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Demographics of Periprosthetic Joint Infections Rates

Introduction:

Risk factors for periprosthetic joint infections (PJIs) following total joint arthroplasties (TJAs) include patient demographics and comorbidities such as age, gender, obesity, rheumatoid arthritis, and diabetes. However, there is insufficient research analyzing the number of PJIs in certain racial subsets of the population despite the presence of disparities due to race that still exists in orthopedics today. The purpose of this study is to investigate if PJI rates differ by race, as well as other patient demographics. This may uncover valuable information on how race relates to PJIs which is frequently unaccounted for in other studies. This study aims to analyze the current data to highlight possible disparities in PJI prevalence due to racial background.

Methods:

This retrospective cohort extracted patient data from Reachnet for patients with procedure codes for THA, TKA, and TSA, as well as diagnostic codes for PJIs to determine rates of PJIs by patient demographics. Patient demographic data included race, alcohol use, smoking, insurance, BMI > 30, age ≥ 70 , procedure year, and Charlson Comorbidity Index. Patients without a follow-up within one year, missing BMI, or non-public/private insurance were excluded. All in all, this resulted in 21,735 patients total. Percents, counts, multivariable logistic regressions were used to summarize the data collected.

Results:

From our specific cohort, black patients had a significantly decreased risk of PJI within 1 year (Odds ratio = .72, 95% CI=.58-.88) compared to white patients. Other demographics such as alcohol use, smoking, and increased Charlson Comorbidity Index contributed to considerably higher rates. Additionally, rates of PJIs have significantly increased in recent years. Increased age and private insurance were associated with decreased rates of PJI.

Discussion/Conclusion:

Our retrospective study showed that black patients had a decreased risk of PJI within 1 year following TJA compared to white patients.