A Unique Case of Double Vision in a Football Player

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Objectives

• Understanding the medical management of Orbital Floor Fractures.

• Understanding the indications for surgical referral for Orbital Floor Fractures.
Presentation

- 20 yo male wide receiver/punt returner tackled during punt return.

- Player brought down by facemask with helmet striking ground.
Presentation

• Patient came to sideline stating that he was having pain around his right eyebrow, right eye, and blurry vision.

• Initial sideline exam:
  – Mild right conjunctival injection
  – Tenderness along superior orbital rim
  – EOM grossly intact, though patient states that he is having subjective diplopia in the right lower field gaze only
  – No dizziness or cognitive issues
Differential Diagnosis

• Orbital Wall Fracture
• Extraocular Muscle Entrapment
• Traumatic Iritis
• Concussion
• Commotio retinae
• Halftime examination: Ophthalmologist was attending game and agreed to come evaluate player
  – Visual acuity
    • OS: 20/20
    • OD: 20/20
  – Woods lamp with fluorescein showed no uptake
  – Mild superior orbital wall tenderness, but no ecchymosis or swelling
  – EOM grossly in tact on examination, but patient again endorses subjective diplopia in the right lower field gaze only
• Patient says his vision is improving and wanted to continue to play the second half, patient again denies headache. He was then cleared by medical team.
• He performed well 2nd half, with 4 catches totaling over 70 yards.

• Continued to have subjective diplopia upon re-examination after game, CT Orbits ordered for that evening.
• Held out of practice the next day.

• Placed on oral Prednisone.

• No initial plan for surgery.
Follow-Up

- Ophthalmology follow-up 2 days later:
  - Diplopia resolved.

  - No sign of entrapment on imaging or clinically. Soft tissue is edematous and inferior fracture segment is within the maxillary sinus. Inferior rectus is swollen on exam, but will improve with time and anti-inflammatories, continue Prednisone for 5 days.

  - No recommendation for surgical intervention.
Follow-Up

• Craniomaxillofacial Trauma follow-up 6 days later:
  – Patient continues to have no clinical evidence of edema, restricted ocular mobility, or visual acuity changes.

  – Patient to return to full activities given following conditions.

    • Athlete’s helmet fitted with full acrylic face shield to prevent inadvertent injury to periorbital region.

    • Air compression within his helmet adjusted to prevent excessive mobility of the helmet.
Discussion

• Initial management
  – Prophylactic oral antibiotics to cover sinus pathogens are generally recommended, though there is limited evidence.
    • Augmentin or Azithromycin
  
  – Patients with limitation of extraocular movement should receive oral corticosteroids to decrease swelling.
  
  – Cold packs may be applied over the eye for the first 48 hours.
  
  – Patients should sleep with head of bed elevated and avoid nose blowing and sniffing.
Discussion

• All patients with orbital floor fractures with muscle entrapment should be evaluated by Ophthalmology or Plastic Surgery within 24 hours with these additional injuries:
  – Muscle entrapment as the result of orbital floor or medial wall fractures.

  – Enophthalmos or orbital dystopia that results in facial asymmetry.

  – Naso-orbital-ethmoid fractures with injury to the medial canthal ligament and/or lacrimal apparatus.
RETURN TO PLAY?

- Not well understood in this setting with this type of injury.

- Generally, any activities that risk a blow to the face should be avoided for 8-12 weeks. Especially in high energy sports such as football, hockey, or soccer.
  - Unless satisfactory protective measures are in place.

- Collaboration with Ophthalmology is essential before return to play.
REFERENCES

• http://www.dukebasketballreport.com
