



Testicular Torsion – A Time Critical Condition

Our Patient Story

David, aged 13, woke with vague lower abdominal pain radiating to his flank and groin. He mentioned it to his parents but as it was manageable they sent him to school. By lunchtime, the abdominal pain had worsened and his Mum was called. He'd had a recent virus. He presented to his local GP, who referred him for an ultrasound for possible appendicitis. This scan was negative. He returned to his GP who, still concerned about appendicitis, referred him to the local hospital.

At the Emergency Department, he was seen by a junior doctor and then a consultant. He appeared well, with mild pain in the right lower abdominal quadrant but no other significant symptoms. His urine test was normal. After five hours at hospital, his pain was worsening with definite radiation to the groin. Intravenous access was obtained and blood tests sent (FBC, UE, LFT, lipase, CRP). These blood tests were in the normal range. As the hospital's sonographer had gone home, he was booked for a repeat ultrasound scan the following morning to exclude appendicitis and mesenteric adenitis. He was advised to return to hospital sooner if his symptoms deteriorated. At no stage was his scrotum examined.

The following morning, he re-presented to the local hospital for his abdominal ultrasound scan. This was normal. David then disclosed to his mother that his right scrotum was red, swollen and sore. He'd first noticed it at school the day before, but was too embarrassed to mention it. An ultrasound scan of his testes was arranged and when results were returned an hour later, this scan showed no blood flow in the right testis.

The surgical team was called and examination of his scrotum was consistent with testicular torsion. He was taken to the operating room for urgent surgery. His dead testis was removed and a fixation orchidopexy was performed on the left testis.

Testicular torsion is a surgical emergency. Testis viability can diminish markedly six hours after the onset of symptoms.

QPQC Review

The Queensland Paediatric Quality Council (QPQC) identified eleven serious paediatric testicular torsion incidents across Queensland between 2010 and 2017 resulting in loss of testis. 73% involved adolescents between 11 and 17 years of age, however it was evident in young infants as well.

For further information email QPQC@health.qld.gov.au or visit www.childrens.health.qld.gov.au/chq/health-professionals/qpqc

Useful links

1. Patient Safety Communique No. 6/2017. Testicular Torsion.
2. Royal Australasian College of Surgeons (2018). *Acute Scrotal Pain and Suspected Testicular Torsion*.
3. McBride, C.A and Patel, B. (2017). Acutely Painful Scrotum: Tips, traps, tricks and truths. *Journal of Paediatrics and Child Health* 53:1054-1059.
4. Statewide Paediatric Guideline: Acute Scrotal Pain – Emergency Management in Children.

Lessons learnt

- 1 **Clinicians need to think of testicular torsion.** Teenage boys may not volunteer symptoms. Symptoms may be vague, including abdominal pain. Not all testicular torsion presents as testicular pain.
- 2 **Testicular torsion must be ACTIVELY excluded in boys with abdominal pain, scrotal pain or swelling.** This requires physical examination (including scrotal examination) and/or surgical consultation. An **ALTERNATE DIAGNOSIS** must be confirmed. If no alternate diagnosis is identified, reassess for testicular torsion. Serial scrotal examinations should occur if symptoms persist/worsen.
- 3 **No ultrasound of the scrotum unless requested by a consultant surgeon.** Ultrasound of the scrotum is associated with a high false negative rate and delays in treatment.
- 4 **Treatment at a paediatric facility is NOT required if local resources (surgical and anaesthetic) are adequate.** The Royal Australasian College of Surgeons recommends, as a general rule, all patients with suspected torsion should be managed at the hospital of presentation.⁽²⁾ RACS however also recognises anaesthetic expertise may not be available for patients under 5 years of age. Local surgical teams (urological or general surgical) should be the first point of contact as transfer time may threaten testis viability. For rural/remote hospitals with limited access to clinicians with surgical skills, contacting a local surgeon, clinician or telehealth in the early stages could provide an alternate pathway for determining if a child requires urgent transfer.
- 5 **Rule out testicular torsion first, before diagnosing epididymo-orchitis.** Epididymo-orchitis is rare in children between 3 years of age until frequent sexual activity is established in later teenage years. In the early stages of testicular torsion, thickening of the spermatic cord may cause tenderness without testicular pain, with pain moving to the testis once the condition is more advanced. This can result in the misdiagnosis of epididymo-orchitis.