

The Impact of Colectomy on Outcomes and Complications Following Adult Spinal Fusion: A Propensity Scored-Match Analysis

Study Design: Retrospective analysis.

Objective: To compare outcomes between patients with and without prior colectomy undergoing surgery for spinal fusion.

Summary of Background Data: There is limited literature evaluating the impact of prior colectomy on long-term outcomes after spinal fusion surgery.

Methods: A retrospective study was done using the National Inpatient Sample (NIS) to look at patients admitted from 2005 to 2012 with a history of prior colectomy who underwent spinal fusion. A 1:1 propensity score-match (PSM) by age, gender, and obesity status was performed before analyzing data. Univariate analyses evaluated demographics, complications, and mortality. Multivariate binary logistic regression models were conducted to identify correlations between prior colectomy and postoperative spinal fusion outcomes, controlling for age, sex, and obesity status.

Results: Two cohorts of 1272 propensity score-matched patients were identified (colectomy: n=1272; non-colectomy: n=1272). When compared to the control, the colectomy cohort had higher Deyo scores (0.93 vs. 0.70, $p<0.001$), length of stays (7.70 days vs. 4.27 days, $p<0.001$), and total hospital charges (\$136,386.64 vs. \$89,527.05, $p<0.001$). With a 1:1 PSM, patients with colectomy, compared to non-colectomy patients, had higher rates for surgical complications (OR:1.701 [1.385 – 2.090], $p<0.001$), medical complications (OR:2.414 [1.876 – 3.107], $p<0.001$), and mortality (OR:3.440 [1.686 – 7.019], $p=0.001$).

Conclusion: Among adult patients undergoing spinal fusion, patients with prior colectomy had higher risk for surgical complications, medical complications, and mortality compared to non-colectomy patients. These results reinforce the importance of management of postoperative expectations in patients with prior colectomy undergoing spinal fusion.