

Case report



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Primary appendicular torsion causing an acute abdomen in a rare pediatric case

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Abstract

Appendicular torsion is a rare condition. Since the time of the first report in 1918, documentation of this entity remain rare. The exact diagnosis is mainly made intra-operatively. This is a pediatric case report of 5-year-old girl with 360° anti-clockwise rotation of the appendix leading to an appendicular peritonitis. Subsequently, primary or secondary appendicular torsion could be included as an uncommon aetiology of acute appendicitis.

Introduction

Acute appendicitis is a common diagnosis among patients admitted under the emergency general surgery and it presents with abdominal pain. Obstruction of the lumen of the appendix is the main cause of acute appendicitis. However the present work highlights an unusual aetiology consisting with an appendicular torsion. In the literature, fewer than 60 published reports describing such entity are documented [1].

Patient and observation

A 5-year-old girl was admitted in the surgical emergency department complaining of 5-day history of progressed to constant abdominal pain associated with fever and vomiting. The patient had decreased appetite and energy. Physical examination found fever with axillary temperature of 39°C, tachycardia (pulse of 102 beats/mn). Cardiovascular and respiratory examinations were unremarkable. On abdominal examination, a generalized abdominal defense was noted. The maximum of tenderness was in the right iliac fossa. Digital rectal examination was unremarkable. Serum biochemistry and hematology results showed an increased inflammatory markers (Leukocyte count: 20 300/mm³, CRP: 150mg/L). Plain X-ray radiography of the chest and the abdomen (Figure 1) was unremarkable. Complementary abdominal ultrasonography revealed a generalized peritonitis with false membranes, secondary to a perforated appendix in its middlethird. The diagnosis of appendicular peritonitis was established. An initial management of intravenous fluid and antibiotic therapy administration was performed and the decision of an emergency laparotomy was taken. An exploratory under umbilical midline laparotomy revealed an acute generalized peritonitis with 500 mm³ of pus, false membranes, and a gangrenous perforated appendix. Intra-operatively, there was an evidence of appendicular torsion with an anti-clockwise rotation of 360°C (Figure 2), the base was healthy and untwisted. An appendectomy and

peritoneal toilet were subsequently performed. The postoperative course was uneventful. The patient received combined antibiotics according to the antibiogram results. Histopathology examination showed suppurative necrosis of the appendicular serous membrane with a wall perforation. The patient was discharged on the eight post-operative day in a good condition.

Discussion

The first reported case of appendicular torsion was published by Payne in 1918 [2]. A torsion of the appendix is a very rare entity, could be a primary torsion or subsequent to other pathological conditions like a mucocoele, an intramural or extramural mass lesion [3,4]. In this case report, the torsion is primary with no evidence of local lesion causing rotation. The torsion is typically located at least 1 cm from the appendicular base and occurs along with the long axis of the appendix. The direction of torsion is most commonly anti-clockwise with a degree ranging between 180° and 1080° [5]. The condition clinically presents as an acute abdomen as it leads to luminal obstruction and strangulation compromising the blood supply. It is therefore pertinent to avoid complications secondary to appendiceal perforation and potential intraperitoneal spillage of appendiceal or mass contents [5]. The patient in this case was admitted for complicated appendicitis following the appendiceal perforation. Despite of advances in diagnostics and imaging, there is not a documented improvement in the preoperative diagnosis of such condition as the diagnosis is mainly established intra-operatively. The treatment consists in an emergency exploration of the peritoneal cavity. The proper surgical management with laparoscopy or classic surgery should be made without delay to get an excellent outcome.

Conclusion

Torsion of the appendix is less commonly described as an aetiology of acute appendicitis. The diagnosis

is extremely difficult. Therefore, surgeons should be aware of this entity and take it into consideration before surgery.

Competing interests

The authors declare no competing interests.

Authors' contributions

All the authors have read and agreed to the final manuscript.

Figures

Figure 1: plain X-ray of the chest and abdomen showing no evident abnormalities

Figure 2: intra-operative photo showing appendicular torsion with an anti-clockwise rotation of 360°



Figure 1: plain X-ray of the chest and abdomen showing no evident abnormalities

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Figure 2: intra-operative photo showing appendicular torsion with an anti-clockwise rotation of 360°