Abstract:
Risk Factors for Pseudarthrosis in Pediatric Neuromuscular Scoliosis

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Abstract: Pseudarthrosis in Pediatric Neuromuscular Scoliosis

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Introduction

• Pseudarthrosis is a common cause of reoperation in patients who undergo surgical deformity correction for scoliosis

• We sought to identify risk factors associated with the incidence of pseudarthrosis in pediatric neuromuscular scoliosis (NMS)
Methods

• **Design**: Single-center retrospective analysis

• 60 patients with NMS who underwent spinal fusion with minimum 2-year follow-up were identified

• Compared with respect to pre-op, post-op, and last follow-up metrics
Results

• 29 males and 31 females with a mean age at surgery of 14 years (±2.7 SD, range 7.5-19.5)

• Most prevalent diagnoses were SCI (25.0%), CP (21.7%), and neurofibromatosis (11.7%)

• Observed complication rate of 27% (22 total); 82% major complications (n=18), 6 cases of pseudarthrosis (10%)

• Pseudarthrosis was reliably predicted by primary diagnosis of SCI (p=0.005), greater pelvic obliquity at follow-up (p=0.047), and smaller primary curve magnitude at follow-up (p=0.045)

• Pseudarthrosis in SCI patients was consistently observed below the level of injury

• There was a significant inverse association with patient height at follow-up (p=0.049) and preoperative weight (p=0.018).
AP and lateral radiographs of 16 year-old female diagnosed with SCI and pseudarthrosis at L5-S1 at two years post-op.
Conclusion

• Within the pediatric sub-population of NMS, pseudarthrosis is most prevalent among patients with spinal cord injuries

• Curves lesser in magnitude and in shorter patients also appear at significant risk for pseudarthrosis
References

References (cont.)
