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Omental Torsion Presenting As Acute Appendicitis: A Case Report

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Omental torsion is a rare cause of acute surgical abdomen from omental twisting leading to distal vascular compromise. Preoperative diagnosis has been a dilemma as clinical features, laboratory and radiographic findings are nonspecific and variable, closely mimicking acute appendicitis. Surgical excision has been suggested to offer rapid symptom relief and postoperative recovery. Presented here is a case of a 59-year-old male with omental torsion who presented with generalized abdominal tenderness and was preoperatively diagnosed as ruptured appendicitis who underwent laparotomy with uneventful post-operative course.

Key words: omental torsion, acute abdomen, appendicitis, case report

Omental torsion is a rare pathological process causing acute surgical abdomen with an incidence of less than 0.4% among acute abdominal emergencies worldwide[1]. It is caused by the rotation of the omentum on its long axis leading to distal ischemia and subsequent necrosis[2]. Since it was first reported in 1899, only about 400 cases have been documented in literature, to date. In the Philippines, only one similar case – primary omental infarction presenting as right upper quadrant pain – has been published[3]. Diagnosing this condition preoperatively is challenging, as clinical features, laboratory and radiographic findings are nonspecific and variable, closely mimicking acute appendicitis[2,4]. Consequently, most cases are diagnosed intraoperatively. Surgical resection has been suggested as the treatment of choice as it offers rapid symptom relief and postoperative recovery[1,4].

Reporting cases of omental torsion in the Philippines is important because it is a rare and often underdiagnosed cause of acute abdomen, and local documentation of omental torsion cases in the Philippines can increase clinical awareness, improve diagnostic accuracy, and guide timely management in similar resource-limited settings.

This report describes a case of primary omental torsion presenting clinically as acute appendicitis, with the aim of highlighting the diagnostic difficulty of this condition and increasing awareness of omental torsion as a rare but important differential diagnosis in patients presenting with acute abdominal pain.

The Case

A 59-year-old male presented with a one-day history of sudden onset right lower quadrant pain associated with nausea, vomiting, and anorexia. He had no fever and no changes in his urinary and bowel habits.

On examination, he was afebrile with normal vital signs, but had generalized and rebound abdominal tenderness. Digital rectal examination was unremarkable. Laboratory results showed a normal WBC of 10 ($x10^9$/L) with neutrophilia (69%). Urinalysis showed no infection. The Alvarado score was 5 (out of 10), indicating an equivocal likelihood of appendicitis. Based on the overall clinical picture, the initial impression was ruptured appendicitis; hence imaging was deemed unnecessary.

A midline laparotomy was performed under general anesthesia. Upon exploration, an area of hemorrhagic omentum was found adjacent to a congested appendix. No abscess collection or peritonitis was identified. Further

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examination of the infarcted omentum revealed that it was twisted upon itself (Figure 1). Further exploration did not reveal any other pathology. A partial omentectomy (resection of the twisted segment of omentum) was perfomed, along with an appendectomy.

The patient's postoperative course was unremarkable. Histopathologic examination of the omentum showed fibrocollagenous and adipose tissues with acute-on-chronic inflammation, congestion, and hemorrhage consistent with omental torsion. The appendix showed acute serositis with congestion and fibrous obliteration.

Discussion

Omental torsion is an unusual cause of acute abdomen in which the omentum twists on itself, often in a clockwise manner, cutting off blood supply to its more distal portion. It more commonly affects the right side of the omentum due to its increased length, weight, and mobility. Most cases occur in the third to fifth decades of life with a slight male predominance (3:2 male-to-female ratio)[5]. Most cases have been reported in association with obesity, omental anatomical variations, increased intra-abdominal pressure, and trauma. It is mostly diagnosed intra-operatively and occurs more often secondary to other intra-abdominal pathologies such as omental tumors, adhesions and hernias. However, it may also occur without an established pathologic cause, in which case it is termed "primary" omental torsion[2,5]. In the present case, no underlying cause was identified, consistent with primary omental torsion.

Omental torsion usually presents with progressive abdominal pain, nausea and vomiting. Around half of patients exhibit a low grade fever and leukocytosis. However, these signs are nonspecific and may also be seen in conditions like acute appendicitis[2]. Imaging studies, such as sonography and computed tomography (CT) have been suggested to aid in preoperative investigation. On ultrasonography, a complex mass with mixed hypoechoic and solid zones may be seen; however, the utility of ultrasound is limited by overlying bowel gas and operator skill. On CT, characteristic fibrous and fatty folds with diffuse streaking in a whirling pattern may be identified. However, these findings are non-specific and may be seen in mesenteric panniculitis and epiploic appendagitis, among others[6].

Conservative or expectant management of stable omental torsion cases diagnosed preoperatively through imaging has been reported. In such instances, the twisted omentum might undergo a natural progression from fibrosis, necrosis, to eventual autoamputation, leading to spontaneous clinical improvement. Proceeding directly to surgery, however, has been associated with shorter hospital stays and lower costs by eliminating

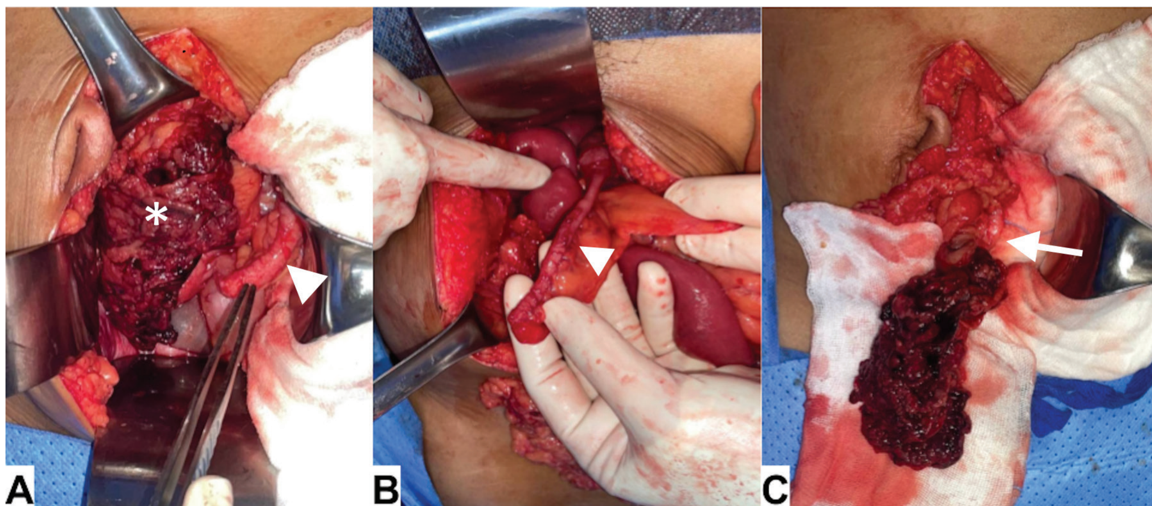

Figure 1. (A) and (B) The infarcted omentum (*) beside a congested appendix (arrowhead). (C) Omentum twisted along its long axis leading to distal vascular compromise; arrow indicates the point of torsion. PGH, 2023.

the need for serial abdominal examination and repeated laboratory work-up.[7] Laparoscopy followed by omental necrosectomy (resection of the necrotic segment) is currently the preferred treatment approach, as it affords rapid symptom relief postoperatively, as shown in this case. The addition of appendectomy may also be done to avoid future diagnostic confusion[2,6,8,9].

In retrospect, certain findings in the patient's initial presentation were incongruent with the expected profile of a ruptured appendicitis causing generalized peritonitis. Notably, he was afebrile and had a normal WBC count, whereas one would typically expect fever with leukocytosis[10-11]. Other differential diagnoses should have been considered preoperatively.

Conclusion

Omental torsion is a rare cause of acute abdomen mainly diagnosed intra-operatively due to its nonspecific clinical, laboratory and imaging presentation. A high index of suspicion coupled with CT imaging may aid in early preoperative diagnosis[11]. In general, primary omental torsion carries a good prognosis after surgical management, whereas prognosis for secondary torsion depends on the underlying pathology[5].

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