

CASE REPORT

Unusual cause of acute scrotum in children: a case report

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Abstract

A 13-year-old boy was presented in the pediatric emergency with a 2-week history of swelling of the right scrotal contents of simple evolution, which was worsened by the appearance of an acute scrotal pain 48 h prior to his consultation. The doppler ultrasound and computed tomography (CT) scan revealed an incarceration of the omentum in an inguinal hernia. Acute scrotal pain and swelling is a common reason for surgical consultation in the emergency department of children. However, omentum is a rare content of inguinal hernia in children and infarct is exceptional. It should be included in the differential diagnosis of an acute scrotum.

INTRODUCTION

Acute scrotal swelling with pain in children is a common entity that requires accurate evaluation followed by an appropriate management. Although most causes of an acute scrotum are non-emergent, some presentations may result in rapid loss of a testis if not diagnosed and managed in a timely measure [1]. The omental incarceration in an inguinal hernia in children is exceptional and very often remains an operative diagnosis despite progress of imaging in diagnosis of testicular pathology. We report an extremely rare case of an acute scrotum swelling due to omental incarceration in an inguinal hernia which was suspected on a doppler ultrasound and confirmed by computed tomography (CT) scan.

CASE REPORT

A 13-year-old boy was presented to the pediatric emergency with a 2-week history of swelling of the right scrotal contents, of simple evolution. During the previous 48 h, his symptoms worsened by the appearance of acute scrotal pain motivating him to consult. He had no known testicular or scrotal abnormalities. There were no fevers, abdominal pain, nausea or vomiting. He had no significant past medical, past surgical or family history. The examination revealed a soft abdomen but with an erythematous right hemiscrotum that was swollen, tense and particularly painful during its palpation (Fig. 1). A transillumination test was positive. The left testis was confirmed to be in the left scrotum and it was normal. Laboratory

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studies found a hemoglobin and a hematocrit level of 12.5 g/dl and 34.4%, respectively, and a white blood cell count of 11 210/ μ l with 80% neutrophils. C-reactive protein level was 11 mg/l. Electrolytes were within normal limits and urinalysis exam was negative. Ultrasonography was concluded as a strangulated inguinal hernia with a fluid collection around the right testis, but testicular torsion and torsion of appendages were not ruled out. We performed a scrotal CT scan that found an image of a greasy substance in the scrotum protruding from the abdomen through the right inguinal canal (Fig. 2). We suspected an omentum incarcerated in inguinal hernia mimicking an acute scrotum. A decision to explore the right hemiscrotum was made. Surgery was proceeded using a transinguinal approach. The right inguinal canal was opened through an inguinal skin crease incision. On opening of the hernial sac, 10 ml of fluid was cleared out. On further exploration, a segmental infarct of the omentum was found, but most of the part was normal (Fig. 3). The testis was showed to be normal. Surgical resection of the affected omentum and reduction of the rest of the omentum back into the peritoneal cavity was performed. High ligation herniotomy was done. The patient had complete resolution of symptoms 1-month postoperatively.

DISCUSSION

In children, an acute scrotal pain and swelling is a common reason for surgical consultation in the emergency department [1], and usually requires an exploratory surgery despite sonographic imaging findings [2]. Etiology of an acute scrotum has been



Figure 1: Scrotum in physical examination.

reported to be torsion of the appendix in 70%, testicular torsion in 12% and epididymoorchitis in 11% [3]. Omental infarction is a rare painful condition that mimics appendicitis [4], and cholecystitis [5]. Omental incarceration in an inguinal hernia is most often of a simple evolution [6], but can be complicated with omental infarct causing acute scrotum. This is exceedingly rare complication in children to best of our knowledge, the only one case of omental infarct in a hernial in children has been reported by Patel et al. [7]. In the present case, the cause of acute scrotum was initially thought to be bowel incarceration of the right inguinal hernia based on ultrasonography at the time of the acute pain attack. However, the patient had no digestive signs and on physical examination, the inguinal canal was not filled, which was not in favor of the diagnosis. Schalamon et al. [8] reported that in 84% of children with acute scrotal pain, the doppler ultrasound was able to differentiate between surgical emergencies and other etiologies. In 16% of the cases, the doppler ultrasound remained unclear, thereby necessitating surgical exploration. The ultrasound therefore does not allow to make a diagnosis in unusual causes of acute scrotum. According to Fukui et al. [3], all acute scrotum caused by hernial sac torsion underwent emergent exploratory surgery to relieve the pain, because of uncertain preoperative ultra-sonographic examinations. It is important to rule out torsion of the testis promptly and accurately in patients with an acute scrotum, because gonadal salvage is thought to be possible only within 6 h from the onset of an acute pain attack. If there is any suspicion of torsion of the testis, emergent surgical exploration should be considered. In other words, patients could be managed conservatively only when torsion of the testis has been completely ruled out. Our patient undertook CT scan, and an omentum incarcerated in inguinal hernia was suspected preoperatively. Surgery using a transinguinal approach confirmed an omentum incarcerated in inguinal hernia.

In conclusion, the diagnosis of an omentum incarcerated in an inguinal hernia could be made preoperatively if we are aware of this rare entity as a differential diagnosis of an acute scrotum. Therefore, a scrotal CT scan should be performing whenever the ultrasound does not allow the diagnosis of an acute scrotum. This would avoid using of a transscrotal approach in place of the most suitable transinguinal approach in this indication.

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CONFLICT OF INTEREST STATEMENT

The authors have no competing interests to declare.

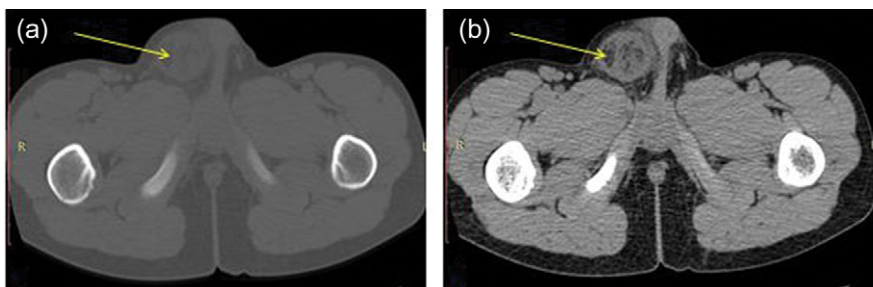


Figure 2: CT scan before (a) and after (b) intravenous contrast, showed an image of a greasy substance in the scrotum.

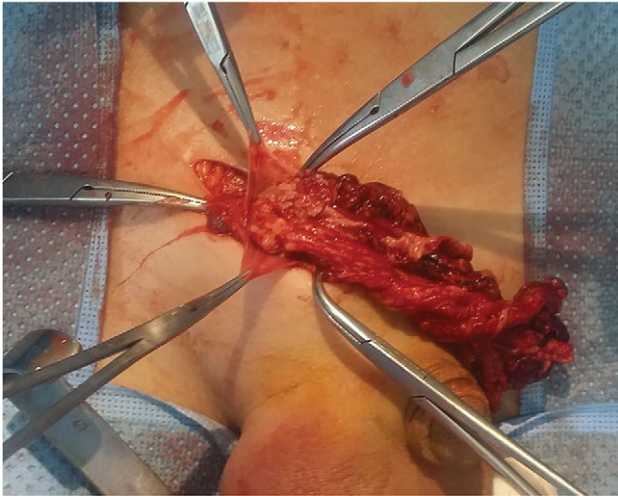


Figure 3: Omentum incarcerated in inguinal hernia with a segmental infarct.

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CONSENT FOR PUBLICATION

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

A copy of the written consent is available for review by the Editor-in-Chief of this journal.

REFERENCES

1. Yang C, Song B, Liu X, Wei G, Lin T, He D. Acute scrotum in children: an 18-year retrospective study. *Pediatr Emerg Care* 2011;**27**:270–4.
2. Tillett JW, Elmore J, Smith EA. Torsion of an indirect hernia sac within a hydrocele causing acute scrotum: case report and review of the literature. *Pediatr Surg Int* 2006;**22**:1025–7.
3. Fukui S, Aoki K, Shimada K, Samma S. Acute Scrotum Caused by Hernia Sac Torsion. *Urology* 2016;**89**:126–8.
4. Loh MH, Chui HC, Yap T-L, Sundfor A, Tan CEL. Omental infarction—a mimicker of acute appendicitis in children. *J Pediatr Surg* 2005;**40**:1224–6.
5. Varjavandi V, Lessin M, Kooros K, Fusunyan R, McCauley R, Gilchrist B. Omental infarction: risk factors in children. *J Pediatr Surg* 2003;**38**:233–5.
6. Kapisiz A, arabulut R, Turkyilmaz Z, Sonmez K, Basaklar AC. Omental incarceration may cause hydrocele and this hydrocele confused simple or scrotal hydrocele. *Hernia* 2011;**15**:43–5.
7. Patel RV, Dawrant M, Scott V, Fisher R. Omental infarct in a hernia: an unusual cause of paediatric acute scrotum. *BMJ Case Rep* 2014;**2014**.
8. Schalamon J, Ainoedhofer H, Schleef J, Singer G, Haxhija EQ, Höllwarth ME. Management of acute scrotum in children—the impact of Doppler ultrasound. *J Pediatr Surg* 2006;**41**:1377–80.