Case Report

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Right-sided omental torsion with inguinal hernia

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ABSTRACT

A 38 year old man was admitted to our hospital with abdominal pain. He had an untreated right inguinal hernia and the hernia presented as a swelling ball of 4.0×3.0 cm in size. CT showed a large mass of fat density below the Sigmoid colon and incarcerated fat within the right inguinal hernia. Emergent laparotomy revealed four-circle twisted and infarcted greater omentum and a little bloody ascites within the right inguinal hernia. Pathological examination showed hemorrhagic infarction of the greater omentum. Although omental torsion is a rare cause of acute abdominal pain, it should be taken into consideration in the differential diagnoses of acute abdomen, especially in patients with untreated inguinal hernia.

Keywords: Acute abdomen, Inguinal hernia, Omental torsion

INTRODUCTION

Omental torsion (OT) is a condition in which a pedicle of the omental apron twists on its long axis to such an extent that its vascularity is compromised. Eitel et al first reported a case of omental torsion unassociated with a hernia. Study presented here a case of surgically proved right-sided torsion of the greater omentum that caused secondary torsion by untreated inguinal hernia.

CASE REPORT

A 38 year old man presented to our hospital with five-day history of right lower quadrant pain. He was diagnosed as right inguinal hernia, but received no treatment. He had a history of appendectomy. Physical examination revealed tenderness of the upper right abdomen, with moderate rigidity of right lower quadrants. He had right inguinal hernia and the hernia presented as a swelling ball of 4.0×3.0 cm in size. Routine blood test showed leukocytosis (white blood cell count = $18\ 600/\text{mm}^3$). Contrast-enhanced computed tomography (CT) of the

abdomen showed a large fat density mass below the sigmoid colon and right inguinal hernia with incarcerated fat (Figure 1). Bloody ascites was collect by peritoneal cavity puncture.

Exploratory laparotomy revealed torsion of the greater omentum with about 100 milliliter of bloody ascites within the hernia. A lobed and cyanotic looking omental mass of $15.0 \times 8.0 \times 6.0$ cm in size, which was suspended by a pedicle twisted on its axis four circles and entered into a right inguinal hernia (Figure 2).

There's a transversal conqlutination in the cervix of the twisted omentum and as a result the twisted omentum could not restore to normal position. The resection of the twisted omentum and repair of the right inguinal hernia were performed for the patient. The pathological examination of the resected omentum showed acute extensive hemorrhagic infarction and fat necrosis, with polymorph nuclear cells infiltration of vein vessels (Figure 3). The patient experienced an uneventful

recovery and was discharged seven days after the operation.



Figure 1: A, B) Contrast-enhanced computed tomography showing a large fat density mass below the sigmoid colon and right inguinal hernia with incarcerated fat. (C) computerized tomography (ct) scan shows a characteristic fat pattern. The vascular pedicle extends caudally and enters a large well-circumscribed heterogeneous fatty mass in the right lower quadrant and increased fat density.



Figure 2: Operative picture demonstrating torted omentum section with three twists.

DISCUSSION

Torsion of the omentum is a rare cause of acute abdomen. The greater susceptibility to torsion of the right side is due to its greater length and size and its greater mobility.² Omental torsion can be classified as primary and secondary torsion. Primary torsion is believed to be related to local omental anomalies, such as bulky bifid or accessory omentum or abnormally redundant omental veins, but the exact pathogenesis is yet to be disclosed.³

Secondary torsion is associated with adhesions to cysts, tumors, inflammatory foci, scars, or hernias. The precipitating factors include sudden increase in intra-abdominal pressure following a heavy meal or exertion, change in body position, coughing or sneezing, and occupational use of vibrating tools.^{2,4} The present case is attribute to secondary torsion.

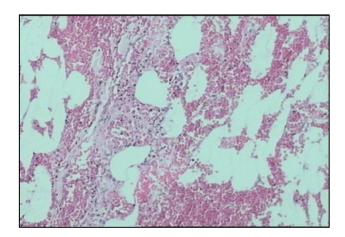


Figure 3: Histological findings of omentum majus show fresh hemorrhagic circulation disorders (arrows), partial necrosis of fatty tissue with acute inflammatory cell infiltrate (hematoxylin staining, original magnification \times 100).

When torsion occurs, venous return is compromised, with the result that the distal portion of the omentum becomes congested and edematous with hemorrhagic extravasation fluid into the peritoneal cavity, and aseptic peritonitis ensues.⁵ As the torsion proceeds, arterial occlusion leads to hemorrhagic infarction and fat necrosis, followed by an inflammatory reaction.

The typical clinical feature of omental torsion includes pain of sudden onset and short duration, which is usually constant and gradually increases in severity.² The differential diagnoses of which include acute appendicitis, acute cholecystitis, diverticulitis, epiploic appendagitis, cecal or sigmoid volvulus, and many others.

Thus diagnosis of omental torsion is rarely made preoperatively but should become more frequent with the increasing use of CT in the diagnosis of acute abdominal conditions. The CT findings of fatty mass with a whirling pattern in the greater omentum suggest omental torsion.

Traditionally, the standard treatment of omental torsion is resection of the involved segment of omentum.^{4,7}. However, a few reported cases of omental torsion that were successfully treated conservatively have been reported.^{4,6} In present case, the patient received conservative treatment four days in local clinique with no obvious efficacy, so the surgical operation was performed.

CONCLUSION

Omental torsion is a rare cause of acute abdominal pain but should be included in the differential diagnoses of acute abdomen, especially in patients with untreated inguinal hernia.

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