PrePodiatryStudy Case Studies

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Jones Fracture

Case

HPI: Patient is a 49-year-old male who presents to the ED after playing basketball with some friends at the gym. Patient states he rolled his ankle after jumping and immediately felt 9/10 pain with weightbearing. Patient put ice on his foot, but it kept swelling and having pain. Pain has been constant and worsening since the injury. Pain does not radiate.

What do you want to know next?

Past Medical History

PMH: DM-2, high cholesterol

PSH: tarsal tunnel release left foot 2 years ago, shoulder surgery

Meds: Metformin, Lipitor, ASA

Allergies: none

Soc: Patient is married with adult children, is a postal worker, denies tobacco, EtOH, and illicit drug use

ROS: Negative except for pain and swelling to right foot

What do you want to know next?

Physical Exam

- Vascular
  - DP/PT palpable pulses
  - +2 pitting edema of right ankle and foot
- Dermatologic
  - No skin tenting
  - Ecchymosis laterally
- Neurologic
  - 10/10 sensation with 10g SWMF
  - Light touch intact
- Musculoskeletal
  - Pain with palpation to right lateral foot
  - 4/5 strength to left plantarflexion and intrinsic muscle movement
  - 5/5 right foot strength to all groups

Read This X-Ray

Imaging

Read the image.

What's your plan, Doctor?

Surgical Plan

- What are the options for surgically or conservatively correcting a patient with a Jones fracture?

Rapid Fire Questions

Rapid Fire Questions

- What is the classification for this injury?
- What is the anatomical location of a true Jones fracture?
- What is the mechanism of injury for a Jones fracture?
- What is a pseudo-Jones fracture?
- What makes a Jones fracture prone to nonunion?
- What area of the bone is the nutrient artery in the 5th metatarsal?
- What type of hindfoot alignment can make a patient prone to Jones fractures?

Answers

Imaging

"This is an oblique view of a skeletally mature male. Attention is immediately drawn to a complete transverse cortical break in the 5th metatarsal at the metaphyseal-diaphyseal junction. The fracture is extraarticular (exits cortex just before the intrametatarsal joint-look closely). The fracture is nondisplaced and not comminuted. An os peroneum is also noted at the lateral aspect of the cuboid. Significant soft tissue edema is noted. No other osseous concerns or indications of an open fracture or emphysema are noted.

Surgical Plan

- Conservative (recommended for this fracture):
  - NWB for 4-6 weeks
  - Can use cast, jones compression, splint, or surgical shoe
  - Bone stem after 3 months if needed
  - Sequential x-rays to monitor healing
- Surgical (if delayed union, nonunion, or later displacement or athlete):
  - Intramedullary partially threaded screw with compression threads across the fragment into the medial distal cortex
  - Compression plate (not as recommended due to hardware irritation concerns)

Rapid Fire Questions

- What is the classification for this injury?
  - Stewart (E-I-E-I-O) or Torg (Zone 2 for true Jones, Zone 1 for pseudo)
- What is the anatomical location of a true Jones fracture?
  - At the metaphyseal/diaphyseal junction (Zone 2)
- What is the mechanism of injury for a Jones fracture?
  - Forefoot adduction
- What is a pseudo-Jones fracture?
  - An intra-articular fracture at the base of the 5th metatarsal

Rapid Fire Questions

- What makes a Jones fracture prone to nonunion?
  - It is in a vascular watershed area
- What area of the bone is the nutrient artery in the 5th metatarsal?
  - In the proximal diaphysis on the medial aspect of the bone
- What type of hindfoot alignment can make a patient prone to Jones fractures?
  - Varus/cavus

PrePodiatryStudy Thank You