CERVICAL SPONDYLOTIC MYELOPATHY: SURGICAL PROGNOSTIC FACTORS FOR FUNCTIONAL OUTCOME

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Cervical Spondylotic Myelopathy

- Progressive Neurological Degeneration
- Surgical Decompression may slow down progression
- Only a subset of patients will benefit from surgery

**OBJECTIVE:**

- To identify preoperative prognostic factors predicting good postoperative neurological outcome

**MATERIALS – METHODS:**

- Literature Review of PubMed
- **Keywords:** (Cervical Spondylotic Myelopathy) AND (Prognostic Factors)
- Articles published between 2000 and 2016
- **Inclusion Criteria:** Cohort studies and review articles designed to evaluate prognostic factors for functional outcome after surgery in patients with CSM

**Prognostic Factors**

To Predict Long Term Surgical Neurological Outcome

**Surgery or Conservative?**
Prognostic Factors 1

- Increasing patient **AGE**
- Longer **DURATION** of symptoms
- Worse preoperative **NEUROLOGICAL** functional status

**correlate with worse postoperative functional outcome**

**RESULTS:**
- Review retrieved 38 citations
- Inclusion criteria were met by 8 citations
- Results are presented here
Prognostic Factors 2

**MRI**

- Multilevel T2 hyperintensity,
- T1 hypointensity in the same level as T2 hyperintensity
- Spinal cord atrophy (transverse area < 45 mm²)

**SEP**

- Preoperative somatosensory-evoked potentials (SEPs)
  - Prognostic of outcome
  - Benefit in patients with unclear presentation

Fig. 1 – T2 hyperintensity, multilevel (left) and focal (right). Figure adapted from Kim et al. [2015]
Conclusions

The following prognostic factors for functional outcome:

- Patient age
- Duration of symptoms
- Preoperative function level
- MRI findings
- Sensory-evoked potentials

Correlate with functional neurological outcome after decompressive surgery in Cervical Spondylotic Myelopathy

Can safely be used to guide the decision between surgical and conservative management

SELECTED CITATIONS:

1. Kim et al. [2015] Surgical outcome and prognostic factors of anterior decompression and fusion for cervical compressive myelopathy due to ossification of the posterior longitudinal ligament. Spine J.

2. Al-Habib et al. [2015] Length of MRI signal may predict outcome in advanced cervical spondylotic myelopathy. Neurosciences

3. Tetreault et al. [2013] Systematic review of magnetic resonance imaging characteristics that affect treatment decision making and predict clinical outcome in patients with cervical spondylotic myelopathy. Spine J.