



## An isolated torsion of epididymis in a 17-year-old boy: A rare cause of acute scrotum

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### ABSTRACT

Acute scrotum is a common clinical problem in children and torsion event superimposed on complete dissociation of the testicle and epididymis can be difficult to diagnose and often requires scrotal exploration. To the best of our knowledge, four cases of isolated torsion of the epididymis have been reported in the literature. We report a 17-year-old male patient with epididymal torsion who presented with testicular pain and hemi-scrotum swelling. Due to painful symptoms, emergency scrotal surgery exploration of the patient revealed a complete epididymis infarction due to isolated epididymal torsion with dissociation of the testis and epididymis.

**Key Words:** Acute scrotum, child, epididymis, torsion abnormality.

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### Introduction

Acute scrotum is a challenging emergency situation that requires consideration of a number of possible diagnoses, including testicular torsion, and very rarely, epididymis torsion [1-3].

Rapid recognition of the location of the torsion and exclusion of other causes may provide an opportunity for organ salvage and avoiding devastating functional and psychological problems of testicular loss [1-3].

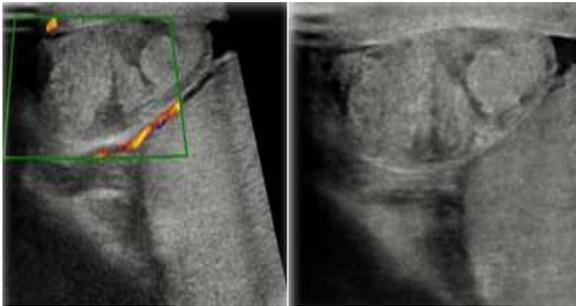
We report here a very rare case of acute scrotum: isolated torsion of the epididymis. A long and tortuous epididymis with a long mesorchium or of epididymal-testicular

dissociation has been found as an underlying anomaly in most cases [1,2].

### Case report

Seventeen-year-old boy was admitted to the emergency room of the hospital with right testicular pain for two days. He had no similar history of pain and testicular trauma. There was no history of undescended testis. The onset of pain was sudden and progressive. There were no systemic symptoms e.g. fever. Physical examination swelling and erythema in the right hemiscrotum and tenderness in the right testicle. There was no cremasteric reflex. Color Doppler sonography was performed showing normal perfusion in both testes. Position of the testis was apparently normal. In the upper pole of the right testis, increased peripheral vascularization, a hetero-echo mass with a diameter of 23x20x16 mm and a volume of 4 cc was observed. Adjacent to the structure

mentioned above, a cystic structure resembling an epididymis with a diameter of 31x13 mm was seen (Fig. 1).



**Fig. 1.** Appearance in ultra-sonogram. A hetero echo mass with peripheral increased vascularity and diameters 23x20x16 mm and volume of 4cc at the upper pole of the right testis.

According to the clinical presentation, painful symptoms and ultrasound result, the patient underwent emergency scrotal exploration to exclude acute spermatic cord torsion. The patient underwent surgical exploration of the right side of the scrotum. Exploration with an oblique scrotal incision revealed that the epididymis was necrotic and edematous due to a 540° torsion, and the epididymis dissociated completely from the testis and was attached to a twisted pin point pedicle (Fig. 2).



**Fig. 2.** Intraoperative finding of torsion of the right epididymis. The epididymis is necrotic and edematous, the picture shows a detorsioned epididymis with a pinpoint pedicle.

Additionally, a small amount of bloodstained fluid was detected within the tunica vaginalis. The testis and appendix testis were normal. Following detorsion, a clear demarcation line was seen between healthy and infarcted epididymal tissue. The engorged necrotic mass assumed as an infarcted epididymis was resected and a right orchidopexy was done. Histopathological examination confirmed hemorrhagic infarction of resected epididymis and cyst. The child had an uneventful recovery and is doing well on follow up.

### Discussion

The upper part of the epididymis is adjoining the testis by efferent ducts. The epididymis is actually a prominent coiled duct that, at its lower pole is continuous with the vas deferens. An appendix of the testis is often located on its upper pole. Location of epididymis is in posterolateral aspect of the testis [4,5].

The epididymis can be visualized ultrasonographically on the posterolateral side of the testicle. The epididymis appears hyperechoic or isoechoic compared to the testis.

The sonographic diagnosis of testicular torsion is based on recognition of echo structure changes of the involved testis such as loss of perfusion during color doppler ultrasound, or demonstration of increased resistance in intratesticular arterial waves [6].

In the present case the infarcted epididymis was almost completely separated from the testis. Importance of awareness about this entity lies in some presumptive considerations:

- 1) This must be differentiated from testis appendicular torsion which warrants a non-surgical approach while in some cases of isolated epididymis torsion salvage has been reported by a surgical exploration and detorsion [6].

2) Presence of vascular perfusion in the testis should not change the plan of surgical exploration when other clinical findings of acute scrotum are in favor of an emergent problem. We already presume that this epididymis may not transport spermatozoa from the testis. However, leaving a necrotic tissue inside the scrotal cavity may be hazardous

3) When the epididymis is dissociated from the testis, the vascular pedicle of the testis may also be unstable and prone to rotation so fixation of testis in a dartos pouch is justified and preventive.

4) Although the reported cases are too few to draw a conclusion about bilaterality. It is probable. In this case we repeated sonographic study, focusing on this purpose the day after the operation and this possibility was ruled out. Obviously a sonographic study must not delay an emergent surgical exploration in any case.

5) In such cases of suspicious etiology or unusual presentation tumors must be always considered. Thereupon an inguinal exploration seems most prudent. However, the surgeon must deliberately incise the external ring freely because traction on spermatic cord may disrupt the attached structures on the weak points –in this case- the tenuous vascular pedicles on which the torsion event happens.

The message we want to convey is that in the era of ART (Assisted Reproductive Technology), preservation of a testis even without epididymis is a priority and so consideration and preemptive diagnosis of this entity may be more important than ever despite the fact that these anomalies may be accompanied by inherent spermatogenesis defects.

### **Conclusion**

Isolated epididymal torsion may happen in a circumstance of a previously undiagnosed vaso

epididymal dissociation. This entity although rare has important clinical implications that persuades us to consider it in any acute scrotum event warranting emergent surgical exploration.

### **Compliance with ethical statements**

*Conflicts of Interest: None.*

*Financial disclosure: None.*

*Consent: Patient confidentiality has been maintained and written consent has been obtained from the patient's parents for the publication of patient information and clinical pictures and can be provided as required.*

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### **References**

- [1] Ta A, D'Arcy FT, Hoag N, et al. Testicular torsion and the acute scrotum: current emergency management. *Eur J Emerg Med.* 2016;23(3):160-65.

- [2] Navyashree C, DCunha A, Rai S. A double whammy - epididymal torsion in an undescended testis: A case report. *Pediatr Urol Case Rep.* 2020; 7(5):131-34.
- [3] Dibilio D, Serafini G, Gandolfo NG, et al. Ultrasonographic findings of isolated torsion of the epididymis. *J Ultrasound Med.* 2006;25(3):417-9; quiz 420-21.
- [4] Ravichandran S, Blades RA, Watson ME. Torsion of the epididymis: a rare cause of acute scrotum. *Int J Urol.* 2003;10(10):556-57
- [5] Brisson P, Feins N, Patel H. Torsion of the epididymis. *J Pediatr Surg.* 2005;40(11):1795-97.
- [6] Elert A, Hegele A, Olbert P, et al. Isolierte Nebenhodentorsion bei Hoden-Nebenhoden-Dissoziation [Isolated epididymal torsion in dissociation of testis-epididymis]. *Urologe A.* 2002;41(4):364-65.