

Early switch to oral antibiotics (ABX) for treatment of high-risk periprosthetic joint infection (PJI)

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Introduction

- Despite increasing evidence supporting oral ABX for PJI (1-3), many clinicians insist on prolonged intravenous (IV) therapy for patients at increased risk of failure.
- We assessed outcomes associated with early oral ABX transition for PJI patients with a high burden of comorbidities predisposing to treatment failure.

Methods

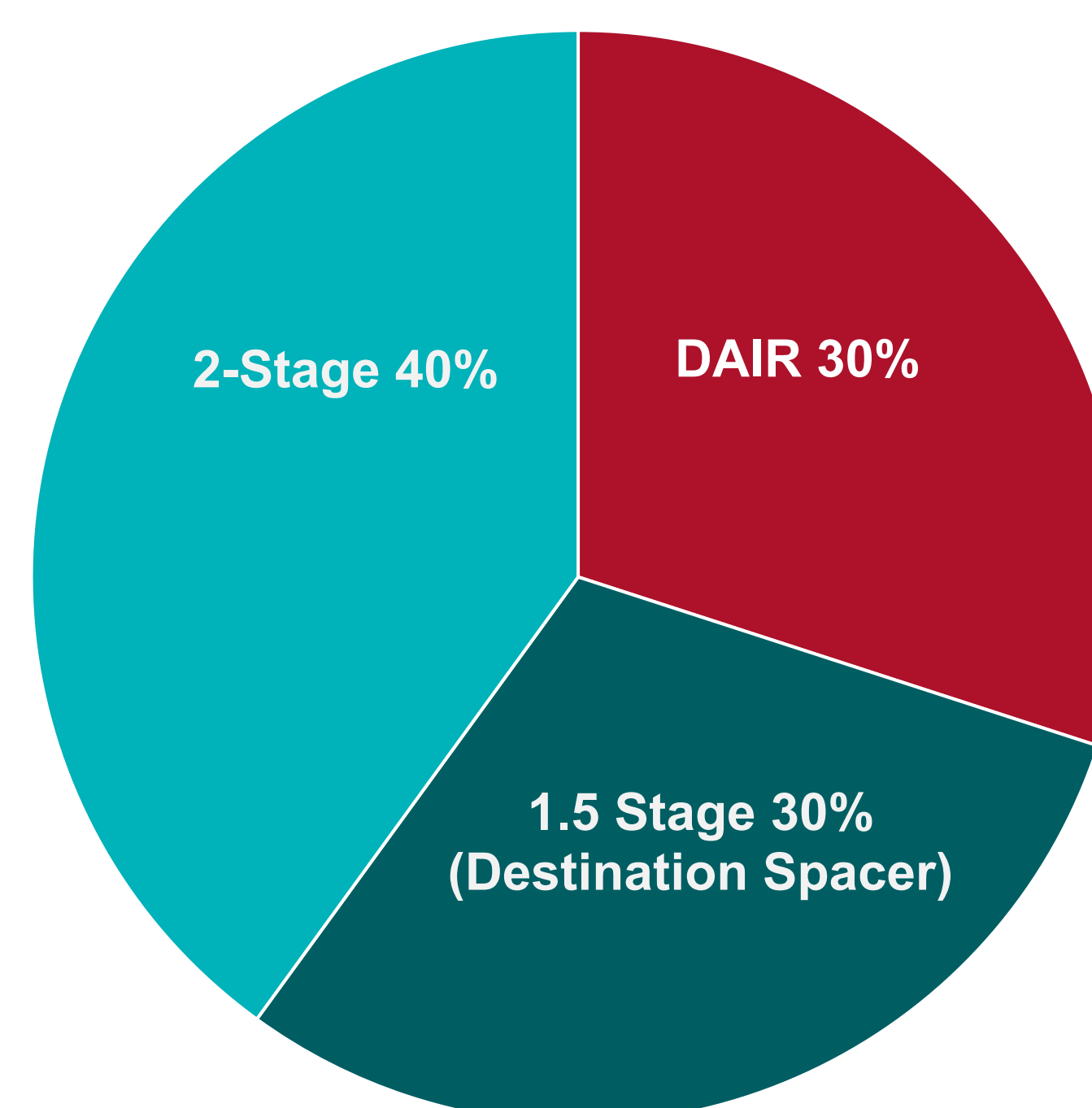
- Retrospective review of outpatient parenteral antibiotic therapy (OPAT) program records of patients treated at our institution from 2019-2025 meeting 2018 MSIS/ICM criteria for infected or possibly infected arthroplasty who transitioned to oral ABX within 2 weeks of surgery.
- Need for further same site surgery due to relapsed (same pathogen) or recurrent (new pathogen or culture-negative) PJI at 1 year was the primary outcome.

Results

Patient Characteristics (n=20)

- 65% male
- 63 y/o (median age)
- PJI site: 45% Knee, 35% Hip, 20% Shoulder
- 70% had one or more of the following risk factors for treatment failure:
 - Active malignancy (20%)
 - Obesity (BMI > 30) (15%)
 - Prior revision arthroplasty (15%)
 - CKD or ESRD (10%)
 - Age > 80 y/o (10%)
 - Polymicrobial infection (10%)
 - S. aureus* infection (10%)
 - Other (PAD, RA, bacteremia) (5% each)
- Median duration of IV antibiotics was 12 days post-op (range 2-14 days); 25% received <7d IV antibiotics

Surgical Approach



Results

Pathogen*	%
<i>Streptococcus spp</i>	30
Coag-Neg Staphylococcus	25
MSSA	10
Gram-Neg Bacilli	15
<i>C. acnes</i>	15
Other bacteria	10
Culture-Negative	5

*Percents sum to >100% as some infections were polymicrobial

Results

IV Regimen	# pts
Ceftriaxone	8
Vancomycin	3
Vanc/Ceftriaxone	2
Dapto/Ceftriaxone	1
Daptomycin	2
Other (Ertapenem, Oxacillin, Cefazolin, Cefepime)	1 each



PO Switch Regimen	# pts
Doxycycline	5
Cefadroxil	5
Amoxicillin	2
Levoflox/Rifampin	3
Levofloxacin	3
Levo/Doxy	1
TMP/SMX	1

Total Duration of Therapy

DAIR	20-24 wk (3/6), 12 wk (2/6), SAT (1/6)
1.5-Stage	6 wk (4/6), 12 wk (1/6), 16 wk (1/6)
2-Stage	6 wk (7/8), 8 wk (1/8)

SAT: suppressive antibiotic therapy

Complications of PO Therapy

- 1 Levo: QTc >500 → to Amox
- 1 Levo/Rif: N/V → Doxy/Rif
- 1 Levo/Rif: peripheral neuropathy at 5 mo → early stop of therapy
- No ED visits or admissions

Outcomes with Early PO Switch

- 19/20 (95%) were free of additional surgery at one year. One pt had recurrent PJI due to *E. faecalis* and *C. striatum* at 5 mo.
- 18/20 (90%) were free of additional surgery at last follow-up. One pt developed acute PJI due to *Pasteurella sp* at 2 yrs after a cat bite.

Conclusion

This small, retrospective, single center study of early oral antibiotic treatment in a predominantly high-risk cohort is consistent with existing data in complicated orthopaedic infections and justifies a larger prospective trial

References / Acknowledgements

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