Re-operations in diabetic foot ulcers treated with debridement or limited amputation of the foot – Results from a single centre

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NO CONFLICT TO DISCLOSE

• Re-operations in diabetic foot ulcers treated with debridement or limited amputation of the foot: results from a single centre.
  • Ashtin Doorgakant

• My disclosure is in the Final AOFAS Mobile App.

• I have no potential conflicts with this presentation.
Background

• Conflicting evidence diabetic foot ulcer management

• Key paper (ref1) documented:
  • 31% reulceration rate
  • 16% re-amputation rate
  • variety of techniques of wound management described
  • rate of reoperation linked to method of closure

AIM OF OUR AUDIT

• To look at practice at Broadgreen, Liverpool
  • pathologies/ diagnoses
  • surgical management
  • method of closure
Methodology

- Retrospective
  - through Bluespier software
- All patients with foot amputations
  - no amputations at hindfoot level or above included
- Each episode counted as a separate entry
- Outcomes:
  - discharge
  - ongoing treatment
  - further surgery- divided into:
    - same area same side
    - different area same side
    - opposite side
Demographics

- January 2012 to December 2013
  (minimum follow up of 6 months; mean 19.7 months)
- 33 episodes in 25 patients
  - 21 male, 4 female
  - mean age 58 yrs
- Diagnoses:
  - osteomyelitis
  - chronic ulcer
  - prominent bone
- Reasons for further surgery
  - re-infection
  - 1 ischaemic leg
Results

• **1<sup>st</sup> time surgery pts (A)** 10
  (index procedure in study period)

• **Repeat surgery pts (B)** 15
  (index procedure before study period)
  - Same area, same side 7
  - Different area, same side 8
  - Opposite side 0

• **Further surgery since study start (C)** 8
  (7pts- *all* from group B, *none* from group A)
  - Same area, same side 6
  - Different area, same side 2
  - Opposite side 0
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<th>Repeat surgery pts</th>
<th>Opp side</th>
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All Closure Methods

Grouped Closure Methods
Time lag analysis

- **Time to further surgery (months)**
  
  *Group C patients*
  
  - Mean (SD): 5.3 (6.7)
  - Range: 0-20
  - Median: 1.9

- **Surgery-free time (months)**
  
  *All patients*
  
  - Mean (SD): 13.6 (8.8)
  - Range: 0-29
  - Median: 12.6
“Reoperation-free” survival

Kaplan Meier Curve

Probability

Follow Up Duration (months)
Conclusion

• High rate re-operation in diabetic foot surgery
  • of 33 episodes, 15 had previous surgery and 8 had further surgery
  • 24% re-amputation rate
  • no new amputation in defined period had rpt surgery
• No correlation could be found with closure method
• VAC noted to be used on its own or in combination with complete / incomplete closure
• Repeat surgery usually same foot
  • not always same site

Limitations

• Retrospective
• Unequal follow up period: 6 to 29 months
• Some info missing in notes
• Unable to analyse all repeat surgery patients from index procedure (some historical data unavailable). Only looked at defined period.
Recommendations

• Continue audit follow up over longer period
• Assessment of other confounding factors
  • blood results (Hb/ diabetic control etc.)
  • microbiological diagnosis and treatment
  • co-morbidities
    • larger numbers will be required
    • scope for a research project

Reference

2. Trepman, Nihal, Pinzur. Current topics review: Charcot neuroarthropathy of the foot and ankle. Foot & Ankle International, Jan 2005, 26(1); 46-63