

Osteosynthesis Material Infection: A Descriptive Analysis of a 41-Case Cohort

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41 infection episodes	40 patients	59.4 mean age, years (14-93)	25M / 15F sex distribution	61% monomicrobial infections	0 cases with sepsis
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Background

Infection related to osteosynthesis material (OM) is a serious complication in orthopaedic surgery, associated with significant morbidity and healthcare burden. This study describes the clinical, microbiological, and therapeutic characteristics of a cohort of patients with OM infection at a single centre.

Methods

Retrospective observational study of 41 OM infection episodes in 40 patients. Demographic data, anatomical location, fracture type, comorbidities, clinical and laboratory findings, microbiological results, and treatment strategies were analysed.

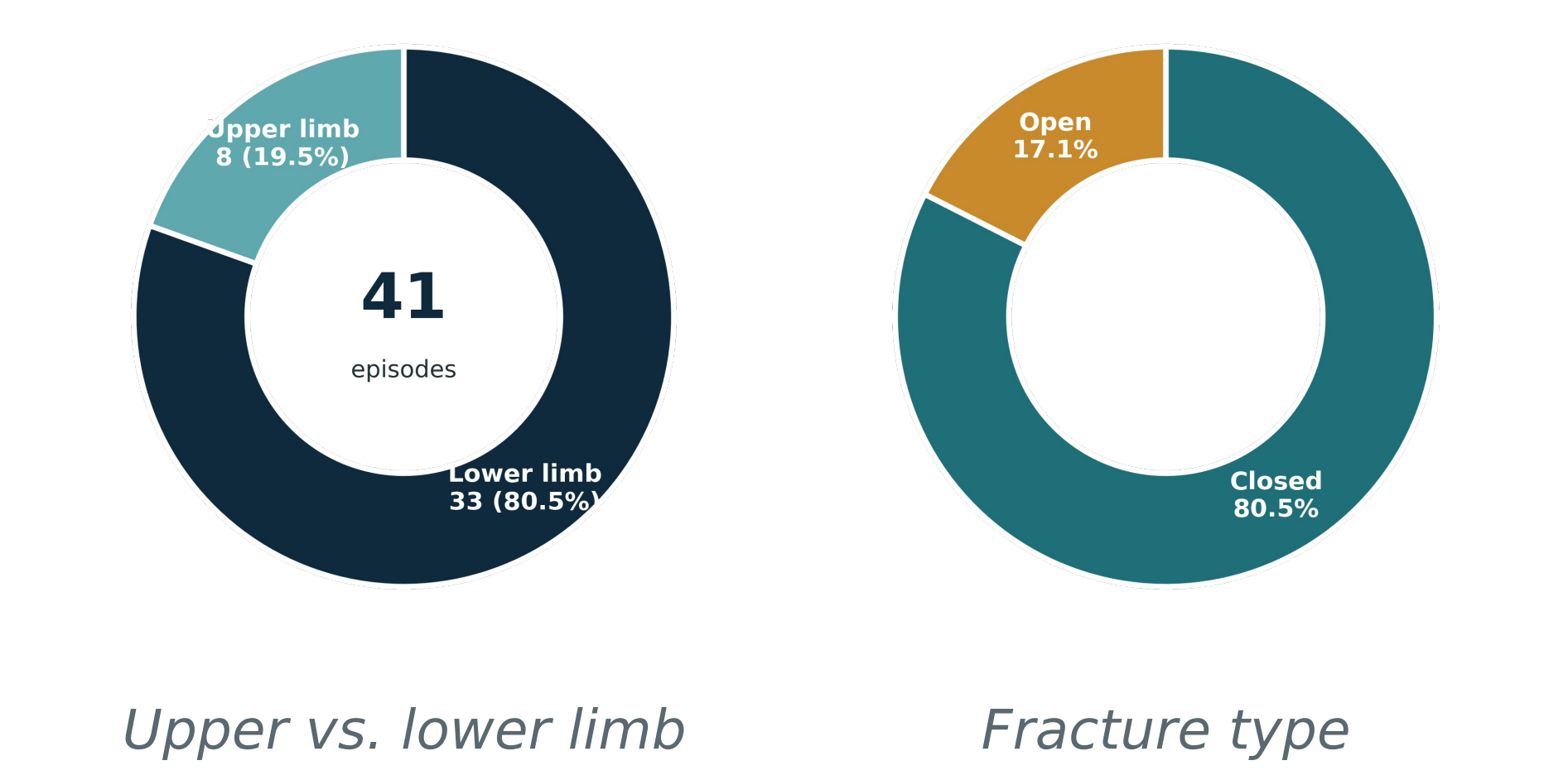
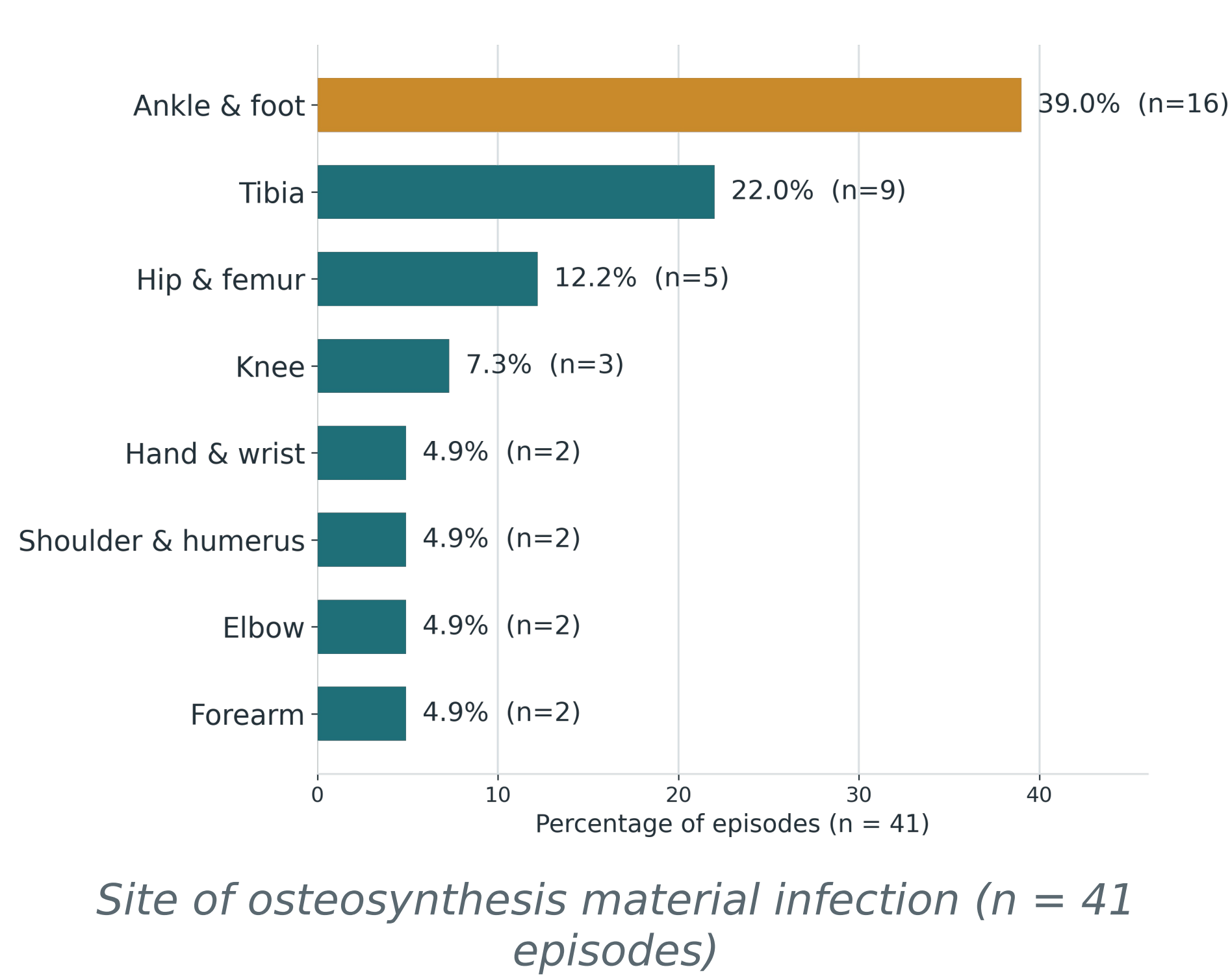
Study Population

Episodes / patients	41 / 40
Sex	25 M · 15 F
Mean age	59.4 y (14-93)
Active smokers	5 cases
Diabetes mellitus	5 cases

Clinical Presentation

- No patient presented with systemic sepsis.
- Fever >37°C at presentation in 5 cases.
- Local signs of infection in 40/41 episodes.
- Fistula or wound dehiscence in 28 cases (68%).

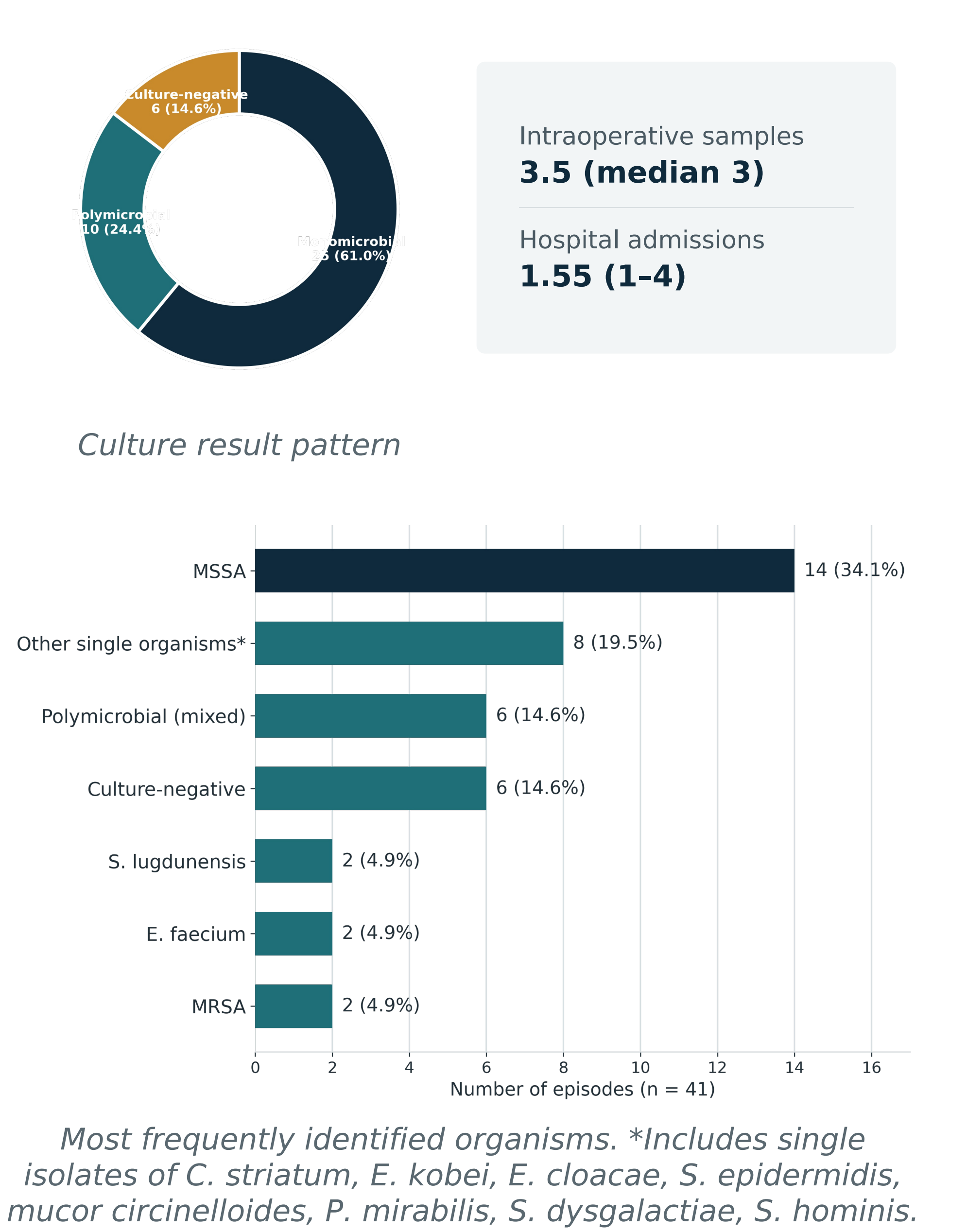
Anatomic Distribution



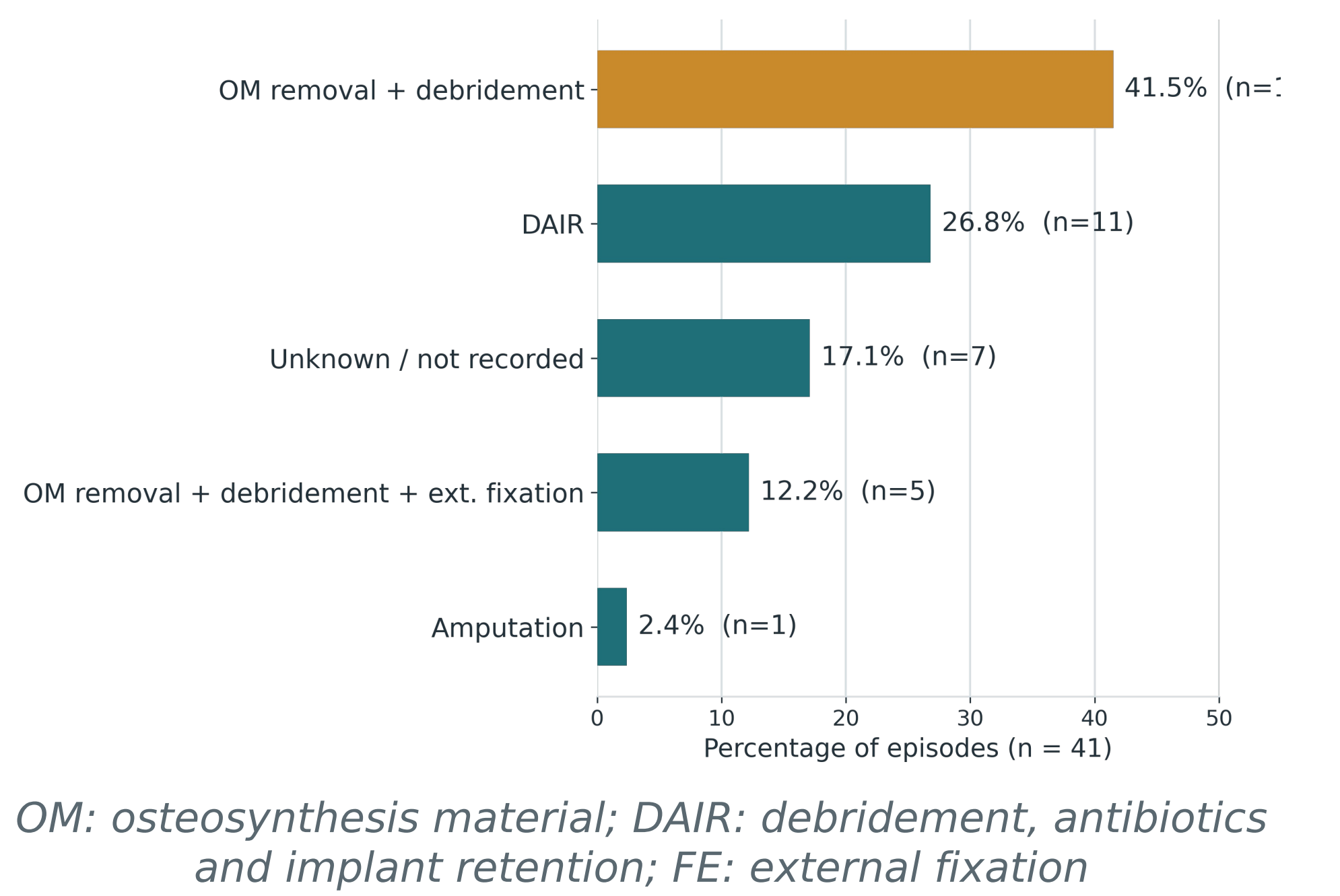
Laboratory Findings

Leukocytes, ×10 ⁹ /L	10.35 (SD 3.99)
Neutrophils, %	70.5 (SD 11.6)
CRP, mg/L	45.7 (SD 55.8)
Glucose, mg/dL	96.9 (SD 22.1)

Microbiology



Treatment Strategy



Conclusions

OM infection predominantly affects the lower extremity and typically presents without sepsis but with clear local manifestations.	<i>Staphylococcus aureus</i> remains the most frequent pathogen.	Implant removal with debridement is the most frequently used strategy, followed by DAIR.	Management should be individualised, based on anatomical location, implant stability, and patient profile.
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Take-home message

OM infection affects mainly the lower limb, rarely causes sepsis, and is dominated by monomicrobial MSSA disease — implant removal with debridement, individualised by site and implant stability, remains the cornerstone of treatment.