

Abstract #363.docx

Selective laminoplasty for cervical spondylotic myelopathy: Investigation of Long-term results - ten years after surgery

[Introduction] As a method of posterior decompression for cervical spondylotic myelopathy (CSM), microscopic selective laminoplasty that preserves the posterior group of muscles was introduced in April 2001 (Shiraishi's method). In this study, we investigated the results for patients who had been followed for 10 years or more after surgery. [Subjects and Methods] The subjects were 16 patients with postoperative follow up for 10 years or longer who had undergone microscopic selective laminoplasty for cervical spondylotic myelopathy according to Shiraishi's method by the same surgeon (S-Lam group). The control group was 16 patients who had undergone conventional laminoplasty performed by another surgeon according to Hirabayashi's/Kurokawa's method around the same time at the same institution (C-Lam group). Laminectomy involved selective decompression of only the segments with stenosis on preoperative MRI/CT myelography, i.e., laminectomy of 1-3 adjacent segments or skip laminoplasty for stenosis of 4 adjacent segments depending on the level affected.

[Results]

There were no significant differences of the JOA score and the improvement rate between the S-Lam group and the C-Lam group 10 years after surgery. In the S-Lam group, the angle of cervical spine lordosis was 18.3 degrees preoperatively and 16.9 degrees at 10 years postoperatively, so the lordotic angle was maintained in this group. In contrast, the lordotic angle was 11.8 degrees at 10 years postoperatively in the C-Lam group, showing a marked decrease. The range of motion of cervical flexion decreased from 41.1 degrees to 35.8 degrees at 10 years postoperatively in the S-Lam group. In the C-Lam group, the range decreased to 22.4 degrees at 10 years postoperatively. [Discussion & conclusion] In 2001, Shiraishi et al. reported a method of laminoplasty that preserved the posterior muscles and had less complications than the conventional method. Yato et al. reported a less invasive operation that involved more selective decompression. In our investigation of 10 year postoperative results, the improvement rate of neurological recovery of S-Lam group was similar to that after the conventional operation, while the radiographic changes of the postoperative lordotic angle of the cervical spine and the postoperative range of motion were better than with the conventional method.