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RESULTS OF POSTERIOR DECOMPRESSION AND KYPHOSIS CORRECTION FOR CERVICAL MYELOPATHY CAUSED BY OSSIFICATION OF POSTERIOR LONGITUDINAL LIGAMENT

Several reports demonstrated that posterior decompression procedures did not provide adequate decompressive effect for cervical myelopathy caused by OPLL with kyphosis. In the present study, we examined the clinical outcomes of posterior indirect decompression by kyphosis correction for cervical myelopathy caused by OPLL to determine the efficacy of this procedure.

13 cases of cervical myelopathy caused by OPLL, who underwent posterior decompression with kyphosis correction and fusion, were reviewed. There were 7 male and 6 female patients, and mean age was 58 years (range 41-71). 9 patients had mixed type OPLL and remaining 4 had segmental type. 4 of 7 patients had history of laminoplasty, which did not improve myelopathy. An average of 4 levels laminectomy and kyphosis correction (average of 3.2 segments fixation) using pedicle screw system were performed on all. Japanese Orthopaedic Association (JOA) score was used to assess physical dysfunction and neurological impairment.

12 degrees of averaged preoperative kyphosis in the fused segments was corrected to 0.1 degree in the latest follow-up. Amount of correction of the kyphosis in average was 11.8 degrees. 10.3 points of averaged preoperative JOA score improved to 14.0 at the latest follow-up. Improvement ratio of JOA score was 54.7 % in average. Complications by surgery included 3 cases of postoperative C5 palsy. All C5 palsy recovered completely by additional C4-5 foraminotomy, however, 1 patient needed 1 year for healing.

The results of this study suggest that posterior decompression kyphosis correction is effective for cervical myelopathy caused by OPLL with kyphosis. While anterior decompression and fusion is a standard option for such cases, however, multilevel anterior decompression and fixation associates high incident of complications, and difficult for OPLL requiring upper cervical decompression. Posterior dekyphosis procedure provides reduction of mechanical stress on anterior aspect of the spinal cord by OPLL. This posterior procedure may valuable for patients with OPLL with kyphosis requiring decompression. However, considering a high risk of C5 palsy, prophylactic foraminotomy are to be mandatory in this procedure.