High Mortality in Prosthetic Joint Infection Patients Presenting with Concomitant Sepsis

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INTRODUCTION:

Prosthetic joint infection (PJI) is known to have a high associated 5-year mortality rate comparable to many common cancers. It also has the potential of developing into life threatening sepsis. Limited data exists on the outcomes of these patients. The aim of this study was to investigate the mortality of patients presenting with simultaneous PJI and sepsis after hip and knee arthroplasty.

METHODS:

A retrospective chart review was performed on patients from a single academic center between 2005-2022. Patients who underwent total joint arthroplasty (TJA), developed PJI, and presented for revision were identified using Current Process Terminology codes. Septic patients met 2 or more Systemic Inflammatory Response Syndrome (SIRS) criteria and had suspected or confirmed bacteremia. Patient demographics, comorbidities, complications, revisions, and follow-up data were also collected. Descriptive and univariate statistical analyses were conducted.

RESULTS:

600 patients underwent revision TJA for PJI. Of these patients, 67 (11.2%) met criteria for sepsis during their admission in which they underwent revision. Excluding 12 patients lost to follow-up, 16 of 55 (29.1%) died within one year and 36 of 55 (65.5%) died within 3 years. The group that died was 71% male versus 23% female in the surviving group ($p<0.001$). There was no difference in Body Mass Index (29.8 versus 32.5, $p=0.26$), mean age (62 years in both groups), or mean Charlson Comorbidity Index (2.9 vs 2.3, $p=0.37$).

DISCUSSION AND CONCLUSION:

Sepsis in the setting of periprosthetic joint infection is associated with a high mortality rate, comparable to the mortality rate after hip fractures. This data can play an important in appropriately counseling patients and their families as well as determining the appropriate surgical treatment as these patients may be better served with a single stage or “1.5 stage” revision given the high mortality rate.