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*Corresponding author

*Abdelaziz Yehya, MD, AL-Hussain University Hospital, Darassa, Cairo, Egypt.

Case report

Primary omental gangrene as a rare cause of a cute abdomen in children

Abdelaziz Yehya*,MD,Ibrahim Gamaan,MD,YasserAshour MD, Mohamed Elsayed MD, Ahmed Salah, Msc

Department of pediatric surgery, faculty of medicine, Al-Azhar University - Cairo, Egypt

Abstract

Primary omental gangrene is a very rare cause of an acute abdomen. We came across a case of an acute abdomen which was taken up for Diagnostic laparoscopy. 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 acute abdomen.

Introduction

Primary omental gangrene is a very rare cause of acute abdomen [1].Primary omental gangrene is a condition in which a pedicle of the omental twisted on its longer axis to such an extent that its vascularity is compromised[2]. It occurs because a mobile, thick segment of omentum rotates around a proximal fixed point in the absence of any secondary intra-abdominal pathology [2,3].

Omental torsion can be primary (idiopathic) or secondary, depending on an underlying cause [4]. Eitel, in 1899, first reported a case of omental torsion associated with a hernia. It is difficult to diagnose preoperatively, Among a variety of conditions causing acute abdomen such as acute appendicitis, diverticulitis and ovarian cysts, acute omental torsion is least suspected[4,5].

Case report

A 8 -year-old male patient presented in our emergency with the complaint of abdominal pain in the right lower quadrant of the abdomen for the past 2 days. There was no history of vomiting, anorexia and fever.

There was no significant medical or surgical history in the past.

On clinical examination, his pulse was 90/min; the abdomen showed tenderness and rebound tenderness in the right iliac fossa. Bilateral testis was

Figure 1: *Intrsoperative omental gangrene*

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Figure 2: *Intrsoperative site of omental gangrene medial to right internal ring*

Figure 3: *Intrsoperative omental gangrene after release*

normal on inspection and palpation. Laboratory findings showed raised white blood cells count 12,000/mmc with 81.6% polymorph nuclear cells. Ultrasound abdomen was inconclusive.

Upon Admission pain suddenly increased in severity and involved the lower abdomen, clinical diagnosis of acute appendicitis was made. The patient was taken up for emergency diagnostic laparoscopy . On laparoscopy, minimal sero-sanguinous fluid in the pelvis and 6× 5 cm s of gangrenous omentum was twisted on itself, leading to distal gangrene. An appendix was absolutely normal. Gall bladder and stomach was normal and both internal ring were normally closed. No other pathology was found. Resection of the gangrenous portion of the omentum was performed laparoscopically.Appendectomy was not performed. The omentum was sent for histopathology.

Postoperatively, the patient had an uneventful course and was started on oral diet from the first post operative day. The patient was discharged on the third postoperative day.

Discussion

Omental torsion may be primary or secondary. In primary torsion, a mobile segment of omentum rotates around a proximal fixed point in the absence of any associated intra- abdominal pathology [6,7]. Predisposing factors include, anatomical variations of the omentum itself, e.g., accessory omentum, bifid omentum and narrowed omentum pedicle [8]. Secondary torsion is more common and is associated with abdominal pathology like inguinal hernia (most common), cysts, internal herniation, foci of intraabdominal inflammation[9]. Primary 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 [10,11].

The differential diagnosis of omental gangrene In children should include acute appendicitis, mesenteric adenitis , Meckel's diverticulum, and ovarian cyst torsion are to be kept in mind [12]. Omental torsion usually occurs in a clockwise direction where venous return is compromised and the distal omentum becomes congested and oedematous [13] . Haemorragic extravasation leads to accumulation of serosanguinous fluid in the peritoneal cavity, then acute haemorragic infarction and finally omental necrosis due to arterial occlusion [14].

Management options available and conservative management may be attempted in an uncomplicated omental torsion [15]. To make the correct diagnosis, some authors recommend laparoscopy as the diagnostic and therapeutic method of choice in cases of omental gangrene [15,16]. It is likely to be missed in open surgery through small McBurney's incision and use of laparoscopy as an option for the benefits of minimally invasive surgery [17,18].

Conclusion

Through our case report, we want to highlight about this rare cause of acute abdomen.

Primary omental torsion is a rare diagnosis. a high index of clinical suspicion is required for a preoperative diagnosis. Surgical excision of the omentum remains the treatment of choice and use of laparoscopy as an option for the benefits of minimally invasive surgery. Conservative management may be attempted in an uncomplicated omental torsion.

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