

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

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

METHODS: Patients undergoing ≥ 4 -level fusion for ASD were identified from the New York Statewide Planning and Research Cooperative System. Patients with a baseline diagnosis of MS were also identified. Patients with infectious/traumatic/neoplastic indications were excluded. Subjects were 1:1 propensity score-matched (MS to no-MS) by age, sex and race and compared for rates of 2-year postoperative complications and reoperations. Logistic regression models were utilized to determine risk factors for adverse outcomes at 2 years.

RESULTS: 86 patients were included overall (n=43 per group). Age (50.1 vs. 50.1 years, p=0.225), sex, and race was comparable between groups. MS pts 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 complications (30.1% vs. 25.6%) and surgical complications (34.9% vs. 30.2%) all p>0.05. MS pts had similar rates of 2-year revisions (16.3% vs. 9.3%, p=0.333). MS was not associated with medical, surgical, or overall complications or revisions at minimum 2-year follow-up.

DISCUSSION AND CONCLUSION: Patients with MS experienced similar postoperative course compared to those without MS 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.