

IMPACT OF A SECOND DAIR ON THE RISK OF REVISION ARTHROPLASTY FOLLOWING PROSTHETIC HIP INFECTION: A RETROSPECTIVE STUDY

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INTRODUCTION

Debridement, antibiotics, and implant retention (DAIR) is an effective procedure for the management of periprosthetic hip infection. The role of a second DAIR following failure of the initial procedure remains unclear. Some centers perform it routinely, while others proceed directly to revision arthroplasty. The available evidence is limited and heterogeneous, and local outcomes are crucial for optimizing treatment protocols. Evaluating the true utility of a second DAIR may support improved clinical decision-making and help reduce morbidity.



AIM

This study aimed to **determine whether a second DAIR is associated with the risk of subsequent prosthetic revision, compared with patients treated with a single DAIR.**



METHODS



Retrospective cohort study



January 2017 – April 2025



99 patients treated with DAIR for periprosthetic hip infection (minimum 1year follow-up)



Two groups: Single DAIR (n = 75) and Second DAIR (n = 24)



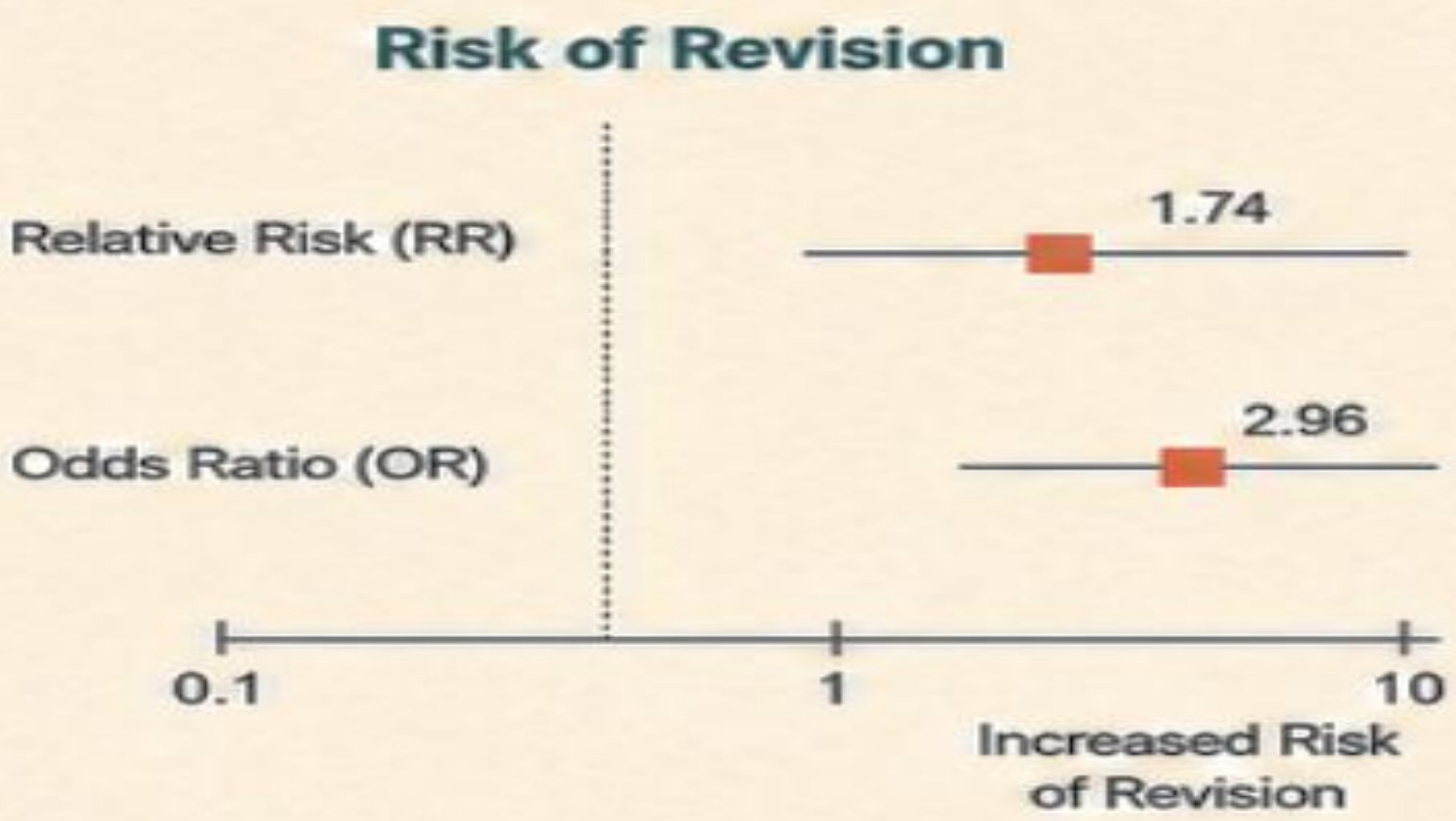
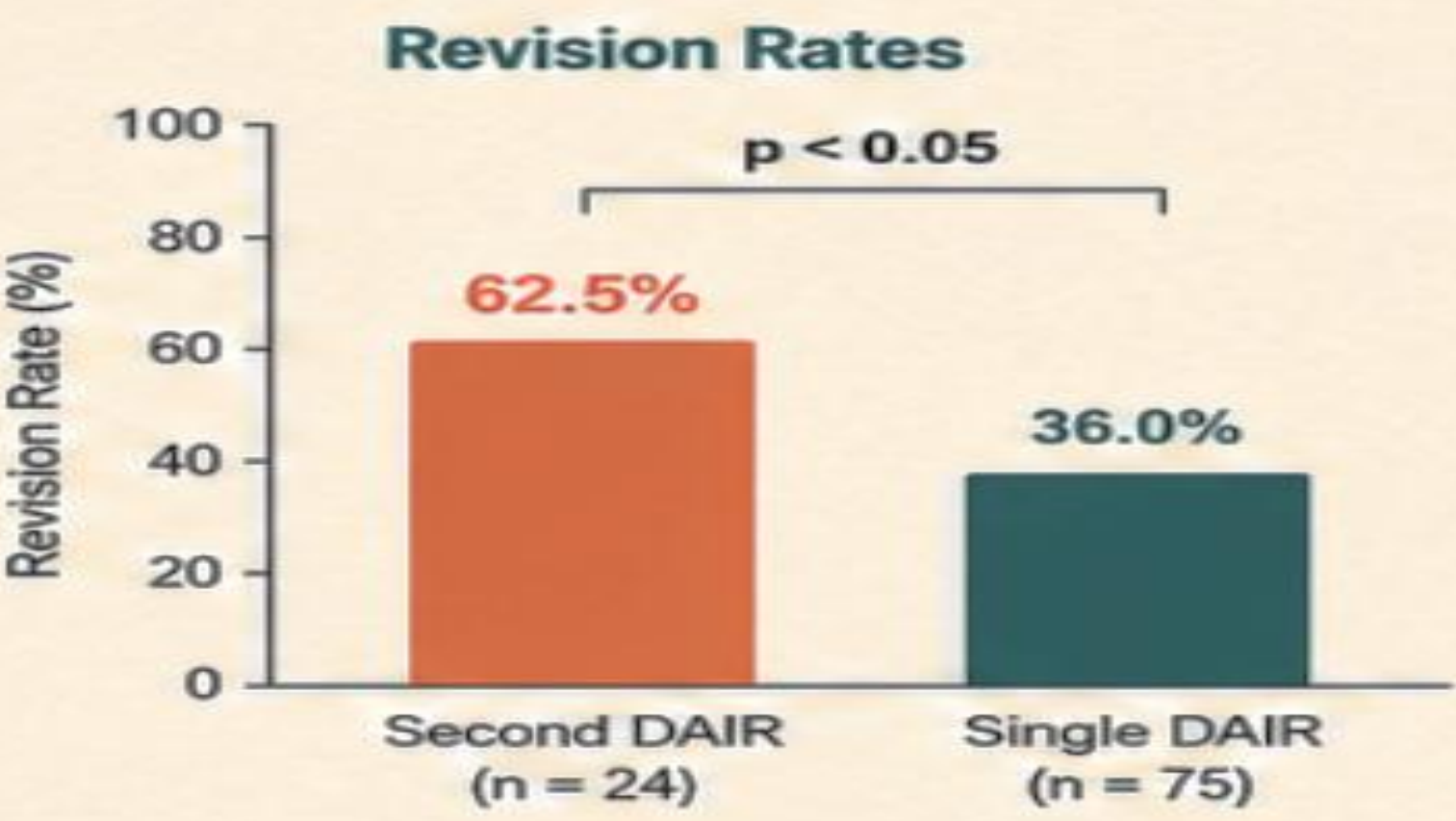
Primary outcome: **Revision of the hip arthroplasty**



RESULTS

Patient Distribution and Revision Rates

Group	Total n (%)	Revision Arthroplasty	No Revision	Revision Rate
		n (%)	n (%)	
Second DAIR	24 (24.2%)	15 (62.5%)	9 (37.5%)	62.5%
Single DAIR	75 (75.8%)	27 (36.0%)	48 (64.0%)	36.0%
Total	99 (100%)	42 (42.4%)	57 (57.6%)	42.4%



EFFECT MEASURES



RelativeRisk (RR): 1.74



OddsRatio (OR) (95% CI): 2.96 (1.2 –7.3)



AbsoluteRiskDifference: 26,5 %



NumberNeededto Harm(NNH): 4



p-value: <0.05

A second DAIR was associated with a higher rate of subsequent revision arthroplasty compared with a single DAIR (62.5% vs 36.0%; RR 1.74; OR 2.96, 95% CI 1.2–7.3). These findings are consistent with recent studies suggesting poorer outcomes among patients requiring repeat debridement. Current EBJIS recommendations support a second DAIR in carefully selected patients, particularly when implant stability and soft-tissue conditions are favourable. Therefore, repeat DAIR should be considered on an individualized basis, balancing infection characteristics, host factors and the likelihood of successful implant retention



CONCLUSION

A second DAIR was associated with a significantly increased risk of prosthetic revision surgery. However, these findings should be interpreted with caution, as they may reflect underlying case complexity and selection bias rather than a causal relationship.

