Paper #9

Alternative Payment Models Should Risk-Adjust for Conversion Total Hip Arthroplasty: A Propensity Score-Matched Study

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Introduction: For Medicare beneficiaries, hospital reimbursement for non-revision hip arthroplasty is currently anchored on either DRG code 469 or 470. Under alternative payment models, which often include post-acute care, procedures representing increased resource utilization across complete episodes of care should be identified for risk-adjustment. The purpose of this study was to compare the 30-day outcomes of primary total hip arthroplasty (THA) versus conversion THA from prior hip surgery.

Methods: The National Surgical Quality Improvement Program (NSQIP) database was used to identify all primary and conversion THAs from 2007 to 2014. Patients with femoral neck fracture, paralysis, and cancer were excluded. To reduce confounding, conversion patients were matched 1:1 to primary THA patients using propensity scores, based on preoperative covariates. Complications, transfusions, operative time, length of stay (LOS), and discharge destination were compared. Multivariable logistic regressions were used to evaluate associations between conversion THA and these outcomes. Odds ratios (OR) with 95% confidence intervals (CIs) were determined. P < 0.05 defined significance.

Results: 2,018 conversion THAs were matched to 2,018 primary THAs. There were no differences in preoperative covariates (all p>0.05). Conversions had longer mean operative times (148 vs. 95 minutes, p<0.001), more transfusions (37% vs. 17%, p<0.001), and longer LOS (4.4 vs. 3.1 days, p<0.001). Conversion THA versus primary THA was associated with postoperative complications (OR=1.75; 95% CI, 1.37-2.24), deep infection (OR=4.21; 95% CI, 1.72-10.28), discharge to inpatient care (OR=1.52; 95% Cl, 1.34-1.72), and death (OR=2.39; 95% Cl, 1.04-5.47). Odds for readmission were insignificant (p=0.436).

Conclusions: Compared to primary THA, conversion THA is associated with significantly more complications, longer LOS, and more likely discharge to continued inpatient care, implying greater resource utilization for these patients versus primary THA patients. As reimbursement models shift towards bundled payment paradigms, conversion THA appears to be a procedure for which risk-adjustment is appropriate.



Notes