

Urinary Control in Cervical Myelopathy: Does It Improve Post-Surgery? A Quality Outcomes Database (QOD) Study

SPINE
2024
SUMMIT

Saman Shabani, M.D., Raj Swaroop Lavadi, M.B.B.S., Nitin Agarwal, M.D., Vijay Letchuman, M.D., Vivian P. Le, M.P.H., Alysha B. Jamieson, B.A., Andrew K. Chan, M.D., Sarah E. Johnson, M.B.B.S., Michael Y. Wang, M.D., Regis W. Haid, M.D., John J. Knightly, M.D., Oren N. Gottfried, M.D., Christopher I. Shaffrey, M.D., Michael S. Virk, M.D., Ph.D., Mark E. Shaffrey, M.D., Paul Park, M.D., Kevin T. Foley, M.D., Domagoj Coric, M.D., Cheerag Upadhyaya, M.D., M.Sc., Eric A. Potts, M.D., Juan S. Uribe, M.D., Jay D. Turner, M.D., Ph.D., Luis Tumialán, M.D., Dean Chou, M.D., Kai-Ming G. Fu, M.D., Ph.D., Anthony L. Asher, M.D., Erica F. Bisson, M.D., M.P.H., Mohamad Bydon, M.D., Praveen V. Mummaneni, M.D., M.B.A.

Background

Cervical spondylotic myelopathy (CSM) can be associated with urinary dysfunction leading to inability or marked difficulty with micturition. This study aimed to evaluate the urinary dysfunction, long-term prognosis, and recovery in patients with CSM, following surgical intervention.

Methods

The CSM cases of the Quality Outcomes Database Spine Core Study Group were analyzed. Urinary control was assessed using the modified Japanese Orthopaedic Association (mJOA) "Urinary Function Subscore." Improvement was defined as a minimum of one-point improvement at 2-year follow-up in the mJOA urinary function subscore. Univariate and multivariate analyses were conducted as appropriate.

Results

Out of 1,141 patients, 772 (67.7%) patients were identified with a minimum 2-year follow-up mJOA score, and 249 of these patients (32.3%) reported baseline urinary dysfunction. Of those 249 patients with baseline urinary control problems, 193 (77.5%) patients had improvement in urinary function postoperatively, and more women than men had improved urinary control after CSM surgery (54.9% vs. 45.8%, $p = 0.03$). Apart from gender, demographic characteristics of patients who experienced urinary function improvement versus those who did not were similar. Patients who experienced urinary function improvement had lower overall baseline mJOA scores (10.1 vs. 12.8, $p < 0.01$). There was no significant difference in total mJOA scores at 2-year follow-up between the improved and not-improved urinary function cohorts. Both cohorts reported similar rates of postoperative satisfaction (NASS 1-2) (89.1% vs. 85.9%; $p=0.26$).

Conclusion

Among the one-third of patients with CSM experiencing urinary dysfunction, nearly 78% achieve improved urinary function at 2-years postoperative follow-up. Women are more likely to improve this function; lack of improvement in men could be attributed to prostate issues. Patients with and without improvements in urinary function are equally satisfied with their surgery and report similar outcomes on long-term follow-up.



QOD
SPINE SURGERY



QOD
QUALITY OUTCOMES
DATABASE



NEUROPOINT
ALLIANCE