INTRODUCTION

A huge extra vertebra extension of cervical schwannoma is a rare case. Tumour excision, as well as laminoplasty, were the common surgical treatment.1 However, the conventional technique of multilevel laminectomy may hinder younger patients in the long-term. The instability of cervical spine after instrumentation will reduce the risk of kyphotic deformity after laminectomy.2

In this case report, the author presents a modified technique of open-door laminoplasty with half-cut spinous processes of the proximal and distal opening which used miniplates to close the opened laminae on both sides and wiring of previously cut spinous processes. This technique may minimize and prevent stenotic of anteroposterior diameter of the spinal canal, and is expected to give a good outcome to avoid cervical instability.3

CASE REPORT

A thirty-year-old male came to our outpatient clinic with progressive limb weakness. All of his extremities were gradually paralysed over the previous two months. Upon physical examination, the patient showed tetraparetic limbs with positive Babinski's reflex in both sides. He also developed a palpable lump in his right supraclavicular region. MRI revealed an intradural-extramedullary tumour (Figure 1) which extended from C4 to T1 (Figure 2). The huge extra vertebra extension on the right side is a continuation of the intracanal tumour passing the intervertebral foramen to the extra vertebra and forming a considerable mass.

The patient underwent a surgery in a prone position with the semi-flexed neck. A linear incision was proceeded in the midline, deep down from the tip of the spinous process of C3 to T1. The supraspinous and interspinous ligaments were left intact. Paravertebral muscles were then shifted from the midline. After the surgical field was exposed, the C3 to T1 spinous processes were half-drilled by a high-speed drill.

Drilling was then continued to open C4 to C7 laminae on the right side, whereas guttering was done on the left. The laminae from C4 to C6, partial C3 and T1 spinous, and also the flavum ligaments in one unity were then retracted into the left.

After incision of the flavum ligament, the dura was opened, the intradural tumour was then gently resected as well as the partial of the extra vertebrae tumour. After tumour removal, the closure was done by replacing back the laminae to its anatomical position. We used titanium wires to fix the previously half-drilled spinous process of C3 and T1.

After the anatomical orientation was reached, a two-hole miniplate was placed on each and every lamina, both in the opened laminae and the guttered laminae. The rest of extra vertebrae tumour was then totally resected from the front in one sitting by surgical oncology specialist.

This modified technique was purposed to maintain anatomical structure, with minimal disruption on the flexibility of the neck. We believed that in a young patient, this will give an advantage.

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CASE REPORT

Post-operative cervical CT scan showed no canal stenosis (Figure 3) with a good alignment (Figure 4).

The patient was discharged with clinical improvement of his symptoms. The diagnosis of schwannoma was confirmed by the pathological study.

DISCUSSION

Laminoplasty in cervical myelopathy has a very wide discussion regarding its technique. The conventional open-door cervical laminoplasty has a limitation in maintaining the flexibility and motion of the neck. Furthermore, this may hinder and reduce the quality of life, especially in younger aged patients. The use of miniplates in securing the laminae of each level of cervical will diminish the use of other instrumentation and the anteroposterior diameter is also kept wide enough to provide decompression. Placing miniplates on guttered laminae is purposed to avoid displacement of laminae as well as helping the ossification process. The use of titanium wire to bind to the previously cut spinous processes of C3 and T1 will assist the fixation and the occurrence of the fusion process again. This technique gives benefit in maintaining neck motion.

CONCLUSION

The modification of cervical laminoplasty and half-cut spinous process at the proximal and distal of the opening is still not widely used. Nevertheless, the outcome of this modified technique is preferable.
in maintaining the anteroposterior diameter of spinal canal as well as reducing the displacement of guttered laminae. Furthermore, the neck motion, especially in the younger age, will also be maintained.

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REFERENCES


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