Unusual Shoulder Injury in an Adolescent Football Player

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Case

15 y/o male
Tackled from the side.
Right shoulder driven into the turf.
Complains of generalized “shoulder” pain.
Localized around shoulder and chest.

C/o pain over mid-clavicle and chest.

PE:
- No gross deformity.
- Swelling/tenderness along medial clavicle.
- Mildly distended neck veins.
- C/o difficulty swallowing.

What is the next best step?

RICE?
K-Tape?
Outdoor survival course to toughen him up?
Transport to an emergency department for further workup?
• Uncommon injury
  • Less than 3% of shoulder injuries.
  • Usually a physeal fracture.
  • Medial clavicular physis fuses around age 25yrs.
  • Capsule and ligaments attach primarily to the epiphysis.
  • Physis relatively unprotected.

• Mechanism
  • Direct trauma
  • Indirect trauma (most common)
  • Forced adduction.
  • Common activities
    • MVC
    • Sports (wrestling, football)

• Classified by Salter-Harris
  • Usually type I or II
  • Direction of distal fragment displacement.
    • Anterior (most common).
    • Posterior (more scary).

• Presentation
  • Pain/swelling [both].
  • TTP over SC joint [both].
  • Gross deformity [anterior].
  • Dysphagia [posterior].
  • Distention of neck and ipsilateral extremity veins [posterior].
  • Brachial plexopathy [posterior].

• Anterior fracture/dislocations.
  – Attempted closed reduction.
    • High rate if residual instability [esp. adults].
    • Allow for remodeling if closed reduction fails or redisplacement occurs.
  – Sling immobilization 14-21 days.
**SC Acute Treatment**
- Posterior fracture/dislocation.
  - Closed reduction.
    - In OR.
    - Thoracic surgeon on standby?
    - Supine with sandbag midline.
    - Abducted arm with lateral traction.
    - Palpable/audible "pop".
    - Difficult to judge stability/reduction in OR.

**SC Acute Treatment**
- Percutaneous reduction.
  - Prep skin.
  - Grasp lateral fragment with a towel clip.

**SC Acute Treatment**
- Repeat CT scan post reduction [posterior].
  - If still unstable, consider open reduction with suture fixation.
  - Nonabsorbable figure of eight suture.
  - Avoid pins and screws [migration].

**SC SubAcute Treatment**
- Anterior fx/dislocations >10-14 days.
  - Allow remodeling.
  - Late reconstruction, if needed [rarely].

**SC SubAcute Treatment**
- Posterior fx/dislocation >10-14 days.
  - Allow remodeling if asymptomatic.
  - Open reduction with fixation if symptomatic.

**SC Chronic Treatment**
- Symptomatic, chronic instability is rare.
  - Reconstruction and excision have been described.
  - Reconstruction with tendon graft seems to be favored.