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PRESERVING THE SEMISPINALIS CERVICIS MUSCLES IN CERVICAL LAMINOPLASTY IS USEFUL FOR MAINTAINING THE CERVICAL LORDOSIS

Introduction

In laminoplasty for cervical spondylotic myelopathy (CSM), several operative procedures exist, such as preserving the semispinalis cervicis muscles attached to C2 to reduce the incidence of postoperative axial neck pain. In this study, we focused on the effectiveness of this technique for the cervical spine function after laminoplasty.

Methods

18 consecutive patients (8 females and 10 males, mean age: 70.9 years) with CSM who underwent posterior decompression surgery from C3 to C6 were included. All patients were followed up for more than 1 year. Two different decompression procedures were performed and the patients were divided into two groups (10 patients in D group; open-door laminoplasty with detaching semispinalis cervicis muscles from C2, 8 patients in P group; C3 laminectomy with open-door laminoplasty below C4 with preserving semispinalis cervicis muscles). The incidence of postoperative axial neck pain, the sagittal alignment and the range of motion (ROM) of the cervical spine were compared between the two groups using a visual analog scale (VAS; 0-10) and serial lateral radiographs.

Results

There were no significant differences between the two groups in regards to age, sex, operative time, intraoperative blood loss, hospitalization, preoperative axial neck pain, sagittal alignment or ROM. As for the axial neck pain, the mean VAS score in D group was 5 (pre-operative period; pre-op.), 4 (6-month f/u; 6Mo) and 3.74 (1-year f/u; 1Y), while in P group was 5, 3.86 and 2.5. Although there were no significant differences in both groups, the VAS score was less in P group. Regarding the sagittal alignment, the mean C2-7 angle in D group was 18° (pre-op.) and 14.7° (1Y), while in P group was 17.8° and 17.4°. Although there were no significant differences, the lordosis of cervical spine was maintained more in P group. Regarding the ROM, in D group the mean was 37.8° (pre-op.) and 29.7° (1Y), while in P group was 26.7° and 27.7°, which was significantly different in D group ($p=0.03$).

Conclusion

In cervical laminoplasty, this technique may help to maintain the cervical lordosis and ROM, thereby affecting the long-term results of cervical spine function and axial neck pain.