Clinical Outcome of Tibbiotalocalcaneal Arthrodesis with Lateral Blade Plate

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My disclosure is in the Final AOFAS Program Book. I have no potential conflicts with this presentation.
Introduction

• Tibiototalocalcaneal (TTC) arthrodesis
  – Used to treat hindfoot arthritis, deformity
  – Fixation options
    • Multiple screws, locking plates, blade plates, intramedullary nails, ring fixators
  – Many biomechanical studies of fixation exist, fewer of clinical outcomes - particularly with blade plate

• Purpose
  – Report the clinical outcome of TTC arthrodesis with blade plate fixation through a lateral approach.
Methods

• Retrospective Review
  – 1998 to 2010
  – Inclusion
    • TTC by CPT code
    • Primary or revision
    • Blade plate fixation
  – Exclusion
    • Primary method of fixation other than blade plate
    • Cases of pantalar arthrodesis
Methods

• Study Population
  – 23 patients, 25 TTC arthrodeses
    • 1 patient with staged bilateral
    • 1 patient with blade plate for both primary and revision procedures
  – Mean age 59, mean BMI 30
  – Pre-operative Diagnosis
    • Post-traumatic osteoarthritis (10)
    • Atraumatic talar avn (5)
    • Charcot neuroarthropathy (3)
    • Failed TAR (2)
    • Nonunion ankle arthrodesis (2)
    • Nonunion TTC arthrodesis (1)
Methods

• Chart and Radiographic Review
  – Conducted for 25 of 25 procedures (23/23 pts)
  – Mean follow-up 25 months
• Supplemental telephone interviews
  – Conducted for 15 of 25 procedures (13/23 pts)
  – Mean follow-up 44 months
Results: Chart and Radiographic Review

• Union:
  – 16 /25 procedures (64%) united at mean 17 weeks
  – 8/9 nonunions required revision, all 8 successful

• Complications:
  – 16/25 procedures (64%) had at least one
  – Nonunion, symptomatic implants most common

• Reoperation:
  – 13/25 procedures (52%) required at least one
  – Revision nonunion, removal implants most common
Results: Telephone Interview

• 13 pts, 15 TTC arthrodeses
  – Mean satisfaction 9/10.
  – Mean pain level 2/10
  – *All 13 patients stated they would have the surgery again*
  • compared to overall population this subset had similar union, complication, and reoperation rates (60, 60, and 53%, respectively)
Conclusion

• Tibiotalocalcaneal arthrodesis utilizing lateral blade plate fixation can be a challenging procedure as evidenced by high rates of complication.

• Despite this, once a solid fusion is achieved, patients demonstrate a high level of pain relief and satisfaction.