Rheumatoid Patient
Surgical Considerations

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Surgical Considerations

Disclosures:
No conflicts to Disclose
Goals

- Discuss pathology and procedure selection for patients with rheumatoid arthritis
- Perioperative considerations
- Paradigm shifts in management of end stage rheumatoid arthritis
Rheumatoid Foot and Ankle

• Foot affects 90% of patients
• **MTPJ** 90% involvement
• **Midfoot** 40 - 60% involvement
• **Ankle & STJ** 30 - 60% involvement
  – Lower extremity often first site to be affected
  – 80 - 90%: 1/3 in early disease
  – Bilaterally symmetric
  – MTPJs/PIPJs>Rearfoot> ankle.

Jaakkola JI A review of rheumatoid arthritis affecting the foot and ankle. *Foot Ankle Int*. 2004
Mcglamry’s textbook of foot and Ankle surgery, Rheumatoid Arthritis
Classic Clinical Findings

- Post-static dyskinesia - greater than 1 hour
- Stiffness, swelling
- HAV, hammertoes, claw toes, **FIBULAR DEVIATION**
- Prominent met-heads plantarly
- Collapse of arch, peri-talar subluxation, pes planus
- Uniform joint space narrowing ankle
- Osteopenia
Clinical Features

Costa M et al: Rheumatologic conditions of the foot. JAPMA. 2004
Costa M et al: Rheumatologic conditions of the foot. JAPMA. 2004
Patho-Anatomy of Forefoot Rheumatoid

• Ulnar deviation

• Fibular deviation

Costa M et al: Rheumatologic conditions of the foot. JAPMA. 2004
Juxtaarticular osteoporosis
Marginal erosions
Uniform joint space narrowing and widening
Subchondral cysts
Subluxation/dislocation
Bony ankylosis

*Serial Radiographs*

Berquist, Thomas H. Imaging of the Foot and Ankle, 3rd Edition 2011
## Peri-operative Medical Management

<table>
<thead>
<tr>
<th>Medication</th>
<th>Continuation</th>
<th>Timing</th>
<th>Post operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methotrexate Hydroxychloroquine</td>
<td>Continue</td>
<td></td>
<td>1-2 weeks after healed wound*</td>
</tr>
<tr>
<td>Eranercept</td>
<td>Hold</td>
<td>2 weeks</td>
<td>1-2 weeks after healed wound*</td>
</tr>
<tr>
<td>Inflixamab Adalimumab</td>
<td>Hold</td>
<td>4-6 weeks</td>
<td>1-2 weeks after healed wound*</td>
</tr>
<tr>
<td>Leflunamide Sulfasalazine</td>
<td>Hold</td>
<td>2 days</td>
<td>1-2 days with return to normal GI and Renal function</td>
</tr>
<tr>
<td>Azathiaprin</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Wound Healed - American Academy of Rheumatology definition: Sutures removed without drainage

Lisa L. Schroeder M.D: Perioperative Management of Patients with Rheumatoid Arthritis
American Academy of Rheumatology
Cervical Radiograph

WILLIAM MARTEL AND JESSE W. PACE: Cervical Vertebral Erosions and Subluxations in Rheumatoid Arthritis and Ankylosing Spondylitis

Procedures

- Synovectomy
- Head resection
- Joint sparing procedures
- Joint replacement
- Arthrodesis
Forefoot Rheumatoid Arthritis
Incision Placement

Pan Met Head resection

- Forefoot First**
- Maintain parabola
- Resect more plantarly
- More medially at 1\textsuperscript{st} met, more laterally at 5\textsuperscript{th} met.
- Hallux may shift laterally and cause HAV long-term
1st MPJ- arthrodesis VS. Keller

• Joint Destructive Options
• First MTP joint arthrodesis preferred because:
  
  – Increased medial column stability

  – Alleviate halluxabductoovalgus recurrence

  – Allows the first ray to share a greater load of weight-bearing forces

Long term follow-up 1\textsuperscript{st} MPJ arthrodesis

- Study with 6 year follow up

- 96 percent of the feet had a subjective rating of excellent or good

- Maintenance of first metatarsophalangeal alignment with a metatarsophalangeal arthrodesis and resultant fusion protects not only the hallux but also the lesser metatarsophalangeal joints from recurrent deformity and subsequent recurrent metatarsalgia

Joint Replacement

Arthrodesis

Mcglamry Textbook of Foot and Ankle Surgery: Rheumatoid Arthritis
Foot and Ankle Clinics 2007.
Christopher F. Hyer, et al.: Successful Arthrodesis of the First Metatarsophalangeal Joint in Patients with Inflammatory and Noninflammatory Arthritis: A Comparative Analysis

RA vs. OA 1st MPJ Fusion

- A total of 155 first MTP fusion procedures for OA and RA were analyzed.
- 116 (74.83%) had been performed for pain from OA
- 39 (25.16%) for RA.
- The RA group had a statistically significantly shorter interval to fusion than did those with OA (93 and 113 days, respectively; \( p < .025 \)). The overall incidence of fusion for those with RA was 94% and for those with OA was 89%
- RA appeared to achieve fusion more rapidly.
- 3 cases of delayed wound healing were observed in the RA group, but none were noted in the OA group
Forefoot Rheumatoid Surgery

http://orthoinfo.aaos.org/topic.cfm?topic=00163
Now on to the second foot
Midfoot Rheumatoid Arthritis
(Lis franc and Midtarsal Joints)

Berquist, Thomas H. Imaging of the Foot and Ankle, 3rd Edition 2011
Met-cuneiform joints are classified as non-essential joints of the foot and have a total of 2-5 degrees of motion.
Subtalar and Ankle Rheumatoid Arthritis

Surgical Treatment:

STJ Rheumatoid Arthritis

Neufeld JD: The surgical reconstruction of rheumatoid midfoot and hindfoot deformities.
Ankle Rheumatoid Arthritis

Berquist, Thomas H. Imaging of the Foot and Ankle, 3rd Edition 2011
Surgery of the Rheumatoid Ankle


Sammarco, V. J. Ankle arthrodesis in rheumatoid arthritis: techniques, results, and complications. Foot Ankle Clin. 2007

Post Operative Complications

- Infection: incision placement, DMARDs, Biologic agents, corticosteroids
- Delayed wound healing
- Skin slough/necrosis: excessive tension, vasculitis
- Non-union, mal-union, hardware failure
- Recurrent deformity
- DVT; long-term steroids $\rightarrow$ hypercoagulable state

C. Bibbo: Wound healing complications and infection following surgery for rheumatoid arthritis. Foot Ankle Clin. 2007
Now on to the second foot
THANK YOU

QUESTIONS?

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