



International Variations in the Clinical Presentation and Management of Cervical Spondylotic Myelopathy (CSM). One Year Outcomes of the AOSpine Multi-Center Prospective Study

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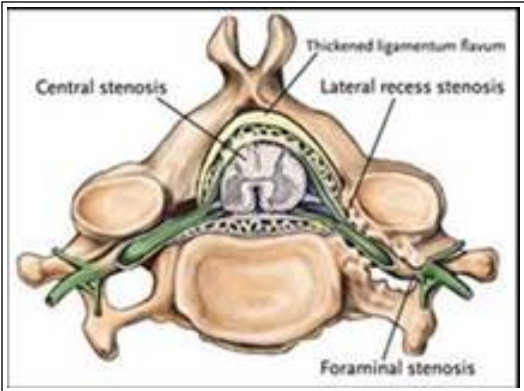


Introduction

Little information is available with respect to differences in global approaches to treatment of CSM.

Background

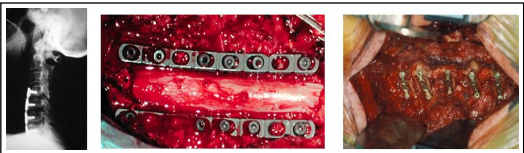
- Cervical spondylotic myelopathy (CSM) is the commonest cause of spinal cord impairment.
- There is a lack of evidence regarding the long term outcomes of surgical treatment for CSM.
- We report on the one year outcomes of a large prospective multicenter study to evaluate the impact of surgery on outcomes of CSM.



Patients and Methods

493 patients from 16 sites with clinically confirmed CSM and imaging evidence of cord compression (MRI or CT-myelogram) were enrolled in the prospective cohort study.

Patients underwent anterior surgery (discectomy/corpectomy and instrumented fusion) or posterior surgery (laminectomy and fusion or laminoplasty) based on the judgment of the operating surgeon.

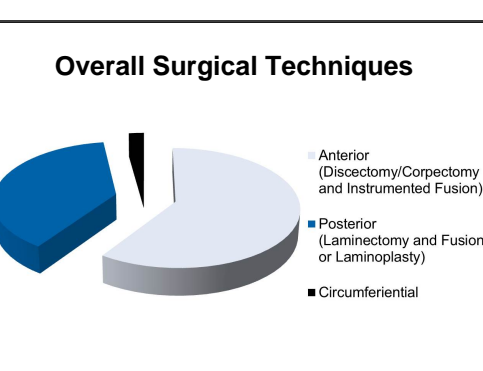
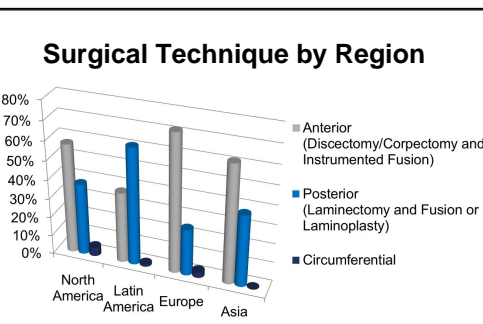
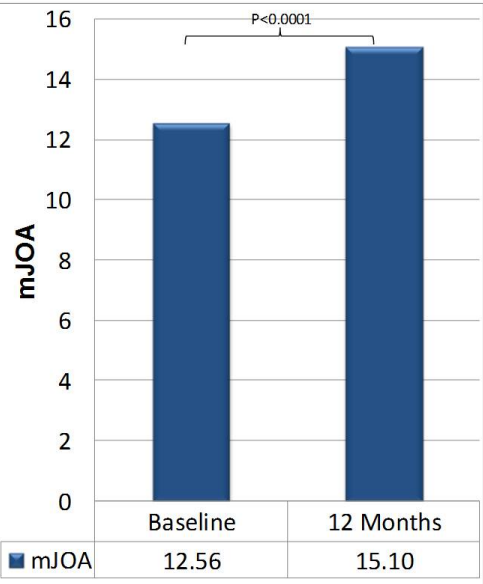


Regional Differences in Demographics					
Variable	North America (N=127)	Latin America (N=83)	Europe (N=130)	Asia Pacific (N=153)	P value
Age	59.4±11.8	53.9±10.8	57.2±12.1	53.0±12.1	<.0001
Female	43.3%	34.9%	40.9%	26.1%	.0129
Gender					
Surgery					<.0001
Anterior	57.5%	37.3%	72.3%	62.1%	
Posterior	37.8%	61.4%	24.6%	37.8%	
Circumferential	4.7%	1.2%	3.1%	0%	
Number of levels	4.2±1.3	3.9±1.2	3.2±1.0	3.3±1.3	<.0001

Regional Differences in Outcomes					
Variable	North America (N=103)	Latin America (N=49)	Europe (N=86)	Asia Pacific (N=69)	P value
mJOA	3.3(2.9)	2.1(2.5)	1.3(2.1)	3.3(2.9)	<.0001
NDI	10.6(18.8)	11.6(17.7)	8.6(22.4)	20.1(18.4)	.0020
Nurick	1.6(1.4)	0.9(1.4)	1.1(1.1)	1.8(1.7)	<.0001
SF36	7.4(8.6)	9.3(10.2)	5.1(8.4)	11.5(10.4)	<.0001
PCS					
SF36	6.8(9.5)	8.1(12.8)	4.2(9.5)	10.6(10.2)	<.0001
MCS					

*Values in table show changes in outcome between baseline and 12 months adjusted for baseline predictors.

12 Month Outcomes (N=307) – mJOA



Baseline and 12-Months Outcomes Among Patients Receiving Decompressive Surgery for CSM

	Baseline (n=268)	12 month (n=214)	P-value
mJOA	13.04 (0.1823)	15.79 (0.1739)	< .0001
Nurick Score	4.13 (0.0638)	2.54 (0.1009)	<.0001
NDI	41.73 (1.5081)	30.84 (1.6547)	<.0001
SF-36v2 PCS	36.39(0.6964)	41.52 (0.8340)	<.0001
SF-36v2 MCS	39.89 (0.7849)	45.03 (0.8425)	<.0001

Conclusions

This large prospective global clinical study shows that surgical treatment for CSM is associated with significant improvements in generic and patient-specific outcome measures at one year. Significant variations in extent of improvement among the sites needs to be further investigated.

Discussions

Surgical treatment for CSM results in sustained improvement in generic and disease HRQOL.

The amount of improvement varied across the regions.

- Subjects from Asia Pacific and Latin America had larger improvements in outcomes than those from North America and Europe.
- The impact of differences in age (much younger in Asia/Pacific) and socio-cultural perceptions of disability and impairment likely play a role in these observations

Acknowledgements

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