

## **DOES INTRAMEDULLARY SIGNAL INTENSITY CHANGE ON MR IMAGES EFFECT ON THE SURGICAL OUTCOME OF PATIENTS WITH CERVICAL MYELOPATHY?**

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**PURPOSE:** The prognostic significance of intramedullary signal intensity change on MR images remains controversial in cervical myelopathy. We examined whether or not high signal intensity change in T2-weighted image (T2WI) and low signal intensity change in T1-weighted image (T1WI) are related to the clinical results. **METHODS:** We performed spinous process-splitting laminoplasty in 64 patients with cervical myelopathy. Patients were classified into three groups. Group A was with no intramedullary signal intensity change on T1WI and T2WI. Group B was with no signal intensity change on T1WI and high signal intensity change on T2WI. Group C was with low signal intensity change on T1WI and high signal intensity change on T2WI. Patients were clinically evaluated using the Japanese Orthopaedic Association (JOA) scoring system for cervical myelopathy. **RESULTS:** There were not significant differences between Group A and Group B when comparing the recovery rate through the JOA score and symptom duration. However, the recovery rate of Group C was significantly lower and symptom duration of Group C was significantly longer than Group A and Group B. The patients with regression of intramedullary signal intensity change had significantly better outcome on recovery rate than the patients without regression. **CONCLUSION:** The high signal intensity change on T2WI does not indicate a poor prognosis and reflects a broad spectrum of spinal cord reparative potentials. However, the low signal intensity change on T1WI indicates a poor prognosis.