



INTRODUCTION

- The calcaneal pseudocyst is an entity commonly encountered, usually incidentally, on imaging studies of the foot and ankle.
- The etiology of this lesion remains controversial.
- Awareness of this lesion will help prevent misdiagnosis, possible inappropriate treatment, and unnecessary health expenditures.

OBJECTIVES

- Determine the incidence of calcaneal pseudocysts in a sample population.
- Determine the association between presence of pseudocyst and gender, age, and foot laterality.
- Provide a plausible explanation for the etiology of a calcaneal pseudocyst.

MATERIALS AND METHODS

- Retrospective evaluation of electronic medical records from the University of Florida Gainesville Health Science Center from January 2010 to January 2011.
- 623 CT and MR imaging examinations of the foot and ankle were identified (Figure 1).
- Two musculoskeletal radiologists reviewed the imaging studies independently in regard to pseudocyst presence. Discrepancies were resolved by consensus.
- The CT and MR findings were associated with patient age, gender, and foot laterality.

RESULTS

- 80 (16.6%) of the imaging studies had a pseudocyst.

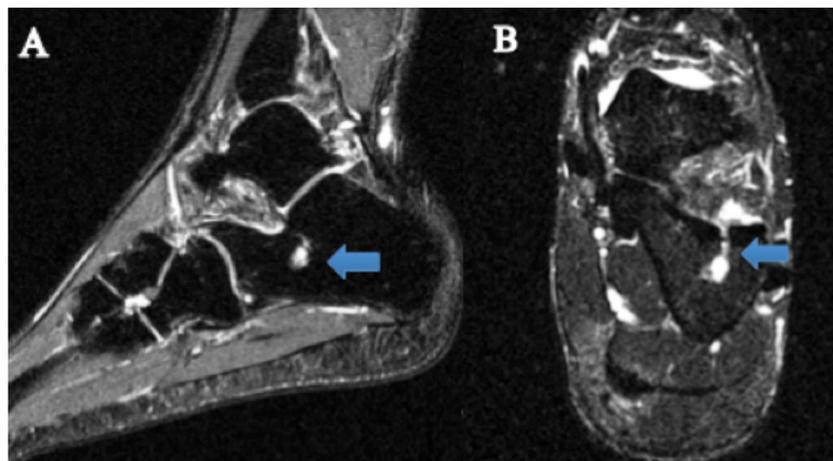
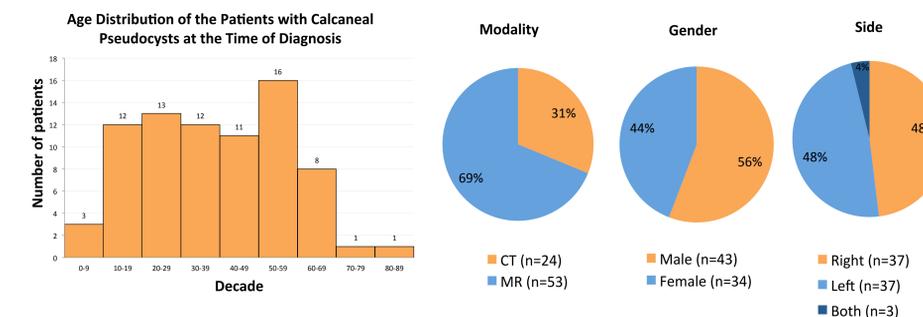
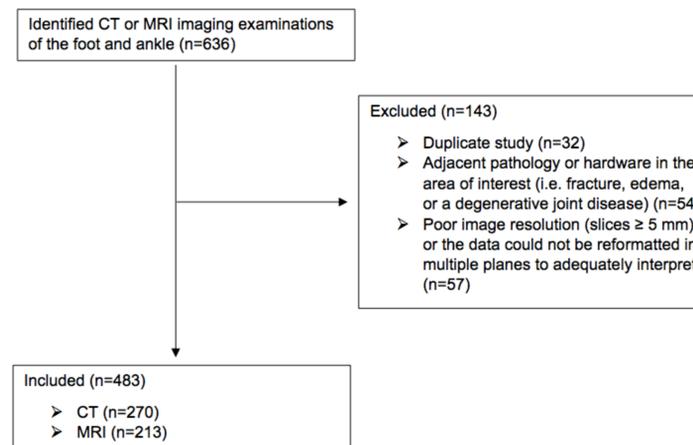


Figure 2: (A and B) Sagittal short tau inversion recovery (STIR) and noncontrast enhanced coronal fat saturated T2 MR image at 1.5T of the left ankle and heel of a 22-year-old female shows a hyperintense focus (arrows) within the calcaneal body anterior to the posterior subtalar joint. (B) shows a communicating channel between the pseudocyst and posterior subtalar joint.

FIGURE 1



- At least one pseudocyst was identified in 77 patients.
- Mean age 39 years, range 4 to 82 years.
- 69% were identified on MR, 31% were identified on CT.
- 43/77 (56%) were males, 34/77 (44%) were females.
- 37/77 (48%) occurred in the right calcaneus, 37/77 (48%) in the left.
- 3/77 (4%) had bilateral lesions.

CONCLUSIONS

- Unilateral calcaneal pseudocysts are commonly encountered on MR or CT imaging examinations, especially between the second to seventh decades of life.
- Our sample population had a lower incidence of pseudocyst presence than another study evaluating for similar findings in the mid calcaneal body [1].
- There is no association between pseudocyst presence and gender.
- There is no association between pseudocyst presence and foot laterality.
- We propose that the mechanism for pseudocyst formation is associated with increased subtalar joint pressure, with herniation of synovium into an area of the calcaneal medullary cavity normally containing only sparse trabecular bony reinforcement.

REFERENCES

1. Elias I, Zoga AC, Raikin SM, Schweitzer ME, Morrison WB. Incidence and morphologic characteristics of benign calcaneal cystic lesions on MRI. Foot Ankle Int. 2007 Jun;28(6):707-14.