CASE REPORT

Bilateral perinatal testicular torsion: successful salvage supports emergency surgery

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SUMMARY

Perinatal testicular torsion (PTT) has poor rates of testicular salvage. Although rare, bilateral PTT carries the risk of anorchia. We present a case of a 2-day-old term infant with acute onset right-sided scrotal discolouration and tenderness. The infant was promptly taken to the operating theatre for emergency scrotal exploration. Bilateral extravaginal testicular torsion was identified, with the right testis appearing to have a more established ischaemic appearance compared to that on the left side. Intraoperative findings were representative of metachronous PTT with a short time period of only several hours separating the torsion events. Both testes were detorted and fixated in the scrotum. The infant made an uneventful recovery. Outpatient clinic review at 6 weeks and 6 months postoperatively confirmed no clinical evidence of testicular atrophy. Given the potential for contralateral torsion and the morbidity of anorchia, our experience supports the role for emergency scrotal exploration in suspected PTT.

BACKGROUND

Perinatal testicular torsion (PTT) is a rare but important pathology with persistently poor rates of salvage. PTT is defined by onset of torsion in utero or within the first 30 days of life.¹⁻³ The majority of PTT occurs unilaterally. Those cases that occur bilaterally may be either synchronous or metachronous. Bilateral PTT carries the potentially catastrophic risk of acquired anorchia, particularly when occurring synchronously. Management of PTT remains controversial, particularly with regard to emergency versus delayed scrotal exploration in the subgroup of infants with prenatal onset pathology, and the necessity for prophylactic fixation of the contralateral testis.^{2 4-8} We present a striking case of bilateral PTT with bilateral testicular salvage that was achieved by prompt in-hospital clinical diagnosis and emergency scrotal exploration.

CASE PRESENTATION

A healthy term gestation infant male was being cared for in the Special Care Baby Unit while awaiting imminent discharge on the second day of life. His parents noticed new discolouration of the right hemiscrotum while attending to care needs for their child. The neonatology team made a prompt referral to the surgical team, who reviewed the patient 1 hour after this discolouration was first noticed. On examination at that time, both testes were palpable in the scrotum. The left testis was non-tender, with neither swelling nor overlying skin changes. The right testis was markedly tender

and the overlying skin had a bruised discolouration. Owing to clinical concern for acute testicular torsion, arrangements were made for this infant to urgently be taken to the operating theatre for emergency scrotal exploration.

TREATMENT

The operation commenced 2 h after onset of scrotal signs were first observed. When the right testis was delivered from the hemiscrotum, it was found to be acutely ischaemic ([figure 1](#)); however, it was satisfactorily revascularised after the appropriate detorsion manoeuvre. The nature of torsion was extravaginal. The contralateral hemiscrotum was also explored, revealing the left spermatic cord to be acutely torqued, with accompanying ischaemia of the testis appearing less longstanding than that on the right ([figure 1](#)). The viability of both testes was deemed adequate after a short period of direct observation. The testes were returned to the scrotum and secured using a three-point fixation technique with absorbable suture material (polyglactin). Intraoperative findings were felt to be representative of metachronous PTT with a short period of only several hours separating the two torsion events.

OUTCOME AND FOLLOW-UP

The infant was discharged home the following morning. Outpatient clinic review appointments were arranged at 6 weeks and 6 months postoperatively. At these intervals, the testes were palpable in

Figure 1 Intraoperative photograph demonstrating bilateral acutely ischaemic testes immediately following operative detorsion. The testes satisfactorily revascularised after a short period wrapped in warm saline soaked gauze.

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the scrotum, and demonstrated normal size and morphology for age. There was no clinical examination evidence of testicular atrophy on these occasions.

DISCUSSION

PTT was described in 1887, by Taylor.⁶ The early literature focused on prenatal origin of unilateral testicular torsion. More than 100 years after Taylor's description of PTT, the first report of bilateral torsion in the neonate was described.⁷ Bilateral torsion occurs remarkably less frequently than unilateral torsion. The recent literature suggests a higher incidence of bilateral pathology than previously recognised, although this is likely subject to publication bias through over-reporting of rare bilateral cases and vice-versa for unilateral cases.⁸ Some discrepancy exists regarding the predominance of synchronous versus metachronous pathology in bilateral testicular torsion.^{2 4 5 8} Irrespective of chronology, the risk of bilateral torsion is real and is associated with the significant potential morbidity of anorchia. Perinatal loss of both testes has obvious hormonal and fertility sequelae. The long-term psychological and functional consequences of this cannot be underestimated.

A disappointingly low testicular salvage rate persists for PTT. Consistent reporting in the literature suggests an overall salvage rate of ~5%.^{2 5 9 10} Clearly, the salvage rates for prenatal torsion approach zero. These events are unsalvageable and may not warrant emergency intervention.^{2 5 6 8 9} Increased awareness and vigilance of postnatal origin PTT has regrettably failed to improve salvage rates. Diagnosis is challenging and relies on timely observation with a high index of suspicion. Clinical signs are easily mistaken with more common pathologies such as acute hydrocoele or tortured testicular appendage.

There is no apparent consensus for several aspects of management in PTT. The main topic of disagreement in prenatal onset pathology is emergency versus delayed scrotal exploration. For both prenatal and postnatal onset unilateral pathologies, another topic of debate is whether to explore and fix the contralateral side.⁸ In addition to further promotion of awareness to recognise subtle clinical signs that facilitate timely surgical intervention, any improvement in testicular salvage rates for PTT can probably only be achieved by a more proactive approach towards preferential consideration of emergency scrotal exploration with contralateral fixation of the testis. As illustrated by this case, fixation of the contralateral side not only protects the contralateral testis from future torsion, it also permits the opportunity of recognising an acute asynchronous torsion event that otherwise may have gone unnoticed. For this reason, we

support the growing trend of emergency scrotal exploration with contralateral fixation of the testis.^{1 8}

Learning points

- Delayed surgery for perinatal testicular torsion (PTT) occurring in the postnatal period risks loss of one or both testes.
- There is a small but clinically significant risk of bilateral torsion.
- Given the morbidity of anorchia, our recommendation is for emergency scrotal exploration with contralateral fixation of the testis in patients with suspected postnatal PTT.

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