The James A. Rand Young Investigator's Award

Administrative Claims vs. Surgical Registry: Data Source and Outcome Disparities in Total Joint Arthroplasty

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Notes

Introduction: Administrative claims are increasingly used for observational studies, reimbursement, and quality improvement in total joint arthroplasty. We sought to characterize differences in reported outcome measures between administrative claims and prospective registry data relevant to these endeavors in total joint arthroplasty.

Methods: A retrospective multiple cohort study of patients undergoing primary total hip and knee arthroplasty from 2007-2011 was performed using administrative claims from Medicare and United Healthcare, respectively the largest public and private sector insurance payers in the United States. Demographic characteristics, comorbidities, and inpatient and outpatient adverse events within 30 days were compared to age-matched cohorts in the National Surgical Quality Improvement Program (ACS-NSQIP) registry over the same time period.

Results: The total study population included 88,309 total hip and 169,283 total knee arthroplasty patients. There were large, clinically significant differences in the preoperative prevalence of cardiopulmonary comorbidities and diabetes between administrative claims and registry cohorts (p < 0.001 all comparisons). Smoking, alcohol abuse, and BMI were underreported by an order of magnitude in administrative claims (p < 0.001 all comparisons). Rates of surgical site infection, wound dehiscence, thromboembolic events, and neurologic deficits after primary TKA and THA were significantly greater in administrative claims cohorts (p < 0.001 all comparisons).

Conclusions: We report significant discordance in the prevalence of patient comorbidities and incidence of complications in primary total hip and total knee arthroplasty between ACS-NSQIP and the administrative claims of Medicare and United Healthcare. These disparities have implications for the design and interpretation of investigations of outcomes and assessments of quality in total joint arthroplasty that rely on insurance claims data.

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