a sudden change of body position, hyperperistalsis after a copious meal, or compression between the liver and the abdominal wall.^[5] One study documents that almost 70%

of patients with omental torsion leading to gangrene are obese.^[6] Obesity was not a risk factor in our patient. He had given a history of abdominal massage which is the only predisposing factor in our case. To make the correct diagnosis, some authors recommend laparoscopy as the diagnostic and therapeutic method of choice in cases of omental gangrene.^[7] To conclude, primary omental gangrene is a rare cause of acute abdomen, which mimics other causes of acute abdomen, especially appendicitis. Pre-operative diagnosis is difficult in most of the cases.^[8] A thorough search should be done in acute abdomen cases. It is likely to be missed in open surgery through small McBurney's incision. Laparoscopy is diagnostic if pre-operative ultrasonography was inconclusive or contrast-enhanced computed tomography abdomen was not done and therapeutic for the management of primary omental gangrene. Laparotomy is avoidable.

CONCLUSION

Through our case report, we want to highlight about this rare cause of pain abdomen as knowledge of this pathology is important to the surgeon because it mimics the other common causes of the acute surgical abdomen.

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