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Anterior surgery provides good surgical outcome for K-line (-) and/or massive ossification of posterior ligament (occupying ratio > 50%) in cervical spine?

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Purpose: The patients who have apparent neurological disorders with ossification of posterior ligament (OPLL) in cervical spine, need surgical intervention. There are two main surgical approaches; anterior and posterior. The aim of this study is to investigate the pros and cons of anterior surgery for the patients with K-line (-) and/or massive OPLL (occupying ratio > 50%) in cervical

Materials and Methods: Twenty-two patients who were suffered from cervical OPLL [K-line (-) and/or occupying ratio > 50%] and underwent anterior surgery, were included in this study. All patients underwent surgical resection or floating of OPLL and anterior fusion, W/WO posterior fixation. Anterior fusion with anterior pedicle screw(APS) fixation was done in 7 cases, APS and plate fixation in 7 cases, APS followed by posterior pedicle screw fixation in 6 cases and conventional anterior fusion in 2 cases. All patients were followed more than 12 months. Surgical results and operative complications were investigated.

Results: Average surgical time was 250 minutes and average blood loss was 317 ml. Fusion levels were 1level in 1 case, 2 levels in 6 cases, and 3 levels in 15 cases. Average JOA score was 10.7 preoperatively and improved to 14.1 at final follow up. The mean recovery rate was 59%. The local alignment was 0.5 degrees kyphotic preoperatively and 4.6 lordotic at final follow-up. Dura tear was occurred in 2 case and one of them needed spinal drainage. C5 palsy was seen in 3 cases and improved spontaneously. One case needed removal of hematoma postoperatively. The other required additional laminoplasty due to inadequate decompression with insufficient floating of OPLL. Two cases who underwent anterior pedicle screw fixation alone, showed postoperative kyphotic deformity and required posterior fusion.

Conclusions: Anterior decompression and fusion provided good surgical results for the patients with massive OPLL with high rate of severe complications.