



A Rare Emergency: Testicular Torsion in Undescended Testis

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Abstract

Cryptorchidism can be complicated by testicular torsion more than normo-descended testis. It is associated with a high risk of ignorance and delay diagnosis which rise testicular necrosis. We retrospectively reviewed the medical records of 7 cases of male children admitted to our institution for torsion on the undescended testicle, over 11-year period since May 2009. Seven patients underwent surgery for UDT torsion. The median age was ranging from 15 days to 14 years old. Five patients were admitted for groin pain associated swelling. The mean patient delay was 35 h. Exploration was performed through inguinal approach; in three cases the testes were preserved. Outcome of the three patients with conservative approach was uneventful. Undescended testicular torsion is a rare phenomenon that should be suspected, diagnosed and treated in time to improve testicular survival and reduce complications.

Keywords: Undescended testis; Torsion; Necrosis; Orchidopexy

Introduction

Cryptorchidism means “non-descendant testis”, it is located along its normal path of descent from abdominal cavity to the scrotum. It is a common pediatric disorder that occurs in 1% to 4% in full term newborns. More frequent in preterm infant [1].

Cryptorchidism can be complicated by testicular torsion more than normo-descended one. It is associated with a high risk of ignorance and delay diagnosis which rise testicular necrosis. We report seven male patients with testicular torsion of UDT to review consequences of delay diagnosis and how to manage this urgent situation.

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Materials and Methods

It's a retrospective study of seven male infants with UDT torsion confirmed by clinical examination and surgical exploration in our institution from May 2009 to November 2020.

The medical record included history of ischemia, physical examination, imaging, operative findings and follow up.

Results

Seven patients underwent surgery for UDT torsion. The median age was ranging from 15 days to 14 years old, and only two had respectively 15 days and 14 months. The left testis is involved in all cases. One patient had bilateral UDT, and the others had left side UDT. Only three patients were known having an UDT and are waiting for surgery. Five patients were admitted in the hospital for groin pain associated to inflammation signs and swelling of the groin (Figure 1). Inconsolable crying was noted in our two younger patients. The mean patient delay was 35 h ranging between 24 h and ten days. Three patients only underwent Doppler ultrasound showing an inguinal testis with decreased blood flow to the affected testis comparatively to the other side. Exploration was performed through inguinal approach; in three cases the testes were preserved. In 4 cases, we found necrotic testis (Figure 2). A systematic orchidopexy of the other side was performed. Postoperative pathological finding showed no signs of malignancy. Outcome of the three patients with conservative approach was uneventful, no hypotrophic signs were detected after 4 years' follow-up.

Discussion

UDT is a common urological anomaly, described in 1840 by Delasiauve. It occurs frequently in 7% of male neonate, more in the right side than the left one, and can be bilateral in 10% to



Figure 1: Seven years old boy, presenting a tender mass of groin.



Figure 2: Inguinal exploration showing testicular necrosis of UDT.

20% cases. Early in gestation, gonads are located at the lumbar area. Testicular has bi-phasal descent, intrabdominal between the 7th and 15th weeks of pregnancy; the second phase is completed at the 35th week of pregnancy. Many factors affect the genesis of UDT, such as heredity, anatomical anomalies. Other factors increase the risk of UDT such as exposure to nicotine, low birth weight. There is a high risk of UDT after an assisted reproductive technique and complicated pregnancy as pre-eclampsia, peripartum asphyxia [3-5]. There are many complications of the location of testes out of scrotum; it is associated of reduced fertility, testicular trauma and psychological influence. The risk of testicular malignancy is controversy. There is a significant risk of torsion, many studies have shown that torsion occurs more frequently with a UDT than a normal descended testis [6-9] Johnson reported an incidence of 21% of torsion in UDT. Therefore, surgical intervention for UDT is now recommended between six and 18 months of age [10]. The mechanism of spermatic cord torsion in the UDT is unknown; some theories suggested spasms of the cremasteric muscles and adduction contractures of the hips [8,11,12]. Diagnosis is difficult in young infants and can mimic acute abdominal emergency, complicated inguinal hernia. Infant is presented in emergency for inconsolable cries that can be associated with vomiting. Therefore, the examination of external genital organs is systematic in acute abdominal pain. It showed an empty Ipsilateral scrotum, presence of painful mass of the groin with swelling [7,13-15]. Color-Doppler ultrasound shows decreased or absent blood supply to the testis associated with edema and can find torsion of spermatic cord or a hypertrophic spermatic cord. In our series 3 patients underwent Color Doppler ultrasound that demonstrated an hypotrophic testis with decreased blood flow. Surgical exploration of a painful UDT is required in emergency, regardless delay time after onset of symptoms. The dilemma concern whether to conserve or remove a testis. Cimador et al. propose if evolution is more than 10 h,

there is no blood flow on Doppler ultrasound and there is no bleeding 10 min after incision of albuginea, the testes can be removed. All these criteria's must be negative to conserve the testis [16]. Rouzroukh et al. conserve all testis and performed a second look exploration, and conserve 44 of 70 testis [17]. In our study we conserve the testis if there are no signs of blood flow such as resumption of good coloration of testis and bleeding of albuginea 15 min after its incision. Prophylactic fixation of the scrotum to the contralateral testis is recommended by the majority of authors.

Conclusion

Testicular torsion of undescended testis is a rare phenomenon that should be suspected, diagnosed and treated without delay, in order to improve salvage rate of testis and decrease complications such as infertility and testicular malignancy. This series should raise awareness among physicians of torsion of UDT in patients with groin or abdominal pain with improved recognition of cryptorchidism and earlier surgical intervention.

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