

A decision-support tool (DST). AJMI Grading system for cervical Myelopathy.

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INTRODUCTION:

The most frequent myelopathic symptoms are gait dysfunction (86%), increased muscular reflexes (79.1%), pathological reflexes (65.1%), paraesthesia of the upper limb (69.8%) and pain (67.4%). Current grading systems focus on one or more functional aspects of myelopathic presentation. The new decision support tool is more objective and more easily quantifiable, in elderly population where functional decline could be related to other morbidities. AJMI stands for five clinical parameters (Ambulation, Jerks, MRC power score, Incontinence and Imaging, each scored 1-3, a total score 15). 0 denotes a completely normal while 15 is most severe form of myelopathy.

METHODS:

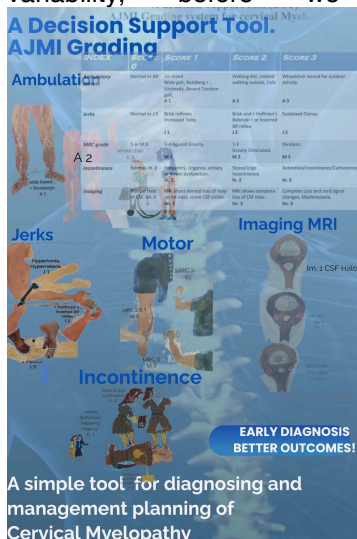
The study was designed as a prospectively collected data of 216 patients attending spinal outpatients with cervical spondylosis. Acute presentation with rapid worsening or being conservatively treated for Cervical myelopathy and case notes of patients already received surgical treatment. The case notes were analysed, and various scores were calculated as documented by various assessors (6 consultants, fellows, registrars). The scores calculated were JOA (Japanese Orthopaedic Association Score), EMS (European myelopathy Score), Prolo and Nurick's for comparison.

RESULTS:

The mean age of our cohort was 63.86(28-89), increased female propensity. The mean preoperative AJMI score was 7.33 for Myelopathy. The mean scores for patients considered for Surgery was 5.94, and 8 for those who had their cervical spine decompression surgery. The mean JAO score for patients undergoing surgery was 13.75. The mean for EMS undergoing surgery was 7. The result of the Pearson correlation showed that there was a high, negative correlation between European Myelopathy Score EMS and Preoperative AJMI score. The correlation between was statistically significant, $r(216) = -0.61$, $p = <.001$. The result of the Pearson correlation also showed that there was a high, negative correlation between Modified JOA score and AJMI score. The correlation was statistically significant, $r(216) = -0.67$, $p = <.001$.

DISCUSSION AND CONCLUSION:

The AJMI score is in keeping with other assessment scores and a score of 7 or above would be guiding towards surgery. The issues with other scores are being more time consuming, Paraesthesia is a less specific features even with pre-existing radiculopathy only. Functions like dressing of clothes/use of fork is difficult to gauge and score in elderly where age related functional decline is common. The other systems had less objectivity of criteria to reliably aid in diagnosis and planning. This study was retrospective without uniformity of patient's presentation (preoperative and postoperative cases),so would require further validation at other centres in a prospective fashion, also account for inter and intra-rater variability, before we could start to clinically implement this decision support tool.



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PARAMETERS	SCORE 0	SCORE 1	SCORE 2	SCORE 3
Ambulatory Status	Normal or Increased tone	Un Aided Wide gait, Romberg +, Unsteady, Absent Tandem gait.	Walking Aid, Limited walking outside, Falls.	Wheelchair bound for outdoor.
Jerks	Normal	Brisk reflexes	Brisk and + Hoffman's Babinski + or Inverted lift.	Sustained Clonus
MRC grade	5	3-4 Against Gravity	1-2 Gravity Eliminated	Paralysis
Incontinence	Normal	Frequency, Urgency, urinary or Bowel dysfunction	Stress/Urges Incontinence.	Retention/Incontinence/Catheterized.
Imaging	Normal Halo of CSF	Ventral loss of Halo or on sides, some CSF visible	Complete loss of CSF Halo	Complete Loss and cord signal changes, Myelomalacia.