Rheumatoid forefoot reconstruction in the non-rheumatoid patient

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Background

• Residual forefoot pain and deformity despite prior surgical intervention in non-rheumatoid patients remains a challenging scenario

• Surgical options can be limited but rheumatoid forefoot reconstruction (first MTP arthrodesis and lesser metatarsal head resections) may be a reasonable consideration
Surgical Management for Intractable Metatarsalgia

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• Only 1 prior study (Mann and Chou, FAI, 1995) over 20 years ago examined rheumatoid forefoot reconstruction in the non-rheumatoid patient

• Similarly, the purpose of this study was to assess clinical and radiographic outcomes of rheumatoid forefoot reconstruction in non-RA patients
Materials and Methods

• Billing codes from 2007-2015 were retrospectively reviewed to capture patients who underwent first MTP arthrodesis and lesser metatarsal head excisions

• Chart review was then performed to exclude patients with rheumatoid or inflammatory arthritis

Figure 2. Preoperative radiographs of a patient with severe hallux valgus deformity despite prior forefoot surgery as well as malalignment at multiple lesser MTP joints (A). Early radiographs at 6 weeks postoperatively from the same patient with first MTP arthrodesis and lesser metatarsal head resection of MTP joints 2-5 (B). Final radiographs at 10 months postoperatively with a united first MTP fusion and well-aligned lesser MTP joints (C). MTP, metatarsophalangeal.
Results

- 14 patients (16 feet) without rheumatoid disease underwent forefoot reconstruction
- 3 feet with wound issues that resolved with local care and antibiotics
- No reoperations for any feet
Results

- Successfully contacted 13 of 14 patients via phone survey
- High postoperative satisfaction: average 9.0 (range 6-10)
- VAS scores significantly improved ($P<0.001$) with surgery
  - Mean preoperative VAS: 6.2 (range 3-9)
  - Mean postoperative VAS: 1.9 (range 1-6)
- All patients (13/13) stated they would undergo the procedure again

Questions:
1. On a scale of one to ten, with ten being most satisfied, how would you rate your satisfaction with the surgery performed?
2. On a scale of one to ten, with ten being the most pain, please rate your current level of pain.
3. Since your surgery, have you had any subsequent surgery on the involved foot?
4. Given what you know now, would you undergo the surgery again?
5. In order to perform your activities of daily living, do you require any of the following?
   - Walker (Yes or No?)
   - Wheelchair (Yes or No?)
   - Crutches (Yes or No?)
   - Cane (Yes or No?)
   - Custom made foot orthotic (Yes or No?)
   - OTC foot orthotic (Yes or No?)
   - Specialized foot wear (Yes or No?)
   - Medications (anti-inflammatories, narcotics, etc.) (Yes or No?)
   - If yes, did you require these devices prior to surgery?
Results

- Significant improvements in all radiographic parameters including:
  - 1,2 IMA
  - HVA
  - MTP-2
  - First-MTP DF angle

- No first MTP arthrodesis non-unions at mean radiographic follow-up of 9.8 months
• Data here reveals that rheumatoid forefoot reconstruction in non-rheumatoid patients can lead to low-complication rates, high patient satisfaction, and decreased postoperative pain.

• However, this operation should be viewed as a salvage procedure.
Limitations

• No data collected using a validated outcome tool like the Foot and Ankle Ability Measure (FAAM)
• No control population for comparison
• Outcomes data gathered via phone survey and not through in-person clinic examination
Conclusion

- First MTP arthrodesis coupled with lesser metatarsal head resection was a viable option for patients who failed prior attempts at forefoot reconstruction or had chronic forefoot pain and deformity.
- Future study in expanded sample sizes that utilize outcome instruments specific to foot and ankle patients should be considered.
References


