Unusual presentation of more common disease/injury

Scrotal swelling after intra-abdominal injury

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Summary

A fit and well gentleman presented with scrotal swelling, 2 days after blunt force trauma to the lower left side of his chest. At the time of injury, a focused assessment with sonography for trauma (FAST) scan for intra-abdominal trauma was negative. He was discharged but returned with persistent pain and swelling of the scrotum 4 days after the injury. This swelling was due to a haematocele secondary to splenic laceration caused by the original trauma. He remained well and did not require further intervention; the scrotal swelling had resolved after 2 weeks. This case highlights that intra-abdominal injury is an important differential of acute scrotal swelling and that 'FAST negative' needs to be treated with caution in order not to miss more subtle injuries.

BACKGROUND

We considered this case to be important for two reasons. First, scrotal swelling may be caused by an intra-abdominal injury with haemorrhage or free fluid within the abdominal cavity which then tracks through a patent processus vaginalis. Although this is uncommon, it is important not to miss as these injuries could cause significant morbidity or mortality. Second, the patient had had a focused assessment with sonography for trauma (FAST) scan which failed to demonstrate the injury. Although the outcome in his case was excellent, it may not be for other patients where a 'FAST negative' is reported.

CASE PRESENTATION

A fit and healthy 40-year-old gentleman presented to A&E after being kicked by a horse in the lower left side of his chest (figure 1). He was haemodynamically stable and complaining only of pain at the site of the kick. FAST scanning was negative and he was discharged. He presented again 2 days later with pain and swelling in the right hemiscrotum. He reported no abdominal pain; on examination, his abdomen was soft and non-tender but he remained tender over the area of the kick to his chest. Clinical examination ruled out torsion, and he was discharged with analgesia and a 2-week appointment for an ultrasound. A further 2

Figure 1 Site of the injury to the chest, bruising can be seen in the area of the kick (taken 5 days after injury sustained).

Figure 2 The swelling and slight discolouration of the right hemiscrotum (taken 5 days after injury sustained).

days on, 5 days after the initial trauma, he presented to A&E with further swelling of the right hemiscrotum and increased pain (figure 2).

INVESTIGATIONS

Ultrasonography was performed and demonstrated a haematocele of the right hemiscrotum. The radiologist was suspicious of communication with the abdominal cavity and proceeded to scan the abdomen, demonstrating subtle low attenuation of the inferior pole of the spleen. A CT scan demonstrated a laceration and contusion of the antero-inferior pole of the spleen.

DIFFERENTIAL DIAGNOSIS

Differential diagnoses of scrotal swellings:

- ▶ simple hydrocoele
- ▶ inguinoscrotal hernia
- ▶ epididymo-orchitis
- ▶ testicular torsion or rupture
- ▶ varicocele
- ▶ testicular tumours

TREATMENT

The patient had remained haemodynamically well and stable throughout and was managed conservatively. He was observed overnight and discharged with analgesia.

OUTCOME AND FOLLOW-UP

A follow-up ultrasound at 2 weeks demonstrated resolution of the splenic injury and a mild residual hydrocoele. His symptoms had resolved, and he was no longer in any pain.

DISCUSSION

A literature review found nine similar case reports where intra-abdominal injury has presented with scrotal signs.^{1–6} These cases involved eight children and only one adult. Typical presentation involved patients presenting 2 days after initial injury with scrotal signs. In order for scrotal signs to be present the processus vaginalis has to be patent to allow the blood or fluid collecting within the peritoneal cavity to drain into the scrotum. At birth approximately 80–94% are patent, falling to 50% at 1 year⁶ and only 15–37% of adults.⁷ It is of note that only the right hemiscrotum was involved, possibly because the processus vaginalis was only patent on this side or possibly because the patient was only able to lie on his right side due to the pain on the left side of his chest.

In this case, the patient had had a FAST scan performed in A&E which had not demonstrated the splenic injury; the laceration was only discovered after the scrotal swelling had become apparent. Although in this case the laceration had not required treatment it is important to remember that more serious injuries could be overlooked as FAST scanning has a specificity of 99.5% but a sensitivity of only 80.1%.⁸

Learning points

- ▶ Intra-abdominal injury must be considered as an uncommon but potentially serious cause of scrotal swelling.
- ▶ FAST negative reports may need more detailed follow-up with more sensitive scans, for example, CT.

Competing interests None.

Patient consent Obtained.

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