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Case Report

Testicular Torsion Due to Right Inguinoscrotal Hernia with Ipsilateral Omental Wrap in an 11-Year-Old Boy. Case Report

Vittoria Campanella*, Maria Nobili, Raffaella Cocomazzi, Cosetta Maggipinto and Francesco Canale

Department of Pediatric Surgery, Policlinico Riuniti Foggia Hospital, Foggia, Italy

***Corresponding Author:** Vittoria Campanella, Department of Pediatric Surgery, Policlinico Riuniti Foggia Hospital, Foggia, Italy.

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Abstract

Case Presentation: An 11-year-old male presented with acute right testicular pain of several hours duration. Clinical suspicion of testicular torsion prompted an emergency scrotal Doppler ultrasound, revealing a testicle with increased volume and edematous epididymis. The spermatic cord was twisted with vascular congestion and a reactive hydrocele with particulate material were noted. The testis was markedly tender to palpation. The patient exhibited no systemic symptoms, and abdominal examination was unremarkable. Urgent surgery was performed, revealing an inguinal hernia with a substantial amount of omentum without sign of inflammation enveloping and adherent to the testicle, which was also torted to 180 degrees on its axis.

Conclusion: This presentation raises the question of whether testicular torsion occurred first, followed by omental incarceration, or if the omentum prevented complete testicular rotation.

Keywords: Omental Incarceration; Testicular Torsion; Case Report

Introduction

Testicular torsion is a urological emergency that demands prompt recognition and intervention to prevent irreversible testicular damage. While it is a relatively common condition in adolescent males, atypical presentations may complicate the diagnosis. Concurrent omental incarceration in the scrotal sac is a rare finding in such cases. This report describes a unique case of testicular torsion with concomitant omental incarceration and discusses the potential interplay between these two pathologies.

Irreducible inguinal hernias and testicular torsion are well-recognized surgical emergencies in children, each with its distinct etiology, clinical presentation, and management. However, rare cases may present a unique challenge when both conditions coexist, with an inguinal hernia containing incarcerated omentum contributing to testicular torsion. This background provides an overview of these conditions and their occurrence in adolescents.

While inguinal hernias and testicular torsion are distinct entities, rare cases involve their simultaneous occurrence. In these unique situations, an inguinal hernia containing incarcerated omentum can potentially contribute to the testicular torsion. This coexistence presents diagnostic challenges, as the clinical symptoms may overlap, making it crucial for healthcare providers to consider both conditions. Surgical intervention entails hernia repair and detorsion of the affected testicle. It is also important to consider the diagnosis as testicular torsion is typically approached solely via a scrotal approach whereas an ingunal hernia is best approached via an inguinal incision. Awareness of this rare association allows a more thorough explanation for informed consent.

Case Report

An 11-year-old male presented to the emergency department with acute right sided, scrotal pain and swelling of several hours. There was no history of nausea or vomiting. On physical examination, the right scrotum was notably swollen, erythematous, and exquisitely tender. The cremasteric reflex was absent on the right side. Upon examination, there was no reported inguinoscrotal swelling suggestive of hernia. Simultaneously, there was scrotal distension due to a hydrocele. An emergency scrotal ultrasound with color Doppler was performed, revealing an enlarged right testicle with a swollen appearance of the epididymis. Notably, the cephalic portion of the epididymis appeared malrotated on its axis. Additionally, the vascular pedicle showed a marked reduction in blood flow in the right testicular artery. A concurrent scrotal distension was noted due to a hydrocele, accompanied by a hyper-echogenic material in a dependent position, suggestive of a possible coagulated blood clot. Surgical intervention was urgently initiated, with the suspicion of testicular torsion. Intraoperatively, an abundant amount of omentum was found enveloping and adherent to the right testicle, which was rotated 180 degrees on its axis. The omental

tissue was carefully released, and the testicle was detorted and secured. A second incision was made over the inguinal canal which revealed a large portion on icarcerted omentum which still could not be reduced and so was ligated and transected. Then we performer a high ligation of hernia sac and closed in layers and herniorraphy was performed . Postoperatively, the patient experienced relief from his testicular pain, and follow-up examinations revealed normal testicular blood flow on Doppler ultrasound.

Discussion

As already described by other authors, the mechanism according to which an irreducible inguinal hernia can compress and reduce blood flow to the testicle is intuitive. However, this mechanism occurs almost exclusively in newborns and infants [1,2]. In children, acute scrotal pain is common and exploration of the scrotum needed to treat torsion. Repaor of an irreducible or strangulated inguinal hernia is not uncommon but requires a different operative approach. Omental incarceration in a inguinal hernia is most often af a simple evolution [3], and the compression mechanisms that an incarcerated omentum can cause on the vascular structures of the testicle are known, as a consequence of an edema that increases its volume in response to inflammation [4]. The case presents a unique challenge in understanding the sequence of events. Testicular torsion is a surgical emergency that requires immediate intervention to restore blood flow to the testicle and it is extremely rare to encounter hernial contents in this process. In this case, the presence of omental incarceration around the rotated testicle raises the question of whether testicular torsion occurred first, followed by omental incarceration, or if the omentum somehow prevented complete testicular rotation. In one scenario, testicular torsion could have initiated the ischemic process, causing the testicle to rotate. Subsequently, the omentum may have become entrapped during the torsion, exacerbating the ischemia and swelling. This sequence of events would imply that the torsion was the primary event. Alternatively, it is possible that the omental incarceration occurred first, limiting the mobility of the testicle to rotate freely beyond 180 degrees. This restriction could have ultimately led to testicular torsion as a secondary event. A literature review confirms the coexistence of inguinal hernias and testicular torsion in adolescents but lacks comprehensive documentation of omentum incarceration.

Figure 1: There is an enlargement of the right testicle with a swollen appearance of the epididymis. In particular, the cephalic portion of the epididymis appears malrotated on its axis.

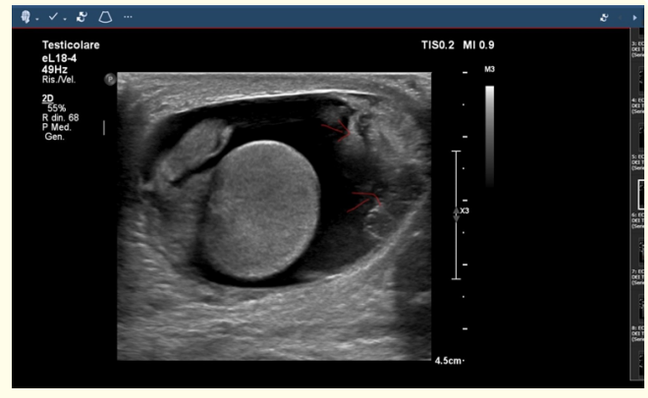

Figure 2: A scrotal distension due to a hydrocele is observed, accompanied by hyperechoic material in a sloping position, suggestive in the first hypothesis of a possible blood clot (as indicated in the arrow).

Figure 3: Color Doppler: the vascular pedicle shows marked reduction in blood flow in the right testicular artery.

Conclusion

This case underscores the complexity of scrotal emergencies and the importance of prompt surgical evaluation and intervention. While the exact sequence of events remains uncertain, this case emphasizes the need for a high index of suspicion for testicular torsion in any pediatric patient presenting with acute scrotal pain, even in the presence of unusual anatomical findings such as omental incarceration. Further research and additional case reports may help elucidate the relationship between these two rare occurrences.

Statements

- **Informed consent:** Informed consent was obtained from the patient or guardian.
- **Authorship:** All authors attest that they meet the current ICMJE criteria for Authorship.

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