A DESCRIPTIVE ANALYSIS OF MANAGEMENT OF PROSTHETIC JOINT INFECTIONS AND FRACTURE-RELATED INFECTIONS AT UNIVERSITY HOSPITAL WATERFORD DURING 2024

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Background

Bone and joint infections, including prosthetic joint infections (PJIs) and fracture-related infections (FRIs), often require prolonged treatment with intravenous antibiotics, leading to extended hospital stays, line-related complications, increased costs and inconvenience for patients. The OVIVA study (2019) demonstrated that an early switch (within 7 days of surgery) to highly bioavailable oral antibiotics is non-inferior to intravenous treatment in appropriately selected patients. To date, there has been no implementation of these findings in international guidelines. With a large and established orthopaedic department in University Hospital Waterford, a substantial number of Infectious Diseases consultation requests concern management of PJIs and FRIs. Our aim was to review our management of PJIs and FRIs over a 12 month period, including the implementation of the OVIVA trial into clinical practice.

Methods

A retrospective review of PJIs and FRIs treated at University Hospital Waterford in 2024 was conducted. Data collected included patient gender, infected joint/bone, surgical procedure performed, organism isolated, whether an early oral switch was implemented and outcomes of same.

Results

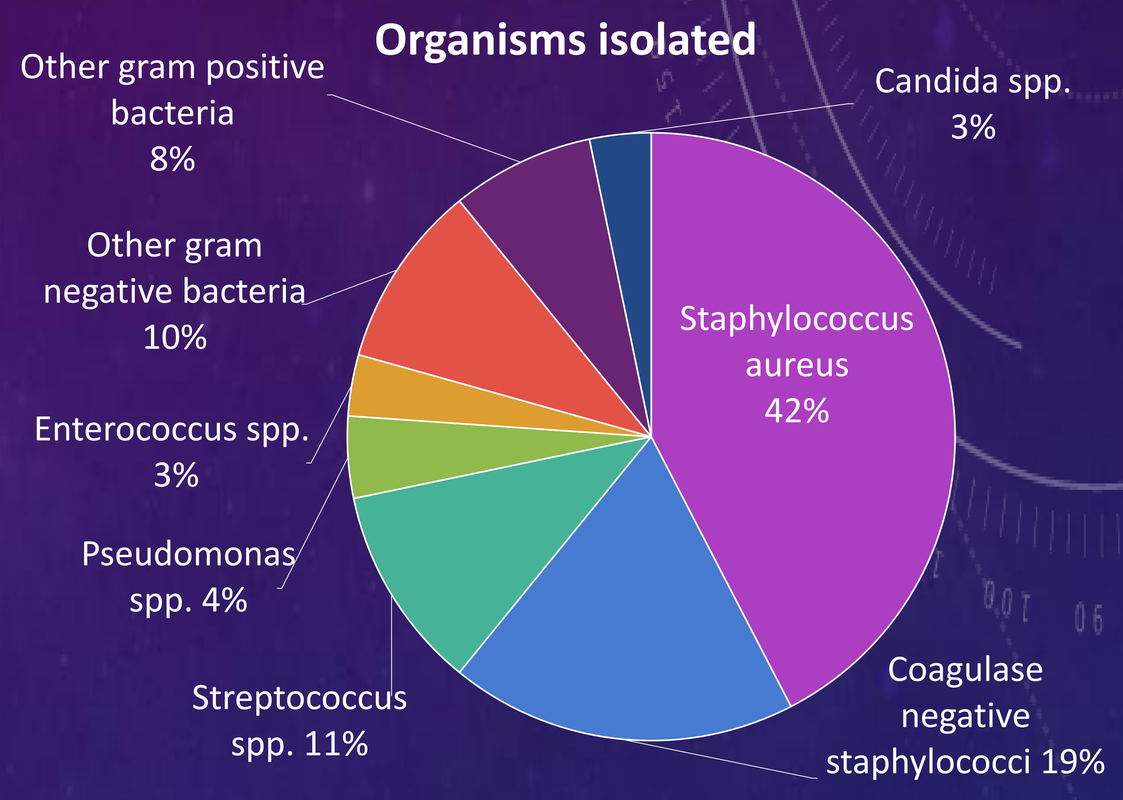
In total, 85 PJIs or FRIs were included. 55 of the patients were male (64.7%), while 30 were female (35.3%). 60 infections were monomicrobial (70.6%), 9 were polymicrobial (10.6%), and 16 were culture-negative (18.8%).

Affected joints were primarily hips (29; 34.1%), followed by knees (27; 31.8%), and tibia/fibula fracture-related infections (17; 20.0%).

Surgical management included 27 debridement, antibiotics, and implant retention (DAIR) procedures (31.8%), 31 exchange arthroplasties (36.5%), 4 excision arthroplasties (4.7%), and 22 removal of metalwork (25.9%).

	DAIR	Single stage exchange arthroplasty	Two stage exchange arthroplasty	Excision arthroplasty	Removal of metalwork	Debridement and washout only
Hip	8	4	14	3		
Knee	16		11			
Shoulder	2		2	1		1
Other	1					
FRI					22	

Organisms isolated



An early oral switch (within 7 days) was implemented in 12 patients (14.1%), while 12 further patients were switched to oral antibiotics within 2 weeks. Median day of switch was day 8. Within this population, one remains on long-term suppression and one remains on antibiotics while awaiting metalwork removal. There is no evidence of infection recrudescence in the others to date.

Among the 61 patients who did not undergo an early oral switch, 36 (59.0%) had no infection recrudescence, 14 (22.9%) remain on long-term suppression, 4 (6.6%) have ongoing infection, 2 (3.3%) died, while follow-up data was not available for 2 individuals (3.3%).

Conclusion

An early oral switch was successfully implemented in appropriate patients with no evidence of infection recrudescence. Reasons that precluded earlier switch included awaiting further susceptibilities to be worked up, complicated MSSA bacteraemia, no highly bioavailable oral option and allergies/intolerance/side effects of oral options.

Our findings support the early use of highly bioavailable oral antibiotics in treating PJIs and FRIs, potentially reducing costs and improving patient quality of life. While our analysis is limited by a small sample size, ongoing review of the management of PJIs and FRIs in subsequent years is warranted to gather further data.

References:

Oral versus Intravenous Antibiotics for Bone and Joint Infection. N Engl J Med. 2019 Jan 31

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