Acute Groin Pain Following Trauma

Victoria Chen MD
Lehigh Valley Health Network, victoria.chen@lvhn.org

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A Cup Half-full

Acute Groin Pain Following Trauma

Victoria Chen, MD
Primary Care Sports Medicine Fellow
A healthy 20 year-old male professional hockey player presented with worsening pain and swelling of his left testicle 3 days after sustaining a groin injury.

- Took a puck to the groin during 1st period of an away game.
- Was not wearing protective equipment.
- Evaluated by ATC and team physician of opposing team during intermission.
  - Swelling and bruising of left testicle on exam
  - No suspicion of necrosis, but difficult to determine with amount of swelling
Case History

- Allowed to return to play, instructed on when to seek further evaluation.
- Skated 3 shifts in 2nd period, then sat out remainder of game due to worsening groin pain.
- After the game, went to emergency dept.
  - On exam, tender left testicle, approximately 2x the size of contralateral side.
  - Ultrasound with Doppler:
    - Normal right testicle
    - Left testicle: subcapsular hematoma, hemorrhagic hydrocele, and no flow to lower ½ of testicle
Case History

- Urology consulted by emergency dept.
  - Recommended no surgical intervention
  - Admitted overnight, discharged following day
  - Conservative management
  - Follow-up with urology at home

- Day 3 post-injury, after returning home, athlete underwent a follow-up evaluation by urologist.
Physical Exam

- Vital signs normal
- Gen: Well-developed Caucasian male in no distress
- HEENT, CV, respiratory, neurologic, abdominal, musculoskeletal, and skin exams normal
- GU:
  - Penis: No lesions, tenderness, curvature, or plaques. No phimosis or paraphimosis. Meatus is orthotrophic without discharge.
  - Groin: No palpable inguinal hernia. No adenopathy.
  - Testes: Descended bilaterally. **Left testis is very tender, unable to fully examine due to discomfort.** Scrotal skin is normal without erythema. Right testis is normal without palpable mass. No hydroceles.
Differential Diagnosis

- Testicular rupture
- Testicular torsion
- Torsion of a testicular appendage
- Epididymitis
- Inguinal hernia
- Hydrocele
- Testicular infarction
Questions?
Work-up

- Automated urine dipstick analysis: normal
  - (-) RBCs, WBCs, nitrites, protein, glucose, ketones

- Ultrasound with Doppler
  - Right testis: normal
  - Left testis:
    - Large hematoma surrounding left testis
    - Diffusely heterogenous echotexture and irregular medial contour, suggestive of parenchymal edema and contusion with likely disruption of the medial testicular capsule
    - No discernible blood flow, with only a small amount of blood flow at periphery of inferior pole
Work-up: Ultrasound

Normal testis

http://www.ultrasoundpaedia.com/normal-scrotal/
Course of Treatment

- Diagnosis: ruptured testicle
- Based on elapsed time and repeat U/S results (essentially no flow and large hematoma), the likelihood of salvageable testicular tissue was low.
- Athlete was offered 2 options:
  - Conservative treatment: usually prolonged course of inflammation, pain, and increased risk of infection.
  - Surgical exploration with possible repair or orchiectomy.
  - Athlete opted for surgery.
Course of Treatment

- **Surgical exploration:**
  - Hematocele
  - Rupture of tunica albuginea
  - Absent arterial flow in the left testicle and spermatic cord

- **Due to absence of blood flow, urologist performed orchiectomy rather than debride and attempt closure.**

- **Surgical pathology:**
  - Left fractured testicle
  - Infarction of the seminiferous tubules
  - Intertubular hemorrhage
  - Defects in the tunica vaginalis and albuginea
Return to Play

- Athlete resumed skating and non-contact activities on post-operative day 5.
- Full contact on post-operative day 10.
- Counseled on importance of wearing genital protection now that he has solitary testis.
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