



Geographical Variations in the Management and Outcome Outcomes of Decompressive Surgery in Patients with Symptomatic Degenerative Cervical Myelopathy: Analysis of International Prospective Multicenter Cohort Study of 757 Patients



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Outcome of CSM International Study

CSM surgery is safe globally; Decompression resulted in significant reduction in disability and improvement in function!; Improvements gained are sustained over study period

Methods

This is a multicenter international prospective investigation of 757 surgically treated DCM patients from Europe (E), Asia-Pacific (AP), Latin America (LA), and North America (NA). Outcome measures used were Modified Japanese Orthopedic Association scale (mJOA), Nurick score, Neck Disability Index (NDI), and Short-Form 36v2 (SF36v2). 85.44% of patients completed 1 year follow up.

Regional variations in surgical practice

The amount and cost of hospital treatment in a community have more to do with the number of physicians there, their medical specialties and the procedures they prefer than with the health of the residents

by John Wennberg and Alan Gittelsohn

1982 Scientific American

Recent Reports

Spine

HEALTH SERVICES RESEARCH

Geographic Variation in the Surgical Treatment of Degenerative Cervical Disc Disease

American Board of Orthopedic Surgery Quality Improvement Initiative: Part II Candidates

Kevin J. McGuire, MD, MS,* John Harman, MS,† Harry Herkowitz, MD,‡ and James N. Weinstein, DO, MS§

Study Design:

Retrospective case series.

Objective:

To examine and document the change in rates and the geographic variation in procedure type and utilization of plating by anterior cervical plating (AC), posterior (PO), and circumferential (CO) approaches for the treatment of degenerative cervical disc disease.

Factors of Variations

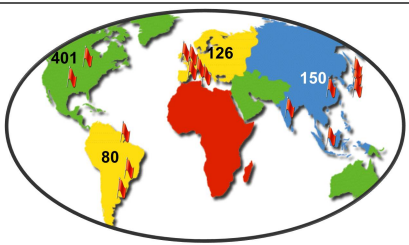
Patient characteristics:
Demographics, comorbidities;
Disease related: Etiology, clinical status at presentation;
Healthcare provider differences:
Threshold for surgery, training and preferences
Healthcare settings and cost

Methods and Materials

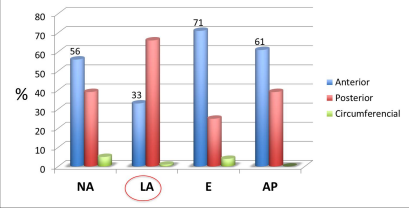
INCLUSION:Consecutively referred, Adults, Symptomatic CSM, Imaging confirmed CSM
EXCLUSION:Previous surgery, Asymptomatic CSM, Active infection. Neoplasia, Inflammatory arthritis

Results

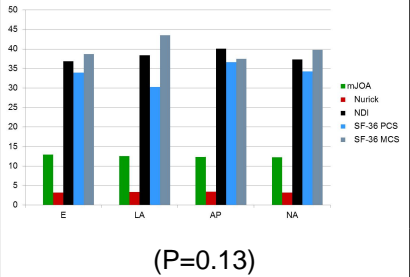
757 patients enrolled, 56.4 years of age, 65% male, 28% OPLL
3.7±1.28 (range 1 to 7) levels decompressed



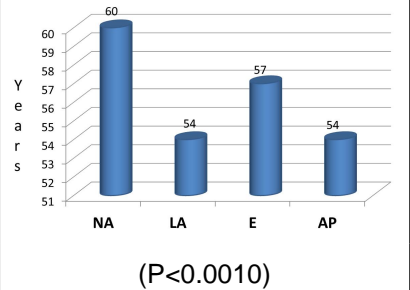
Surgical Approach by Region



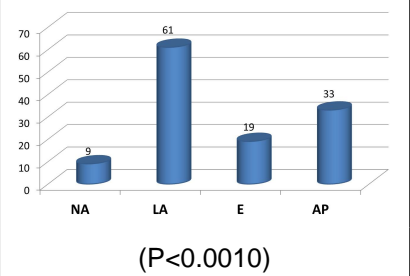
Regional Baseline Fuctional Status



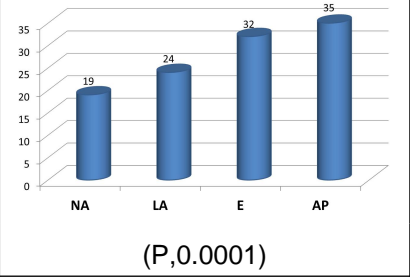
Age at Presentation



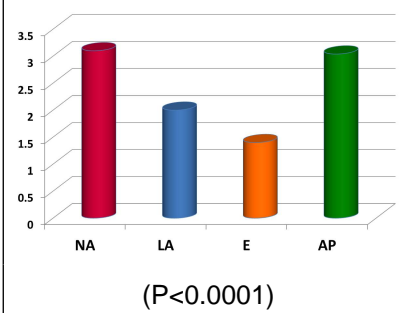
Hypertrophied Ligamentum Flavum



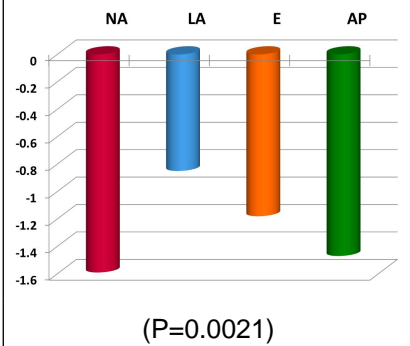
OPLL Prevalence



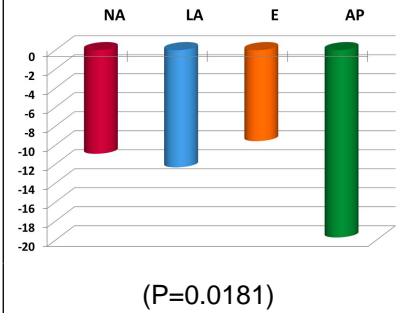
Changes in mJOA score 24- months



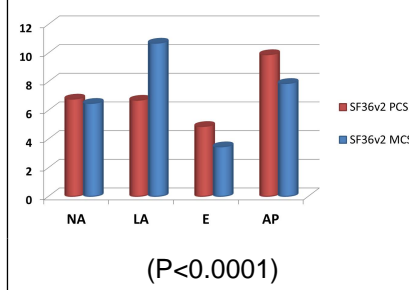
Changes in Nurick at 24- months



Changes in NDI at 24-months



Changes in SF36-PCS/MCS at 24-months



Complications

-No surgical mortality (death within 30 days)
-Overall complication rate 26.5% (11-38% lit reported)
-Early important and most frequent complications
Dysphagia6.26%
Infection 3.20%
Dural tear2.92%
Hardware failure 0.84%
C5 radiculopathy1.04%
Medical 2.60%

Summary

Significant differences in demographics and aetiology. Surgery was effective in all regions. Significant variations in regional improvements after surgery both before and after adjusting for confounding factors.

Acknowledgements

This study is funded by AOSpine North America Inc., a 501(c) 3 non-profit corporation and AOSpine International, a not-for-profit organization for excellence in spine. Special thanks to all co-investigators.