#176 Ryan Kong   Advisor(s): Carl Paulino

Evaluating the Impact of Multiple Sclerosis on 2-Year Postoperative Outcomes Following Long Fusion for Adult Spinal Deformity: A Propensity Score-Matched Analysis

Introduction: The impact of neuromuscular disorders such as multiple sclerosis (MS) on outcomes following long-segment (4+ level) fusion is underreported. We sought to identify the impact of MS on two-year postoperative complications and revisions following 4+ level fusion for adult spinal deformity (ASD).

Methods: Patients undergoing 4+ level fusion for ASD were identified from the SPARCS database. Patients with a baseline diagnosis of MS were retrieved, while those with infectious, traumatic, and/or neoplastic indications were excluded. Subjects were 1:1 propensity score-matched (MS to no-MS) for age, sex, and race, before being compared for rates of two-year postoperative complications and reoperations. Logistic regression models were utilized to determine significant predictors of two-year adverse outcomes.

Results: 86 total patients were identified (MS, n=43; non-MS, n=43). Mean age (50.1 both), sex, and race were comparable between groups (all, p>0.05). MS patients incurred higher charges for their surgical visit ($125,906 vs. $84,006, p=0.007) with similar LOS (8.1 vs. 5.3 days, p>0.05). MS patients experienced comparable rates of overall medical (30.1% vs. 25.6%) and surgical complications (34.9% vs. 30.2%) than Non-MS subjects (both, p>0.05). Compared to Non-MS individuals, MS patients had similar rates of two-year revisions (16.3% vs. 9.3%, p=0.333). MS was not associated with medical, surgical, or overall complications or revisions at minimum two-year follow-up.

Discussion: In a propensity score-matched cohort with comparable demographics and comorbidity burden, patients with MS experienced comparable postoperative course with respect to other individual and overall complications and revisions following 4+ level fusion for ASD. This data supports the findings of multiple previously published case series' that long segment fusions for ASD can be performed relatively safely in patients with MS.