

Comparison of the Range of Motion (ROM) Results In Cervical Spondylotic Myelopathy Patients Who Underwent Open-Door Laminoplasty Surgery or Underwent Posterior Cervical Fusion Surgery

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Introduction

The treatment options for the cervical spondylotic myelopathy associated with posterior longitudinal ligament ossification, are laminoplasty procedure or laminectomy procedure followed by posterior fusion with lateral mass screws are often performed by the neurosurgeons. The purpose of this study is the comparison of two surgery types results that is evaluated with the recordings of their preoperatively and postoperatively JOA, VAS, Nurick and Cervical Range of Motion (ROM) scores.

Methods

Totally 38 patients who had the cervical spondylotic myelopathy associated with posterior longitudinal ligament ossification were evaluated in our neurosurgery department between 2014 and 2016 dates. The patients were divided into two groups. First group was including 20 patients who underwent the laminoplasty procedure. Second group was including 18 patients who underwent the posterior cervical fusion with laminectomy and lateral mass screws procedures. JOA, VAS, Nurick score and ROM scores results were recorded as preoperatively and postoperatively. These results were compared between two surgery in a statistical way has a %95 confidence interval and 0.05 level of significance.

Results

The all ROM scores of the cervical movements in six dimensions are decreasing postoperatively in two groups. On the other hand, the postoperative ROM results of laminoplasty group has obviously higher values than the postoperative ROM results of the posterior cervical fusion procedure group. The decreasing rate of the flexion adn the extansion ROM values in laminoplasty group is less than the the posterior cervical fusion procedure group. JOA, VAS and Nurick scores have no difference in the statistical analysis between two goups. Both of the surgeries have excellent neurological outcomes and have same neurological condition results in follow-ups.

Conclusions

Both surgery procedure can be performed for the treatment of the cervical spondylotic myelopathy disease. The surgeons should consider their surgery skills and experiences to decide the surgery type. Although the laminoplasty group has better ROM results than posterior cervical fusion group this indication is controversial for the decision of surgery type.

Learning Objectives

- 1.Laminoplasty procedure have higher ROM results than posterior cervical fusion procedure
- 2.Considering the ROM results to decide the surgery type is still controversial in the literature and in our study.
3. Deciding the treatment type should be according to surgeon's skills and experiences.

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