The Natural History of Charcot Neuroarthropathy: Is Anatomic Classification Predictive of Outcome?

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None of the authors have any potential conflicts to disclose in relation to the information disseminated in this study.
Data are limited in the natural history of Charcot Neuroarthropathy (CN)

Primary goals of treatment:
- Plantigrade extremity
- Braceable
- Avoid amputation
- Ambulatory

Does anatomic classification predict outcome of CN?
• Retrospective review of consecutively treated patients (n=334; avg f/u of >4 years)
• Patient Demographics
• Anatomic Classification
• Surgery: Number, Type, Location
• Initial and Final:
  • Ulcer Status
  • Ambulatory Status
  • Shoewear/Bracing
• Statistical Analysis
  • ANOVA
  • Pearson Chi Square
  • Statistical significance p<0.05

• Correlation between anatomic classification and patient specific variables.
• Type 1: 35.3% (n=118)
• Type 2: 17.1% (n=57)
• Type 3: 13.8% (n=46)
• Bilateral Disease: 33.8% (n=113)
• Diabetes: 77.2% (n=258)
• Idiopathic: 15.3% (n=51)
• Rheumatoid Arthritis: 7.5% (n=25)
  • MORE LIKELY to be bilateral (p=0.026)
- Number of surgeries
  - Classification not predictive
    - 44.3% effectively managed WITHOUT surgery
- Location of surgery
  - Classification WAS predictive (p<0.00001)
Ulcer Status

• Initial Presentation
  • No correlation between classification and presence of ulceration
  • 50.5% of patients had ulcers
• Final Presentation
  • No correlation between classification and presence of ulceration
  • 92% ULCER FREE

Orthopedic Associates of Dallas at Baylor University Medical Center
• Orthoses/Prostheses
  • Correlation between classification and successful management with orthoses
  • Orthoses more commonly used in distal disease
  • Bracing/Prostheses more commonly used in proximal disease
• Independent Ambulation
  • The overwhelming majority of patients maintained their ambulatory status at final follow-up
Conclusion

- Anatomic Classification IS PREDICTIVE
  - Shoe wear
  - Surgery

- RA is MORE LIKELY to involve BOTH extremities
