Complication Rates of Hip-Spine Syndrome Patients with Total Hip Arthroplasty and Lumbar Spine Surgery

Introduction: Hip-spine syndrome, defined as the coexistence of degeneration in the hip and lumbar spine, is a common disorder in the elderly patient population. While lumbar spine surgery (LSS) and total hip arthroplasty (THA) are well-investigated with proven success, there is limited knowledge on whether the order of surgical intervention influences outcomes. This study investigates dislocation rates and complications in hip-spine syndrome patients with a history of LSS and the impact of surgical sequence and approach on dislocation risk.

Methods: A retrospective chart review identified patients with hip-spine syndrome who underwent THA with or without LSS over a 20-year period. THA approach (anterior vs posterior), postoperative venous thromboembolism, and dislocation rates, readmissions, and reoperations within a year of both THA and LSS was collected. Data was analyzed to determine the association between prior LSS and dislocation, as well as for covariates including demographics, Charlson Comorbidity Index (CCI), and smoking status.

Results: In our analysis of 419 patients, logistic regression showed LSS before THA (6.2%) was associated with 8.18 times ($P = 0.012$) increased odds of dislocation when compared to patients who underwent only THA (0.9%) and THA before LSS (0%). In the THA-only group, the anterior and posterior approaches resulted in a dislocation rate of 0.7% (1/153) and 1.0% (2/193), respectively. In patients who underwent LSS before THA, the anterior and posterior approaches resulted in dislocation rates of 4.3% (1/23) and 8.0% (2/25), respectively. Venous thromboembolism complications were only present in the THA-only group. There was no relationship between dislocation occurrence and age, sex, race, CCI, and smoking status across three cohorts.

Conclusion: This study found an increased risk of dislocation in patients who undergo LSS prior to THA compared to those who undergo only THA or THA prior to LSS in patients with hip-spine syndrome. These results suggest the need for comprehensive preoperative planning in patients with lumbar pathologies.