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Case Report

Atypical Presentation of Testicular Torsion: About a Neonatal Case

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Abstract

Torsion of the perinatal spermatic cord is a rare pathology, it is a diagnostic and therapeutic emergency. Its main differential diagnosis is orchi-epididymitis, of which a few cases have been described during the neonatal period. We report a case of a newborn admitted at H8 of life, for neonatal orchi-epididymitis revealing testicular torsion.

Keywords: *Orchi-Epididymitis; Testicular Torsion*

Introduction

Perinatal spermatic cord torsion is a rare pathology that reflects the torsion of the vasculo-nervous elements of the spermatic cord [1]. It may have taken place in-utero, this is the antenatal form, or during the first 28 days of life, which corresponds to the postnatal form. It is a diagnostic and therapeutic emergency [2]. Its diagnosis is suspected by certain clinical signs and confirmed by imaging.

Clinical Observation

A male newborn born from a presumed poorly monitored pregnancy at term, from a 31-year-old mother. The delivery was vaginal, cephalic presentation, the birth weight was 2850g, the infectious history was doubtful, the amniotic fluid was tinted, no vaginal swab.

The newborn was admitted at H8 of life for a swelling of the right bursa.

The clinical examination showed a right bursa enlarged in volume, warm on palpation, firm and hard consistency, the color of the scrotal skin was bluish, no phimosis with a free inguinal fossa. The left testicle was of normal size, no hernia was found, the rest of the physical examination was normal.

An emergency testicular doppler ultrasound objectified:

- An enlarged testicle of heterogeneous echostructure with a hypoechogenic central zone, not vascularized on doppler.
- A heterogeneous epididymal head, increased in size measuring 11*8 mm.
- A significant thickening of the scrotal tunics.

- A well-limited oval formation at the inguinal level, whose echostructure is similar to the testis, does not take Doppler encoding and exerts a mass effect on the ipsilateral spermatic cord without individualization of a whorl image, and persistence of the flow to color and pulsed Doppler downstream, measuring 7*4 mm.

A laboratory assessment objectified a protein reactive c at 270 mg/L white blood cells: 16520 e/mm^3, PNN: 1058 e/mm^3, lymphocyte 4820 e/mm^3, sterile ECBU, sterile blood culture. Treatment with antibiotic therapy has been initiated.

In our patient, a surgical exploration was performed, since the symptoms of orchi-epididymitis and sperm torsion can be similar and because testicular torsion remains a surgical emergency in order to avoid irreversible complications, such as necrosis of the testicle.

Surgical exploration showed a turn of the cord coil with a blackish right testicle, detorsion was attempted, followed by a right orchiectomy with fixation of the left testicle. Intraoperatively, the diagnosis was extravaginal torsion of the right spermatic cord with unilateral testicular necrosis.

An anatomopathological examination of the operative specimen was performed, objectifying a histological appearance of a twisted testicle, with no sign of malignancy.

The immediate postoperative follow-up was simple with a normal clinical discharge examination.

Figure 1: *Swelling of the right bursa.*

Figure 2: *Intraoperative aspect of the torsion.*

Discussion

The incidence of neonatal testicular torsion, regardless of when it occurred, is 6.1/100,000 live births. [1,3,4]. It is a rare event with controversial theories regarding its etiology, presentation, and mechanism of occurrence. It has been subcategorized as occurring either prenatally in utero or postnatally in the first month of life [5].

The prenatal form is marked by minimal or no discomfort with few localized clinical signs, whereas postnatal torsion is an acute manifestation, with tenderness and swelling of the testicle that was previously normal [6]. Possible theories regarding etiology have not been described, however predisposing factors include difficult labor, breech presentation, high birth weight, extreme prematurity, overly reactive cremasteric reflex, and multiparity [6,7].

Depending on the rotation of the sperm cord, either within the vaginal tunica (TV) or with the vaginal tunic, there are different forms of torsion. Intravaginal torsion occurs when rotation of the testicle and spermatic cord occurs within the vaginal tunic, allowing the spermatic cord to rotate internally [8,9]. When the rotation of the spermatic cord is external to the vaginal tunica and involves the entire vaginal tunic, as well as the testicles and epididymis, it can lead to extravaginal torsion, which is the most common form [8-10]. Its factors are the absence of firm fixation of the dartos to the scrotum and an abnormally long fixation of the vaginal tunica to the testicle [9-10].

Testicular torsion should be suspected in the presence of a firm, painless, discolored scrotal or inguinal mass. Causes of scrotal swelling in the newborn include birth trauma, breech delivery, orchitis-epididymitis, scrotal hemorrhage or hematoma, hydrocele, torsion of the epididymis or testicular appendix, tumors, inguinal hernia, cellulitis, and adrenal gland ectopia [11,12].

Testicular torsion can be unilateral or bilateral, bilateral torsion can be synchronous or asynchronous with risk of infertility and hypoandrogenism [13-15].

Baglaj M., *et al*. reported a synchronous bilateral torsion incidence of 67% and asynchronous torsion of 33% [16].

The diagnosis of testicular torsion can be made in the clinic, confirmed by Doppler ultrasound which is used in the management of suspected patients [17,18]. Pulsed Doppler with mechanical sector CT scans is a better method for diagnosing torsion, but this technique studies only the testicular arteries and omits the superficial scrotal and testicular vessels [19].

Immediate scintigraphy and angiography are another examination modality, but are not recommended in the diagnosis.

The management of torsion is controversial, clinical separation between prenatal and neonatal torsion is essential. If we consider the two forms together, the percentage of recoverable testes is low (3 to 6%) [20]. However, when taken separately, the percentage ranges from 0% in prenatal torsion to 6.3% in neonatal torsion [21], and up to 21% if treated as a surgical emergency.

There is a general consensus that bilateral torsion requires immediate surgical examination to try to avoid anorchia, as well as in the case of neonatal unilateral torsion [22].

The possibility of the occurrence of synchronic or asynchronous contralateral torsion has been reported in a few cases between 8 hours and 6 months after the onset of the first torsion, resulting in early contralateral orchidopexy [23,24].

The surgical approach may be scrotal, which is the easiest, but the inguinal approach is still recommended because of the exceptional possibility of testicular neonatal tumors, which can occur in up to 10% of all cases [25,26].

In our observation, we retained a testicular torsion revealed by an appearance of orchi-epididymitis.

Conclusion

Neonatal testicular torsion is a rare pathology, accounting for only 10% of all testicular torsions in children. Doppler ultrasound coupled with color Doppler remains the diagnostic tool of choice.

Surgical exploration must be performed urgently in the event of any suspicion of testicular torsion regardless of age.

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