Coracoid Fractures in Football: Evaluation and Management

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Objectives

• Discuss operative and non-operative management of coracoid fractures

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• Put coracoid fractures on your radar
• Discuss common associated injuries
• Review recent NFL experience
• Generate thought, discussion

Introduction

• Rare injury
  – 1% of all fractures, 5% of shoulder fractures
  – ? increasing
• Reported in trauma literature
  – No comparative studies
• Little-to-no information about athletes
  – No guidelines for treatment or return to play

Anatomy

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- Attachments

Classification

- Eyres (I-V) & Ogawa (I & II)

Mechanism

- Direct impact to anterolateral shoulder

- Similar to acromioclavicular separation

- Previous Surgery
  - Growing risk?

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Associated Injuries

• Superior Shoulder Suspensory Complex (SSSC)


Associated Injuries

• Less Common
  – Subscapularis injury*
  – Shoulder instability
  – Neurologic injury
    • Suprascapular nerve
    • Brachial plexus
    • Glenoid fracture
    • Rotator cuff tear

Evaluation

• High index of suspicion
• Exam
  – Tenderness
  – Biceps tests
    • Speed’s
    • Yergeason’s
  – Cross-body adduction

Imaging

• Standard shoulder X-ray series
  – AP, Axillary, Scapular-Y

Imaging

• Special X-ray views
  – Cephalad Tilt / Serendipity View

Imaging

• Computed Tomography (CT)
  – Gold standard
  – 3D recon
Imaging

- Magnetic Resonance Imaging (MRI)
  - Not necessary for fracture diagnosis
  - Helpful for diagnosis of associated injuries

Management

- Overview
  - All information from trauma literature
  - No comparative studies
  - Heterogeneous treatment
  - Conflicting results
    - Good and bad outcomes with nonoperative tx
  - Little-to-no information on athletes
  - Better outcomes with early diagnosis

Management

- Nonoperative
  - Indications
    - Minimally displaced Type I fractures
    - All Type II fractures
    - No additional displaced injuries of the SSSC
    - Sling or shoulder immobilizer x 4-6 weeks
    - Similar protocol to AC/Clavicle fx
  - Close follow-up with imaging
    - Consider repeat advanced imaging at 2-4 weeks

Management

- Operative
  - Indications
    - Painful nonunion
    - Type I with >1cm displacement
    - Multiple displaced injuries of SSSC
  - Open reduction internal fixation
    - Screw(s)

Case #1

- NFL Quarterback
  - Injured Week 1 of 2016 NFL Regular Season
  - Direct impact to non-throwing shoulder
  - Stayed in game
  - Initially diagnosed with “shoulder sprain”
Case #1

- NFL Quarterback

- 5 weeks out

- Placed on Injured Reserve
- Cleared to return to play Week 13 of Regular Season (12/1/16)
- Did not return during 2016 season
- Currently a free agent

Case #2

- NFL Running Back

- Injured Week 3 of 2016 NFL Preseason
- “Awkward fall”; “Landed on elbow, jammed shoulder”
- Removed from game
- Initially diagnosed with “shoulder sprain”
Case #2

- NFL Running Back

- Placed on Injured Reserve
  - Cleared to return to play Week 12 of Regular Season (11/27/17)
  - Did not return during 2016 season
  - Currently a free agent
Summary

- Rare injury, potentially growing incidence
- Associated injuries common
- High index of suspicion needed for diagnosis
- Advanced imaging necessary
- Early diagnosis associated with improved outcomes
- Further study needed to guide management in contact athletes

Resources


Resources