

A CASE REPORT ON POST TRAUMATIC TORSION OF TESTICULAR APPENDAGE

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ABSTRACT

Acute scrotum due to acute pain and swelling in the scrotal region is common in the emergency department in male children and adolescents. An epididymal appendage or appendix testes is a pedunculated vestigial remnant of the mesonephric duct attached to the epididymal head, prone to torsion and may present mimicking testicular torsion. However, high clinical suspicion and doppler ultrasound may aid in forming a diagnosis, buying surgeons time which in cases of testicular torsion is imperative to salvage the involved testes. We present a case of a 12 year old boy with a history of trauma to the left testicle with gray-scale and Doppler ultrasound imaging features that formulated the torsion of appendix testes, confirmed on surgical exploration.

In the prepubertal age group, torsion of testicular appendage represents an important cause of the urological emergency. Therefore, especially in post-traumatic cases, this should be kept in differential diagnosis and ruled out by appropriate imaging modality to start prompt treatment.

Introduction

The acute scrotum is a typical childhood surgical emergency in males, which results in immediate surgical exploration in many cases presenting to the accident and emergency department to save the testes, especially in testicular torsion.¹ However, the acute scrotum may also result from other etiologies which do not require immediate surgical intervention and may be managed conservatively.^{1,2} Among these causative factors, one is torsion of testicular appendage, the vascularized connective tissue remnants of the mesonephric and paramesonephric ducts. These have a sessile or pedunculated appearance, predisposing them to undergo torsion.^{2,3} This is more commonly seen in boys of 7-14 years pre-pubertal age group and more commonly found involving left testes relative to right.^{3,4,5} Therefore, knowledge of the different entities responsible for causing acute scrotum and the relative likelihood of occurrence and

possible differentiation between them based on imaging may help guide primary physicians in formulating a correct diagnosis and starting proper treatment.^{1,6} We present a case of a 12 year old boy with a history of trauma to the left testicle with gray-scale and Doppler ultrasound imaging features that formulated the torsion of appendix testes, confirmed on surgical exploration.

Case Report

12 year old male child presented to the emergency department with complaints of severe pain and swelling in the left testicular region for three days. The pain was gradual in onset, continuous and radiating to the legs. He also had one-day history of vomiting. The patient also had a history of trauma to the scrotal

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region on the left while playing cricket, three days back. He took a direct hit with the bat to the described area. He was given pain relief at this school dispensary; however, it did not settle his pain. On examination, he had redness and swelling involving the left testes. The patient was tender at the superior medial aspect of the left testes. The primary physician strongly suspected testicular fracture versus testicular torsion. His ultrasound scrotum and testes were performed, showing normal appearance and echogenicity of bilateral testicular parenchyma with intact vascularity on Doppler ultrasound (Fig.1).

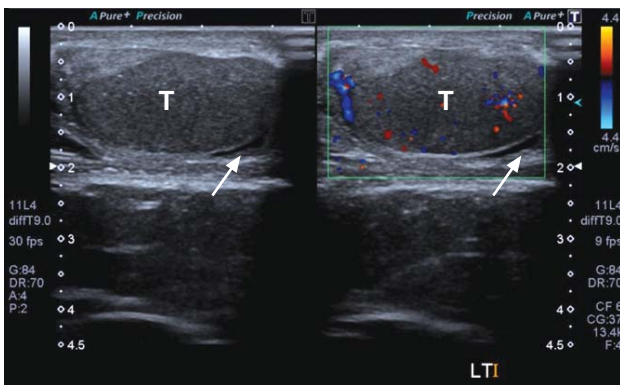


Figure 1: Gray-scale and colour Doppler longitudinal images show homogenous echotexture of left testes with intact vascularity and trace fluid (arrow).

Mild hydrocele was seen involving left testes with skin thickening relative to the right side. The left epididymal head was enlarged with a hyperechoic lamellated mass on the superior aspect of the epididymal head, measuring 10.6 x 5.8 mm. It showed peripheral increased vascularity and no central flow (Fig.2 and 3).

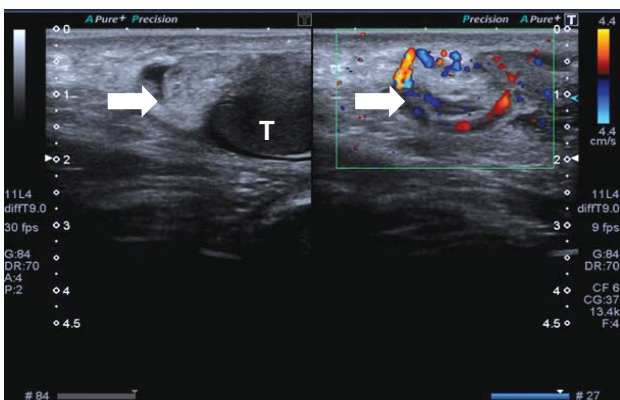


Figure 2: Gray-scale and colour Doppler longitudinal image shows a torsed appendage (white arrow) with peripheral intact vascularity. T, upper pole of testis.

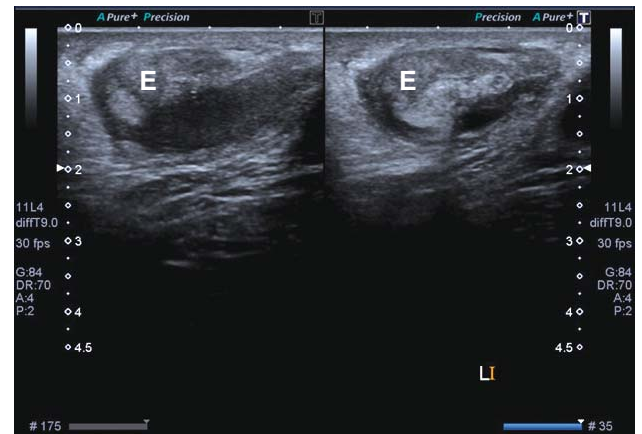


Figure 3: Gray-scale longitudinal image shows echogenic thickened and edematous epididymis (E) with trace hydrocoele.

Diagnosis of torsion of the testicular appendix was made. Since there was no immediate need to operate on the patient, he was admitted and booked for the next day's list. On exploration of the scrotum, the left testicle was delivered through a midline scrotal incision and was found to be normal. However, a gangrenous testicular appendix was found, which was removed, and the left testes were pexed with the scrotal layers. The right testicle was also explored and pexed. Therefore, a bilateral orchiopexy was performed prophylactically. The patient remained stable postoperatively and was discharged after counseling for home care, medication, and follow-up. He was advised pain relief and antibiotic cover for five days.

Discussion

Testicular appendages torsion is a significant cause of acute scrotal pain in pre-pubertal children, typically ranging from 7 to 12 year old boys. Physical pain may limit physical examination in settings of trauma such as motor vehicle accidents and sports-related injuries. About a third of patients may exhibit a nodule in the upper scrotal location with overlying bluish discoloration of the skin, which is referred to as "blue-dot" sign and is widely considered highly indicative of testicular appendage torsion.^{1,2}

In trauma-related settings, the value of ultrasonographic imaging of the testis is of critical diagnostic value due to the potential limitations of a physical exam as described above. It is non-invasive, readily

available, and is time efficient.^{6,7,8} The typical presentation of an affected testis is seen as a rounded, extra-testicular mass with variable echogenicity and associated swelling of the epididymal head, hydrocele formation, and thickening of the scrotal skin. There will typically be preserved flow in the affected testis which is paramount in excluding and differentiating from testicular torsion itself. The appendage undergoing torsion will be devoid of vascular flow on color Doppler.^{4,7}

Acute scrotal presentation secondary to trauma is an acute emergency and using early ultrasound assessment to aid in timely diagnosis and management is the cornerstone of testicular salvage rates and long-term clinical outcome of the afflicted patient.^{5,9} The appendicular testis torsion, in particular is reliant on minimal delay for improved results. Therefore, to prevent misdiagnosis and unnecessary delay, urgent testicular exploration is of great benefit, and sonographic findings can support the surgical question of prompt intervention. An additional benefit of surgical intervention is the removal of necrotic/gangrenous testicular appendix tissue.⁹

Our patient, a pre-pubescent 12 year old male with sports-related injury and acute scrotal presentation in the emergency room, was a prime candidate for an urgent scrotal ultrasound due to examination limitations secondary to significant scrotal tenderness. Ultrasound findings revealed preserved flow in the left testis which was the keystone in excluding testicular torsion. Furthermore, the typical sonographic findings of a high riding extra-testicular mass without vascularity were monumental in aiding the final diagnosis of appendicular testis torsion. The pediatric surgery team was alerted, and exploration of the testes revealed gangrenous left appendicular testis, which was duly removed and bilateral orchidopexy performed. The patient was discharged in stable condition, and follow-up was satisfactory.

Hence, our case highlights the need to place testicular torsion at priority in post-traumatic scrotal scenarios in young males, urgent ultrasound, and the subsequent decision of surgical intervention.

Conclusion

In the pre-pubertal age group, torsion of testicular appendage represents an important cause of the uro-

logical emergency. Therefore, especially in post-traumatic cases, this should be kept in differential diagnosis and ruled out by appropriate imaging modality to start prompt treatment.

Conflict of Interest: None

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