

Clinical impact of infectious disease consultation rounds on periprosthetic joint infection management

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Introduction

Periprosthetic joint infection (PJI) is a complex condition that frequently affects older, multimorbid patients, requiring expertise in both interventional procedures and long-term antibiotic therapy. This demands in-depth knowledge of infectious diseases and antibiotics, including antibiotic stewardship (ABS) principles, as well as experience with alternative regimens tailored to individual patients' needs. With increasing case complexity, interdisciplinary infectious disease consultation rounds (ID-CR) may offer additional clinical value — though the time, financial, and personnel resources required for such a multidisciplinary team (MDT) approach must be weighed against the clinical benefit.

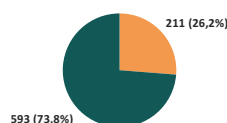
Materials and Methods

At a large revision arthroplasty referral centre, all clearly localised PJI cases of the hip, knee and total femoral replacement (2023–2025) were identified (n=804). Selected cases were referred to the ID-CR by the local antimicrobial stewardship team. This retrospective analysis evaluated the recommendations documented during ID-CR discussions to assess their clinical impact. Patients presented to the ID-CR were compared with the overall PJI cohort to identify potential distinguishing characteristics of this referred subgroup.

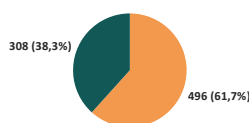
Results

Of 804 PJI cases, 496 (61.7%) were discussed in the ID-CR. Of these, 211 (42.5%) were verified first presentations (median age 71.0 years; 48.8% male); 42.7% required more than one presentation.

First presentations in ID-CR (of n=804)



Seen at least once in ID-CR (of n=804)



Demographics, Localisation, Findings	All PJI (n=804)	First presentations (n=211)
Median age, years	70.0	71.0
Male sex	51.5%	48.8%
Hip PJI, n (%)	414 (51.5%)	124 (58.8%)
Knee PJI, n	374 (46.5%)	82 (38.9%)
Total femoral, n	16 (2%)	5 (2.4%)
Median length of stay, days	17.0	23.0
Median CRP preoperative, mg/dl	1.48	2.54

Table 1: Demographics, overall PJI cohort vs. ID-CR first presentations. Length of stay available for 209/211 (99%); CRP for 165/211 (78%) first presentations. Laboratory CRP reference range: normal <0.5 mg/dl.

Monomicrobial versus polymicrobials PJI	All PJI (n=679*)	First presentations (n=195*)
Proportion of PJI with polymicrobial pathogen detection, n (%)	38 (5.6%)	18 (9.2%)

Table 2: Microbiology (exploratory), overall PJI cohort vs. ID-CR first presentations. *Cross-matched via laboratory database; available for 679/804 and 195/211 cases. Not statistically tested.

Limitations

- Case/patient identifiers were inconsistent; 211 of 276 presentations were verified.
- Anatomical location was undocumented for some records.
- Recommendation data were available for 203 of 211 verified cases only.
- Retrospective, single-centre design.

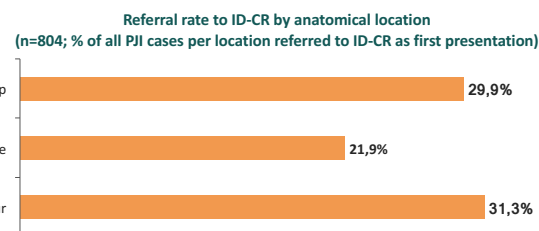


Diagramm 1: Share of each anatomical PJI group (of the overall 804 cohort) that was seen in the ID-CR as a first presentation.

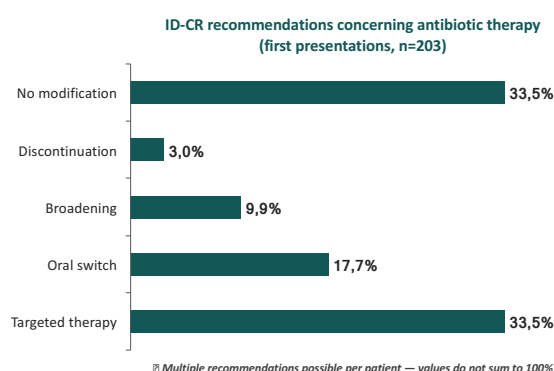


Diagramm 2: ID-CR - Recommendations Antibiotic Therapy

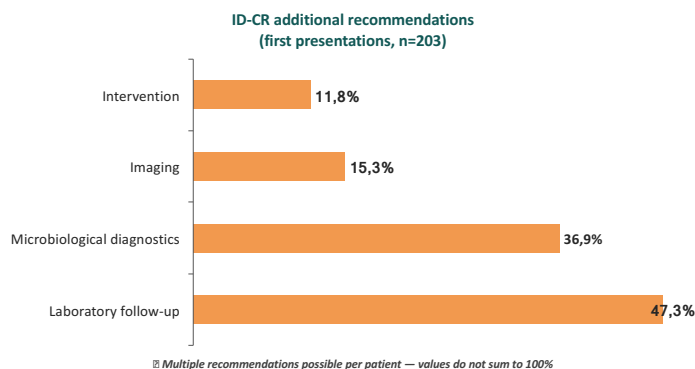


Diagramm 3: ID-CR Additional Recommendations

Conclusion

Characterisation: The high proportion of patients seen at least once in the ID-CR (61.7%) matches expectations, reflecting the MDT management required for these complex patients. Compared with the overall PJI cohort, patients presented to the ID-CR were older (median 71.0 vs. 70.0 years) and preferentially had hip or total femoral PJI rather than knee (referral rate 29.9%/31.3% vs. 21.9%). They also showed markers of higher complexity: longer hospital stay (23 vs. 17 days), higher preoperative CRP (2.54 vs. 1.48 mg/dl) and a higher polymicrobial infection rate (9.2% vs. 5.6%).

Impact: Within this more complex, selected subgroup, antibiotic recommendations were modified in 66.5% of first presentations, and 82.3% received additional diagnostic or therapeutic recommendations. The need for repeated consultations in over 40% of cases further reflects this complexity and is part of the MDT approach for these patients. The high rate of antibiotic modifications and additional recommendations underlines the clinical value of ID-CR in managing complex PJI — even at a specialised referral centre. Further selection criteria for ID-CR referral will be extracted from this dataset.