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Bilateral Testicular Torsion: A Case Report

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ABSTRACT

Bilateral testicular torsion is a rare condition. We report a case of a male newborn with bilateral enlarged and firm testes. Color-Doppler revealed no evidence of vascular flow in both testes. Although intraoperative findings were in favor of bilateral infarcted and gangrenous testes, the patient underwent bilateral orchiopexy after conferring with his parents. At six-month follow-up, both testicles were atrophic. Management of bilateral neonatal testicular torsion is controversial and includes conservative management, orchiopexy, and orchiectomy. The possibility of salvaging testis in neonatal testicular torsion is very low in each treatment modality.

Introduction

Neonatal testicular torsion is defined as a torsion that occurs within the first thirty days of life [1]. Testicular torsion can be extravaginal or intravaginal. In extravaginal torsion, testis, epididymis, and tunica vaginalis twist on the spermatic cord, which is more commonly seen in neonates [1]. In contrast, intravaginal torsion inside the tunica is seen typically in older boys [1-4].

Neonatal testicular torsion is a rare condition with controversies regarding its etiology, presentation, and management [5]. It is almost always unilateral and only a few cases of bilateral torsion in neonates have been reported [6, 7]. Herein, we present a case of simultaneous Bilateral Testicular Torsion (BTT) in a newborn boy.

Case Presentation

A 12-day boy was referred with scrotal swelling and redness. He was born through a full-term uncompli-

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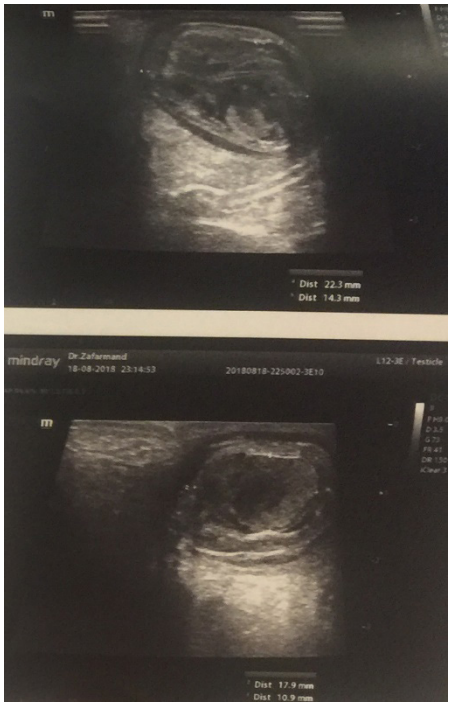

Figure 1. Ultrasound of the scrotum indicating bilaterally oedematous and heterophonic testes

cated spontaneous vaginal delivery and his birth weight was 3600 gr. The exact condition of his testes at birth is unknown. According to the child's parents, he never had signs of distress postnatally, which may indicate acute torsion. The parents did not report any abnormality in his first days of life until they realized scrotal swelling three days before admission. Physical examination revealed mild scrotal skin discoloration with bilateral enlarged and firm testes. Testicular ultrasonography was performed for the patient and showed bilateral edematous testes with mixed echo patterns in favor of testicular infarction. Also, there was no evidence of vascular flow in the color-Doppler evaluation of both testes (Figure 1).

Bilateral scrotal exploration was performed and revealed BTT. The testicular cords were twisted and narrowed and both testes were gangrenous (Figure 2). After conferring with the parents, we performed bilateral orchiopexy for the patient. At a six-month follow-up, both testicles showed signs of atrophy and the hormonal assay revealed decreased testosterone level and elevated LH and FSH suggesting primary hypogonadism. The patient was referred to an endocrinologist for further treatments.

Discussion

Neonatal testicular torsion has been arbitrarily subcategorized as occurring prenatally or postnatally within

Figure 2. Intraoperative findings revealed bilateral infarcted and gangrenous testes

the first 30 days [1, 8]. The exact timing of torsion cannot be objectively determined, but it has been assumed that approximately 70% of neonatal torsions present at delivery and 30% are developed postnatally [6]. The precise etiology of neonatal torsion remains unclear but multiple theories have been explained. It has been postulated that hypermobility of the tunica vaginalis within the scrotal sac, when exposed to an intense cremasteric reflex during delivery or in utero, may induce torsion [1, 3, 4, 9, 10]. It seems that vaginal delivery is also a risk factor for neonatal testicular torsion [1].

Neonatal testicular torsions mainly are observed in full-term babies and some studies reported high birth weight as a risk factor [11, 12]. It is not clear whether a difficult delivery predisposes the baby to neonatal testicular torsion [11].

BTT may be synchronous or asynchronous, but the vast majority of reported BTT cases are synchronous. It is somewhat ambiguous whether contralateral orchiopexy in unilateral testicular torsion decreases the metachronous BTT prevalence or low tendency to report metachronous BTT or both affect the prevalence of metachronous BTT. Clinical examination and testis ultrasonography are unreliable to determine the status of contralateral testis and the risk of its oncoming torsion. Some authors recommend contralateral testis fixation in neonatal unilateral testicular torsion due to increased risk of torsion [6, 13, 14].

The management strategy in BTT remains controversial. Although emergent surgery theoretically increases the possibility of salvaging testes, the success rate is very low in practice. Pinto et al. reported a 20% salvage rate for emergent orchiopexies [13]. The salvage rate was lower in other reports. In a review by John et al. for neonatal testicular torsion, none of the 71 testicles were salvaged [15]. It seems that the salvage rate in intrauterine torsion and delayed diagnosed cases is much lower [7]. Ultrasonographic finding in our patient was in favor of testicular infarction and necrosis due to prolonged testicular torsion. When ultrasonography shows necrotic changes in the testicle, the chance of testis salvage will be very low. Some studies have concluded that leaving the torsed testis may be a nidus for infection and a source for malignancy later in life [1, 2, 15], but bilateral orchiectomy imposes a catastrophic psychological burden on parents. On the other hand, orchiopexy in one testis with necrotic tissue is associated with a higher risk of infection and abscess formation.

Although in our case, we performed orchiopexy for the patient, the best management strategy in such cases is unknown. Pogorelic et al. [5] reported synchronous BTT in a newborn boy. They decided to perform orchiectomy for the worse testis and orchiopexy for the other testicle. In follow-up, the remained testis showed signs of atrophy and primary hypogonadism [5]. Clarke et al. reported a 3-day neonate diagnosed with BTT and conservative management was considered for the patient. The patient developed testicular failure in the follow-up [6]. Baglaj et al. reviewed the medical records of three patients with the diagnosis of BTT as a 20-year experience [11]. Complete infarction was noted intraoperatively in two patients and orchiectomy was done for them. One remaining patient underwent orchiopexy but both testes were atrophic through a 6-month follow-up [11].

Conclusion

Neonatal testicular torsion, especially bilateral torsion is a very rare condition. Thus, detailed physical examination of genitalia and early diagnosis of this condition are essential to save the testicular function.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles are considered in this article.

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Conflict of interest

The author declares that he has no conflict of interest.

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