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Cardiac Risk Factors Predicting 30/90-Day Readmission Rates in Lumbar Decompression Surgeries

Kevin Xiao, Blake Nourie, Joseph Bechay, Dhruv Goyal***

Preoperative cardiopulmonary disease is known to be a risk factor for perioperative complications in deformity surgery and lumbar fusion procedures, however there is a lack of literature evaluating cardiac risk factors and their influence on readmission rates following lumbar decompression surgery. We want to determine whether preoperative cardiac risk factors influenced the 30 and 90-day readmission rates in patients undergoing lumbar decompression surgery. Patient charts from Rothman Institute between were reviewed for history of preoperative cardiac risk factors such as coronary artery disease, congestive heart failure, myocardial infarction, stroke, cardiac catheterization, stent placement, coronary artery bypass graft, aspirin and/or clopidogrel use. Binary logistic regression was used to determine whether or not these risk factors predicted 30-day and 90-day readmissions for patients undergoing lumbar decompression surgery. Overall, the total number of 30-day readmissions was 33 (3.55%) and the number of 90-day readmissions was 46 (4.95%). No cardiac risk factor was found to be a significant predictor of 30-day readmission rates. Use of aspirin, 81 mg, was found to negatively predict readmission rate at 90 days (OR = 0.192 [0.042, 0.881], p = 0.034). Cardiac risk factors are known to increase surgical morbidity. The results of this study show that patients taking aspirin 81 mg preoperatively exhibited significantly lower odds of undergoing an unplanned readmission at 90 days after a lumbar decompression procedure. No significant risk factors for 30-day readmissions were found. Taking aspirin may confer a protective benefit perioperatively in a high-risk population.