Utilization of Ankle MRI’s and Correlation with Patient Treatment in an Active Duty Military Population

H Jonathan Goldstein, MD
Andrew Sheean, MD
Michael Tompkins, MD
Patrick Osborn, MD
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Background

- Anecdotally there was concern that MRI was being overused at our facility
- MRI as a screening tool
  - 30% of asymptomatic patients with ATFL or peroneal abnormality
  - 11% of asymptomatic patients with CFL abnormality
Hypothesis

- Ankle MRI’s are over utilized in the military population and have a low yield of patients requiring orthopaedic surgery
Materials and Methods

- 230 consecutive ankle MRI’s of active duty soldiers reviewed over 6 months from October 2009-March 2010

- Retrospectively reviewed the medical records over the following 2 years

- Primary Outcome
  - Surgery or no surgery?
Materials and Methods

- Secondary measures
  - Provider
    - Orthopaedics
      - Podiatry
      - Foot & Ankle surgeons
      - Non F&A surgeons
    - Non-Orthopaedics
  - Referral to ortho?
  - Plain radiographs prior?
Study Population

- **Demographics**
  - Active duty
  - 64% male, 36% female
  - Average age 31 years

- **Laterality**
  - 48% right, 52% left

- **Primary indications for MRI**
  - Pain
  - Instability
  - Common MRI findings: lateral ligament injuries, talus osteochondral lesions, achilles tendinosis
Results

- **25% (59/230)** of patients with an ankle MRI had surgery
  - Lateral ankle ligament reconstruction
  - Ankle arthroscopy +/- osteochondral defects

- **36% of MRIs ordered by Orthopaedics**
  - 30% (26/87) underwent surgery

- **64% ordered by Non-Orthopaedic provider**
  - 23% (33/143) underwent surgery
  - 31% (45/143) were not referred to orthopaedics

- **7% of all patients did not have an abnormality on MRI**
Surgery by Ordering Provider

N=230

- Non-Orthopaedics: 33/143
- Podiatry: 6/40
- Foot & Ankle: 12/21
- Non Foot & Ankle: 8/26
Discussion

- Overutilization of ankle MRIs by primary care and orthopaedic surgeons
  - 25% of active duty patients with ankle MRI undergo surgery
  - MRI should not be a screening tool
    - 93% of patients had a radiographic abnormality

- When to obtain MRI as an orthopaedic surgeon?
  - Preoperative planning
    - Assisting in diagnosis when a narrow differential is identified

- How to improve utilization?
  - History and Physical Exam
  - Primary care education
  - Restrict ordering
References


3. Saxena, A; Luhadiya, A; Ewen, B; Goumas, C. Magnetic Resonance Imaging and Incidental Findings of Lateral Ankle Pathologic Features with Asymptomatic Ankles. The J of Foot and Ankle Surgery. 50 (2011) 413-415


