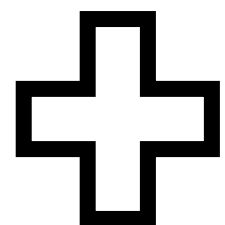


Modifiable factors associated with treatment failure in implant-associated osteoarticular infections: a single-centre multidisciplinary study

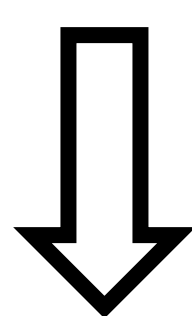
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INTRODUCTION

Challenge: Implant-associated osteoarticular infections (IAOI) remain a major clinical challenge despite standardised protocols



Need: Identifying **modifiable management factors** is critical to improve patient outcomes.



Objective: To identify key risk factors linked to treatment failure in IAOI within a single-center cohort

RESULTS

Study Population & Global Outcomes

59 patients (Mean age: 68 years | Sex ratio M/F: 1.11).
78.0% Endogenous (n=46) vs. 22.0% Exogenous (n=13).
67.8% (40/59) : 29 endogenous cases
32.2% (19/59) : 17 endogenous cases

Baseline characteristics (Sex ratio, Mean ASA score) were identical between Success and Failure groups.

Parameter	Success (n=29)	Failure (n=17)	Clinical Trend
	65 years	69 years	Higher age linked to failure
	Comorbidities & Risk Factors		
≥ 1 Risk Factor	51.7%	64.7%	Accumulation of risks
≥ 2 Risk Factors	24.1%	47.1%	Double the rate in failures
	Pathogens		
MDRO / HRO	31.0%	35.3%	Difficult-to-treat pathogens
Enterobacteriaceae	22.7%	39.1%	
	48.3%	35.3%	Protective effect (Less counselling = more failure)
	Surgery		
(Acute infections)			
Mean delay to lavage	32 days	36 days	Early intervention is key
Delay > 4 weeks	40.9%	43.8%	

TAKE-HOME MESSAGE

How can clinicians reduce treatment failure?

- Early surgery
- Systematic pharmacist counselling
- Close follow-up for high-risk patients

METHODS

Study Design & Population

- Single-centre descriptive retrospective study
- 2023 – 2024.
- Patients diagnosed with IAOI identified via hospital records
- Approved by the institutional data protection officer

Multidisciplinary Data Collection

- = Infectious disease specialist, a surgeon, and a pharmacist
- = Age, sex, ASA score
- Comorbidities & Risk Factors** = Diabetes, organ failure (liver, renal, heart), active cancer, and immunosuppressive therapies (methotrexate, corticosteroids, rituximab)
- Infection Parameters** = Pathogens, device type, implantation setting, and antimicrobial management (including **pharmacist-led discharge counselling**)

Definitions

Infection Classification :



Treatment Failure : Unfavorable clinical outcome or requirement for additional surgery

Statistical Analysis

Comparative analyses (Success vs. Failure) : **restricted to endogenous implantations** to ensure data homogeneity.

CONCLUSION

- Combination of**
- Non-modifiable factors (e.g., age, high comorbidity burden).
- Actionable management gaps (modifiable factors) .



Actionable interventions

- Implementing systematic pharmacist-led antibiotic discharge counselling.
- Achieving shorter surgical delays.



Clinical Implications

- Non-modifiable profiles should trigger closer monitoring and early tailored multidisciplinary care.
- These findings strongly support the deployment of integrated care pathways and prospective monitoring programmes.