



GRADUATE SCHOOL OF BIOMEDICAL SCIENCES MASTERS IN CLINICAL INVESTIGATION PROGRAM

MSCI THESIS DEFENSE

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MENTOR: Jeremy Aidlen, MD
Thursday, May 7, 2020 1:00 p.m.
Via Zoom Meeting

Frequency of Complications Following Spinal Fusion in Children with Cerebral Palsy

Background:

Neuromuscular Scoliosis is a frequent complication of Cerebral Palsy that requires surgical management including spinal fusion. The objective of this study was to describe differences in the frequencies of postoperative complications in children with Cerebral Palsy following spinal fusion surgery compared to children with Idiopathic Scoliosis.

Methods:

The 2016 Kid's Inpatient Database was queried to identify pediatric patients (<21 years old) with concurrent diagnoses of Cerebral Palsy and Neuromuscular Scoliosis undergoing spinal fusion surgery. Cases were compared to children without Cerebral Palsy and with a diagnosis of Idiopathic Scoliosis undergoing the same procedure. Logistic regression was performed to examine between group differences in the frequency of complications while adjusting for several potentially confounding variables.

Results:

A total of 558-660 cases and 5,215-244 controls were identified. Compared to children with Idiopathic Scoliosis, children with Cerebral Palsy were younger (13.65 vs. 14.3 years), male (54% vs. 23%) and had governmental insurance (52% vs. 32%). They also had longer lengths of stay (8 days6 vs. 4 days). After adjusting for potentially confounding variables, children with Cerebral Palsy were at greater odds of developing postoperative pulmonary or gastrointestinal complications, surgical complicaitons, receiving blood transfusions, and being admitted to the ICU.

Conclusions:

Children with Cerebral Palsy have an increased risk of complications following spinal fusion surgery leading to longer hospital stays. These results will inform surgical decision-making and anticipatory guidance for children and their caregivers.

Mentor(s)

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