

Clinical and Patient-Reported Outcomes After Broad-Indication Single-Stage Revision in Fungal Versus Bacterial Periprosthetic Joint Infection: A 1:3 Matched Study



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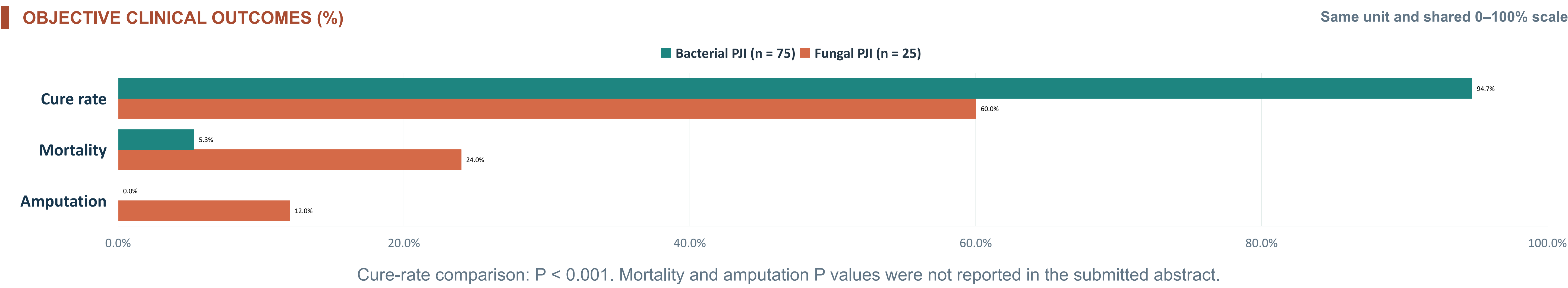
Corresponding author.

TAKE-HOME

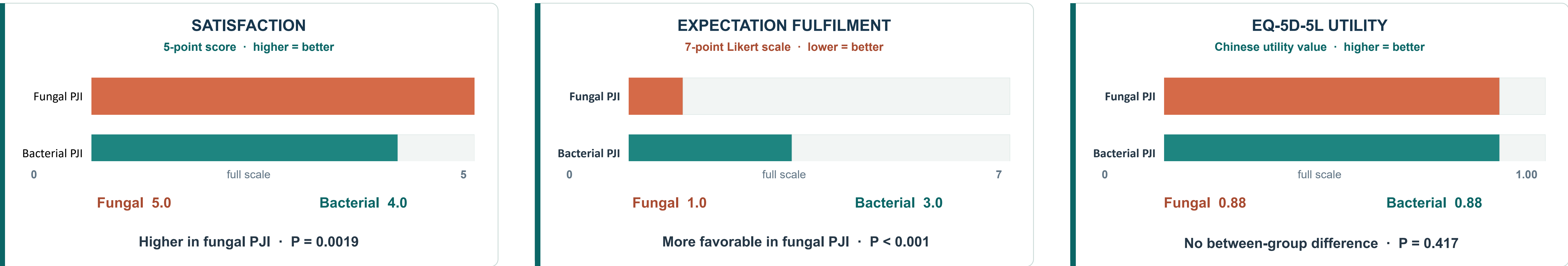
Objective infection outcomes and subjective recovery experience may diverge after treatment of fungal PJI.

Retrospective 1:3 matched study | 25 fungal PJI vs 75 bacterial PJI | mean follow-up 4.15 years

OUTCOMES — READ EACH SCALE SEPARATELY



PATIENT-REPORTED OUTCOMES — INTERPRET EACH SCALE BY ITS DIRECTION



EQ-5D-5L DOMAIN-LEVEL NUANCE

Worse usual activities with fungal PJI ($P = 0.002$); mobility trend ($P = 0.098$); no significant differences in self-care, pain/discomfort, or anxiety/depression.

AIM

Fungal periprosthetic joint infection (PJI) is uncommon and difficult to treat. However, most comparative studies have focused primarily on infection eradication, with limited attention to patient-reported recovery. We compared both clinical and patient-reported outcomes after broad-indication single-stage revision for fungal versus bacterial PJI.

METHODS

A retrospective 1:3 propensity score-matched study was performed. All patients underwent broad-indication single-stage revision and had a minimum follow-up of 2 years. Matching variables included age, sex, body mass index, American Society of Anesthesiologists class and joint type. Preoperative erythrocyte sedimentation rate, C-reactive protein, synovial white blood cell count, and synovial polymorphonuclear percentage were compared. Outcomes included cure rate, a 5-point satisfaction score (5 = best), a 7-point expectation-fulfilment Likert scale (1 = best), and EQ-5D-5L domain responses with Chinese utility values.

All procedures: broad-indication single-stage revision · minimum follow-up: 2 years

PREOPERATIVE INFLAMMATORY PROFILES

No significant between-group differences

MARKER	FUNGAL	BACTERIAL	P VALUE
ESR, mm/h	44	42	0.394
CRP, mg/L	14.8	24.3	0.069
Synovial WBC, /μL	7,333	8,100	0.787
Synovial PMN, %	81.8	87.5	0.311

RESULTS

After matching, 25 fungal PJIs were compared with 75 bacterial PJIs. Mean follow-up was 4.15 years. Preoperative inflammatory profiles were similar between groups: erythrocyte sedimentation rate was 44 versus 42 mm/h ($P = 0.394$), C-reactive protein 14.8 versus 24.3 mg/L ($P = 0.069$), synovial white blood cell count 7,333 versus 8,100/μL ($P = 0.787$), and synovial polymorphonuclear percentage 81.8% versus 87.5% ($P = 0.311$). Despite comparable preoperative inflammatory markers, the fungal group had a substantially lower cure rate than the bacterial group (60.0% vs 94.7%; $P < 0.001$), with higher mortality (24.0% vs 5.3%) and higher amputation rates (12.0% vs 0%). Among patients with available patient-reported follow-up, median satisfaction was higher in the fungal group (5.0 vs 4.0; $P = 0.0019$), and expectation fulfilment was also more favorable (1.0 vs 3.0; $P < 0.001$). For EQ-5D-5L, overall Chinese utility values were similar (0.88 vs 0.88; $P = 0.417$), but the fungal group showed worse usual activities ($P = 0.002$), with a trend toward worse mobility ($P = 0.098$). No significant between-group differences were observed for self-care, pain/discomfort, or anxiety/depression.

CONCLUSIONS

In broad-indication single-stage revision, fungal PJI had markedly poorer infection control than matched bacterial PJI despite similar preoperative inflammatory profiles. However, patient-reported recovery was not uniformly worse: satisfaction and expectation fulfilment were more favorable in the fungal group, whereas EQ-5D-5L domain analysis identified worse usual activities. These findings suggest that objective infection outcomes and subjective recovery experience may diverge after treatment of fungal PJI, highlighting the importance of combining clinical and patient-reported measures when evaluating this challenging condition.

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