Commentary

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A Commentary on Treatment of Cervical Myelopathy by Posterior Approach

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Description

Degenerative Cervical Myelopathy (DCM) is a pathological condition caused by stenosis of the cervical spinal canal, leading to chronic compression of the spinal cord, either complete or partial. This compression results in variable and progressive myelopathic and/or radiculopathy symptoms. With the increase in life expectancy, the incidence of DCM is rising.

For patients with progressive and limiting symptoms, surgical intervention remains the primary treatment, aiming to decompress the spinal cord, restore sagittal alignment, and stabilize the spinal column. Early surgical intervention is essential, as it can significantly improve the prognosis for patients with DCM.

Several surgical approaches and techniques have been described for treating DCM. The most commonly used approaches today are the anterior and posterior cervical approaches. The choice between these approaches depends on factors such as sagittal curvature, the number of levels affected, the location of the compression, and the patient's comorbidities. Each approach has its own advantages and disadvantages, making the decision for the optimal surgical route a subject of ongoing debate, necessitating individualized treatment plans.

Among posterior techniques, laminoplasty and Laminectomy with Posterior Fixation (LPF) are the two most widely used. Despite extensive studies, there remains signi icant controversy regarding which technique yields better clinical and radiological outcomes and fewer complications, with the current literature presenting mixed results.

We conducted a single-center retrospective study at Hospital Universitario de la Paz, focusing on all patients who underwent surgery for cervical myelopathy using a posterior approach (either laminoplasty or LPF) over a 10-year period, from 01 March, 2009 to 31 March, 2019, with a postoperative follow-up of 12 months. Data collection took place between June 2019 and March 2020.

Initially, 98 patients were included in the study. However, 59 patients were excluded -25 due to prior or subsequent anterior approach interventions and 34 due to the absence of preoperative or postoperative imaging tests. The final cohort comprised 39 patients, of whom 29 were men (74.4%) and 10 were women (25.6%). The LPF group consisted of 12 patients (30.8%), while the laminoplasty group included 27 patients (69.2%).

In the laminoplasty group, a statistically significant improvement of at least one point on the Nurick scale was observed (p=0.008). In contrast, the LPF group did not achieve statistical significance in this improvement (p=0.07), likely due to the small sample size of the LPF group (n=12).

Similarly, the laminoplasty group demonstrated a statistically significant improvement in at least one subgroup of the modified Japanese Orthopaedic Association (mJOA) scale (p=0.018). However, the LPF group did not reach statistical significance for this improvement (p=0.08), again likely due to the small sample size.

No significant differences were found between the two groups concerning radiological variables such as alignment, Cobb angle, Visual Analog Scale (VAS) and T1 Slope. Additionally, no significant differences were observed in the rate of complications between the two techniques (p>0.05).

Conclusion

In conclusion, both laminoplasty and LPF are safe and effective procedures for the treatment of DCM. Our study demonstrates statistically significant clinical improvement with laminoplasty based on the Nurick and mJOA scales. Although the LPF group showed greater clinical improvement, statistical significance was not achieved, likely due to the small sample size. We recommend conducting a prospective study with a larger sample size to further investigate potential clinical and/or radiological differences between the two techniques.