Incidence of Durotomy in Spine Surgery: A National Inpatient Sample Analysis

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Disclosure

The authors have nothing to disclose.
Introduction:

Incidental durotomies are a known complication of spine surgery, causing potential complications such as CSF leak, pseudomeningocele, and meningitis. The purpose of this study is to identify the rate of durotomy on a national level, and identify preoperative and operative parameters associated with its occurrence.
Methods:

The study examined the incidence of durotomy following spinal surgery using discharge data from the 2012-2014 National Inpatient Sample (NIS) database. All patients undergoing spinal decompression with or without fusion were included. The variables associated with the occurrence of unintended durotomies were investigated.
Results:

Among a total of 1,731,921 pediatric and adult spine surgery patients, the overall durotomy rate was 3.0%. Based on preoperative diagnoses, the rate was 3.63% for deformity, 3.09% for revision of instrumentation, 2.98% for spondylosis, 2.37% for tumor, 1.62% for trauma, and 2.37% for others (p<0.001).

The rate of durotomy among pediatric patients was 1.19% compared to 3.04% for adults (p<0.001). The rate of durotomy was 4.66% for laminectomy alone and 2.43% for fusion with/without laminectomy (p<0.001). Length of stay was 5.0 days versus 3.5 days for patients with and without durotomy, respectively (p<0.001).

Lastly, average total hospital charges were $96,403 for no durotomy versus $113,776 for patients who experienced one (p<0.001).
Discussion:

Incidental durotomy following spinal surgeries were more common in deformity procedures and those involving patients older than 21. The overall incidence rates were around 3%; however, the rate of durotomy was higher for laminectomy alone compared to fusion with/without laminectomy.
Conclusion

By reviewing the types of surgeries associated with durotomy, we hope to limit the occurrence of these complications in the future.