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Racial Differences in Orthopaedic Trauma Surgery

INTRODUCTION: Racial disparities in the utilization of orthopaedic surgery have been well documented in recent joint arthroplasty literature. Yet, to date, postoperative outcome data pertaining to minority groups following orthopaedic trauma surgery is sparse. This study aims to investigate differences in demographic, surgical, and outcome data in orthopaedic trauma patients.
METHODS: The American College of Surgeons National Surgical Quality Improvement Program was retrospectively reviewed to identify white or black cohorts of all ages who had surgery for a primary orthopaedic trauma 2008 to 2016. Demographic data and comorbidities, as well as basic surgical data and preoperative outcomes were compared between white and black cohorts.
RESULTS: 56,319 patients were identified; 50,927 (90.4%) were white and 5,392 (9.6%) black. Significant differences were identified in sex, age, body mass index, and wound classification of black patients compared to white patients. Black patients less frequently had chronic obstructive pulmonary disease, but more frequently were smokers and had preoperative ventilatory use. They more frequently had diabetes and dialysis use. This patient population had lower American Society of Anesthesiologists Classification Score than white individuals (2.17 vs 2.20, p=0.011) and less frequently required emergency surgery. Operating room time required was significantly higher in black patients compared to white patients (101.5 min vs 93.9 min, p<0.001). Outcome data revealed a higher frequency of deep wound infection in black patients (0.5% vs 0.3%, p=0.001) and postoperative ventilator use for >48 hours (0.4% vs 0.2%, p=0.026), but decreased frequency of mortality (0.3% vs. 0.6%, p=0.004) and postoperative transfusion (2.7% vs. to 3.8%, p<0.001).
DISCUSSION: In congruence with the literature, this study showed clear differences in the demographic, surgical, and outcome data between black and white orthopaedic trauma patients.