ATYPICAL CASE REPORT OF TESTICULAR TORSION INTRAVAGINAL IN PRESCHOOL

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ABSTRACT

The acute scrotum is a rare medical emergency involving the scrotum or intrascrotal content with signs of local inflammation. The main causes include torsion of testicular appendage, epididymitis, orchitis and testicular torsion. The Testicular Torsion is characterized by the rotation of the testicle, causing torsion of the spermatic cord, with consequent vascular compromise of the affected testicle. The most important when conducting a case of acute scrotum is to exclude the diagnosis of testicular torsion, as this condition requires immediate surgical intervention in order to preserve the affected testicle. However, only through clinical examination, in some cases it may be extremely difficult to differentiate testicular torsion other causes of acute scrotum. Doppler USG has good sensitivity and specificity when performed by an experienced examiner and is therefore considered one of the complementary tests. The intravaginal torsion of the testis is more common in post-pubertal period and with higher incidence between 12 and 18 years. The present study aims to describe a clinical case of testicular torsion in preschool children with nonspecific symptoms and whose diagnosis can only be confirmed by the USG and also emphasize the importance of a correct and early diagnosis when it comes to acute scrotum.

KEYWORDS: Testicular Torsion; acute scrotum; clapper Bell.

1. INTRODUCTION

The acute scrotum is a medical emergency that involves the scrotum or the intrascrotal content and requires prompt medical or surgica intervention[1]. The signs of a local inflammation with edema, pain, heat are characteristics of this affliction that is mainly caused by the torsion of the testicular appendices, epididymitis, orchitis and testicular torsion[2]. The vascular and inflammatory causes are the main responsible for the cases of acute scrotum. Being so, it's worth to re-estate the importance of a differential diagnosis between them[3].

The testicular torsion (TT) in the intravaginal form is a condition of acute scrotum that characterizes itself for the free rotation of the testicle due to an anomaly on the testicular fixation denominated malformation in "bell clapper"[3]. Such anomaly predisposes the clock-wise rotation of the testicle on most cases causing the torsion of the spermatic cord with consequent vascular compromising of the affected testicle[4]. Besides the fixation anomaly, factors such as physical effort, testicular volume growth, cold climate, trauma and hyperactivity of the cremasteric reflex compose other predisposing factors to torsion[4-6]. As clinical characteristics, it's important to point out the sudden local and intense pain, edemas and progressive hyperemia in the scrotum, hardening and volume growth besides a more elevated, horizontalized position of the sick testicle within the scrotum[4].

When conducting an acute scrotum case, it is important to rule out testicular torsion, as this diagnosis requires immediate surgical intervention, in order to save the affected testicle. However, through a simple clinical exam, in some cases, it can be extremely difficult to tell the difference between a testicular torsion from other cases of acute scrotum[6-7]. A doppler ultrasound has good sensibility and specificity when done by an experiment handler, presents low costs and is little invasive. For this, being considered one of the main preliminary exams to detect or confirm a TT[3].

A intravaginal TT is more common during the post pubertal period and has a bigger occurrence between 12 and 18 years old[6]. The occurrence of the testicular torsion among patients who have an acute scrotum can vary in studies from different medical department. In studies from the urology and surgery departments, for instance, this average can vary from 17% to 72%, while other studies in the emergency departments have a variable between 12% and 16%[7].

Considered an uncommon event, it had its occurrence in Brazil during the year of 2010 estimated in 1.4/100.000 men, being able to occur an average of 27-48 torsions/100.000 men in colder countries, while in hotter countries in the Middle Orient it can get to 7.9 torsions/100.000 men[5].

2. CLINICAL CASE

A 4-year-old male preschool white patient has been attended at a pediatrician emergency with main complaints of an abdominal pain starting in the night. The kid's mother said he had started with complaints of abdominal pain below the womb and because of its persistence, she had decided to look for medical services. The boy didn't have any past history important and worth of noting, denied any chronicle comorbidity, wasn't treating any pathology and wasn't using any constant medication of any type.

The cardiopulmonary exam didn't have any alterations. The abdomen was plane and symmetrical, no scars, injuries, or alterations on its edges. The presence of peristalsis was provoked by bowel sounds, distributed and normoactive. No peritoneal frictions or vascular blows were heard. The abdominal tympanites was diffusely distributed with a free Traube's space and absence. There wasn't pain with superficial or deep touch, absence of masses or visceromegalies, closed-fist percussion on lumbar area without sign of Giordano and signs of Murphy and Blumberg absent. Examining the genital area, the scrotum showed edema and hyperemia. The testicles were palpated within the scrotum and it's maneuver caused discomfort on the child. A difference as far as position, size and consistency of the testicles wasn't noticed. The edema and blush were very discreet. The signs and claims of discomfort presented by the child during the palpation were compatible with a pain of small intensity.

The doctor on duty requested an ultrasound evaluation with dopplerfluxometria of the scrotum to complement his clinical exam. The exam was available and promptly done. The report pointed the left testicle with preserved volume and exhibiting and presenting diffused growth of echogenicity, alteration suggesting a thick and torn left spermatic cord, absence of interior flow of the left testicle, left epididymitis of hard characterization and absence of alteration on right epididymitis (Figures 1 and 2). Such result corroborated to left testicle torsion as the main diagnostic hypothesis and confirmed the necessity of surgical intervention.

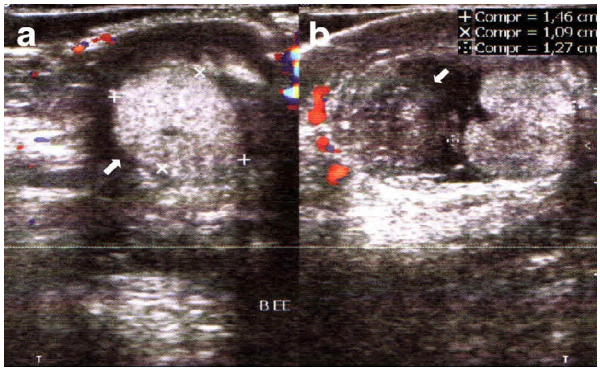

Figure 1: Ultrasonography scans with doppler in the scrotum and left testicle. **a -** it reveals a preserved testicle volume with a diffused increase of the echogenicity and the absence of flux in its interior. **b -** a multilobed heterogeneous structure in the topography of the upper third of the scrotum. (BEE = Left Scrotum).

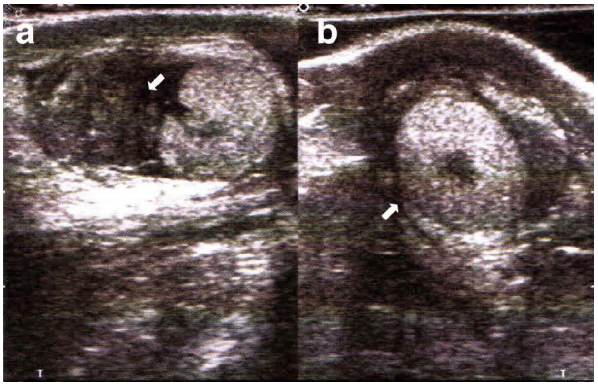

Figure 2: Ultrasonography scans of the scrotum and left testicle. **a -** a multilobed heterogeneous structure the topography of the upper third of the scrotum, suggesting it is a twisted and thicken spermatic cord. **b -** diffused increase of the echogenicity of the testicle.

The patient was submitted to exploratory surgery that same night. The left spermatic cord torsion was confirmed. The time between the diagnosis and the intervention determined little chance of saving the affected testicle, due to expected schematic injuries. The left testicle wasn't considered viable and it was opted for left orchiectomy.

3. DISCUSSION

Children are often presented to the emergency department with pain and acute scrotum edema and there are diverse pathologies that present themselves as acute scrotum on emergency. Between inflammatory and vascular etiologies; testicular torsion; appendice testicular torsion; epidymitis; orchitis are probable causes of pain and acute scrotum edema. Differentiating them is difficult, for there isn't a clinical sign trustworthy that can attribute itself as pathognomonic to one of these causes[9].

The most common causes of acute scrotum in infancy are testicular torsion, appendice testicular torsion, and orchiectomy. The correct and early diagnosis of testicular torsion is the prime objective, as it indicates in due time the surgical intervention to avoid the loss of the testicle. The decision to guide the therapy proposing surgical intervention with basis only on history and physical exams results in unnecessary surgeries in about one third of cases[8].

A recent study that evaluated the prevalence of TT in the emergency department showed that the arrival of pediatric patients is uncommon comparing with other stats done in sectors such as surgery, urology for an example. The same authors identified as variables that raise the probability of TT pain with duration inferior to 24 hours, presence of nausea or vomiting, elevated position of the testicle and abnormal cremasteric reflex; these being valuable signs for the diagnosis in low pediatric age. The author considers yet, that the absence of all these signs has high negative predictive value to testicular torsion[7].

The characteristic symptom is a sudden and intense pain in the scrotum, that can irradiate and be referred to as abdominal, inguinal or lumbar[4]. Nausea and/or

vomiting can occur and are associated with the rise of probability of TT[7]. Other signs include edema, hyperemia in the scrotum ipsilateral to the lesion[3], and the affected scrotum is increased, hardened, with extreme pain, elevated and in horizontal position with the cremasteric reflex abolished[4].

In relation to the age that is affected the most, the TT in its intravaginal form usually presents itself in ages between 3 and 20. However it is more common in postpubecent period with a 65% incidence rate between ages 12 and 18[6].

The patient's case presented in this work reveals the difficulty to establish the cause of acute scrotum in the emergency department, brought only from the data obtained in the history and physical exam. The Patient's age was out of the prevalent age of most cases of testicular torsion. There wasn't any mention of vomiting or complaint of nausea. In the inspection, the scrotum presented slight hyperemia without edema. The pain to palpation was small, both testicles were palpated without presenting difference of consistency and none of them presented elevated or horizontalized position. In this case, a Doppler Ultrasound was crucial for establishing the diagnosis of testicular torsion and indicating surgery.

As already mentioned, the clinical stage and the age in the reported case are not compatible with the most common presentation of TT in intravaginal form. As already mentioned, TT is more common after the pubescent period that varies between ages of 12 and 18 years of age[6]. The clinical presentation is usually more intense and acute, with sudden and strong pain, large edema and evident hyperemia in the scrotum. The affected scrotum is extremely sensitive to palpation, usually hardened and larger than the counter lateral testicle[4].

4. CONCLUSION

The experience presented in this work points out the importance better investigation of the cause of an acute scrotum in the emergency department, as well as the concern about the diagnosis of testicular torsion in these cases.

The data collected from the physical exam and history in the anamnesis were insufficient to exclude or confirm testicular torsion. In the clinical case showed, the patient didn't present the clinical signs described in the literature as strong precursors of testicular torsion. The patient's age wasn't within the most attributed stage of life. Even still the Doppler ultrasound showed absence of flow inside the left testicle and suggestive image to torsion of the left spermatic cord.

The suspicion of testicular torsion must be taken in account even in patients that don't present a typical stage to torsion. The provided data from the ultrasound can be fundamental to confirming a torsion and indicating surgery. On the counterpart, many unnecessary surgeries are done inpatients in which the cause of scrotum pain and edema are of inflammatory etiology and don't necessitate surgical intervention for its treatment, being the experience of the professional performing the exam a determining factor in these cases[9]. The time here is fundamental to determining irreversible damages to the tissue and saving the affected testicle.

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