Increasing Patient Age and General Anesthesia are Risk Factors for Failure of Same-Day Discharge Total Hip Arthroplasty

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INTRODUCTION:

As cost containment efforts in orthopedic surgery increase, there has been a rise in same-day discharge total hip arthroplasty (THA). Same-day discharge THA has been further accelerated by the COVID-19 pandemic and the removal of THA from the Medicare inpatient only list. This study sought to evaluate risk factors for readmission following same-day discharge THA.

METHODS:

From 2012-2021, the National Surgical Quality Improvement Project database was used to identify all patients undergoing elective THA discharged the day of surgery to their home. Demographic, comorbid, and operative variables were collected, as displayed in **Table 1**. Readmission within 30-days of surgery was identified. Chi-square analysis and multivariate logistic regression was then used to identify risk factors for readmission.

RESULTS:

In total, 22,575 patients were identified undergoing same day discharge THA. The proportion of same day discharges from the total sample increased from <1% in 2012, ~9% in 2019, to 26% in 2021 (**Figure 1**). In total, 370 (1.6%) of patients were readmitted within 30 days of surgery. 20.4% of these readmissions occurred by POD3. Readmission rates increased from 1.5% in those 55-64 years to 4.7% in those over 85 years (**Table 1**). On multivariate analysis, this equated to a 4.49 times increased odds of readmission in those aged >85 years compared to those aged 55-64 years old (**Table 2**). Use of neuraxial anesthesia decreased the risk of readmission from 1.9% to 1.5%, which equated to an adjusted 1.28 (p=0.024) times increased odds of readmission in those receiving general vs. neuraxial anesthesia. Readmission rates were also increased in those with a BMI ≥40 (2.6%) compared to those with a BMI 21-25 (1.3%), which equated to a 2.28 times increased odds of readmission in these patients. Patients with a modified frailty index score of 1 (2.0%) or 2+ (2.9%) were also at an increased risk of readmissions (p>0.001).

DISCUSSION AND CONCLUSION:

Same-day discharge THA has increased rapidly in recent years. Same-day discharge THA appears to be safe, with a readmission rate of only 1.6% within 30 days of surgery. Increasing patient age is the most significant risk factor for readmission following same-day surgery. Additionally, spinal anesthesia was found to be protective against readmission. This data can be used by physicians to help guide appropriate patient selection for same-day discharge THA.