CASE REPORT

Bilateral simultaneous testicular torsion presenting as a diagnostic dilemma

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Dr Andrei Beliaev,
andreib@adhb.govt.nz**SUMMARY**

Bilateral simultaneous testicular torsion is a rare condition and can be misdiagnosed. The 16-year-old patient presented with a 3 h history of left hemi-scrotal pain, nausea and vomiting. His comorbidities included DiGeorge syndrome (22q11 deletion syndrome). Patient's scrotal examination was misleading because both testes were retracted. His cremasteric reflex was negative bilaterally. Scrotal ultrasound findings were consistent with the diagnosis of the left testicular torsion. An examination under anaesthesia revealed high riding and oblique position of the left testicle, but the position of the right testicle was unremarkable. The patient underwent an emergency left hemiscrotal exploration and untwisting of the left testicle. The right hemi-scrotal exploration revealed a 540° clockwise right testicular torsion. The case demonstrates the importance of bilateral hemi-scrotal exploration in a patient presenting with acute testicular pain due to a testicular torsion. Bilateral scrotal exploration is mandatory not only for diagnostic but also for treatment purposes.

BACKGROUND

Testicular torsion is a medical emergency requiring an operation. Bilateral simultaneous testicular torsion is extremely rare and can present as a diagnostic dilemma.

CASE PRESENTATION

The 16-year-old patient presented with a 3-h history of left hemi-scrotal pain, nausea and one episode of vomiting. The patient was sexually active.

Patient's comorbidities included DiGeorge syndrome (22q11 deletion syndrome) with manifestations of high arch and submucosal cleft palate, orbital hypertelorism and attention deficit disorder. He had a family history of schizophrenia on both sides of the family.

Physical examination revealed bilaterally retracted testes, which were lying longitudinally in the scrotum. The left testicle was positioned below its right counterpart. The left testicle and especially the left epididymis were tender and mildly enlarged. The right testicle was of normal size and non-tender. There was negative cremasteric reflex on both sides. There were no inguinal or femoral hernias. The remainder of physical examination was normal.

The patient had mild leucocytosis, white cell count of $12.37 \times 10^9/l$ (normal range: $4.20\text{--}10.00 \times 10^9/l$) and elevated alkaline phosphatase level of 222 U/l (normal range: 45–200 U/l).

To exclude left epididymo-orchitis, left testicular abscess as a cause of acute left hemi-scrotal pain an emergency scrotal ultrasound scan was requested, which demonstrated that the left testicle was lying obliquely within the left hemi-scrotum without intratesticular colour flow. The left epididymis was grossly thickened with a reduced colour flow. A moderate left hydrocele was present. Colour flow was seen within the right testicle and epididymis.

The presumptive diagnosis of left testicular torsion was made. No attempts were made to untwist the left testicle, and the patient was brought to the operation room for an immediate scrotal exploration. During a general anaesthesia, it was obvious that the left testicle was high riding and occupied an oblique position in the left hemi-scrotum. The position of the right testicle was longitudinal. In aseptic conditions, a midline scrotal incision was performed and an exploration of the left hemi-scrotum revealed the dusky left testicle with a necrotic epididymal appendix with a 720° clockwise torsion of the spermatic cord. The left testicle was untwisted. The left necrotic epididymal appendix was ligated at its base and divided. Then, the right hemi-scrotum exploration was performed, which revealed a 540° clockwise torsion of the right testicle. The right testicle had normal colour. After the left testicle regained its normal colour, bilateral orchidopexy was performed. The next day the patient was discharged home.

Histology of left epididymal appendix showed haemorrhagic necrosis, consistent with torsion.

INVESTIGATIONS

Initial scrotal examination, scrotal ultrasound, examination under anaesthesia, bilateral hemi-scrotal surgical exploration.

DIFFERENTIAL DIAGNOSIS

Unilateral testicular torsion, epididymo-orchitis, testicular abscess, hydrocele, inguinal hernias.

TREATMENT

Bilateral scrotal exploration, untwisting of testicles and orchidopexies.

OUTCOME AND FOLLOW-UP DISCUSSION

Bilateral testicular torsion is a rare condition with majority of cases occurring in neonates.¹ Bengt *et al*² described an acute bilateral testicular torsion in an adolescent. In bilateral simultaneous testicular torsion, scrotal examination can be misleading.² In our patient, an initial scrotal examination was

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misleading and made an examining clinician to believe that the patient might have an acute left epididymo-orchitis or a testicular abscess secondary to DiGeorge syndrome and requested an urgent scrotal ultrasound (US). US yielded the diagnosis of left testicular torsion, but failed to reveal a simultaneous right testicular torsion. An examination under anaesthesia was also misleading and was consistent with the left testicular torsion. This case demonstrates that an initial scrotal examination, scrotal US and examination under anaesthesia are unreliable investigations to diagnose bilateral simultaneous testicular torsion and mandates an emergency bilateral scrotal exploration in a patient with acute unilateral hemi-scrotal pain.

Learning points

- ▶ Bilateral simultaneous testicular torsion is an extremely rare condition with a majority of cases occurring in neonates, but can present in an adolescent or adult patient.
- ▶ An initial scrotal examination, scrotal ultrasound and examination under anaesthesia are unreliable investigations to diagnose bilateral testicular torsion.
- ▶ An emergency bilateral hemi-scrotal exploration, testes untwisting and bilateral orchidopexy is mandatory in patients presenting with acute scrotal pain due to testicular torsion.

Contributors AB was the clinician who admitted and operated on this patient. IM was an oncall urology consultant, who was involved in decision making. AB has written this manuscript and discussed it with his co-author who contributed intellectually in its content. IM has written the final version of the manuscript and agreed with submission to BMJ Case Reports.

Competing interests None.

Patient consent Obtained.

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