

Case Report

Multiple spinal schwannomas of multiple intradural extramedullary tumors: a case report

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ABSTRACT

We describe the case of a 30-year-old male patient who was brought to the hospital's general surgery department with a four-month history of low back pain, numbness, and paraesthesia in both legs, history of weakness in both legs is also present. Magnetic resonance imaging revealed multiple Intradural extramedullary tumors at the C3/C4, D1-D2, D4, and D8 levels- likely nerve sheath tumors (schwannomas). The patient underwent surgery for the removal of tumors. The diagnosis was validated by histopathological examination. Post-operative recovery was uneventful and the patient improved gradually and recovered fully in 10-15 days.

Keywords: Schwannomas, Neurofibromatosis, Tumor, Intradural extramedullary

INTRODUCTION

In adults, around 25% of intradural spinal cord tumors are spinal schwannomas. Neurinomas, also known as schwannomas, comprise approximately one-third of all primitive spinal tumors and are often benign neoplastic lesions. The primary component of both neurofibromas and schwannomas is Schwann cell tumors. On the other hand, anatomopathological variations exist between the two tumors.^{1,2} Neurofibromas are regions of thicker nerve tissue frequently located next to the intervertebral foramina and have a dumbbell-shaped appearance. Upon microscopy, they exhibit loosely textured areas devoid of an Antoni type A pattern, in contrast to schwannomas, which show strong cellularity, a comparatively absent Antoni B pattern, and potentially exhibit mitotic activity along with cytologic atypia. Schwannomas are spherical, well-defined, encapsulated, and affixed to the nerve roots. Malignant transformation is limited to neurofibromas. Von Recklinghausen's illness is the term used to describe the "multiple" variety of neurofibromas.^{3,4} The incidence

of spinal schwannomas fluctuates between 0.3 and 0.4 instances/100,000 individuals annually, according to Western research.⁵ Multiple schwannomas are frequently linked to type 2 neurofibromatosis.⁶ Most patients first exhibit modest sensory symptoms, such as abrupt pain or paraesthesia, while feeling the nerves; weakening is less common but can nonetheless happen.⁷

This paper describes a surgically treated example of multiple intradural extramedullary schwannomas and goes over radiological and clinical features associated with these tumor forms.

CASE REPORT

A 30-year-old male patient was admitted to the general surgery male ward due to a chief complaint of low back ache, pain, and numbness in both lower limbs for 4 months. The patient also had complaints of weakness in both bilateral lower limbs for the last 2 months.

Neurological examination-HMF-Intact, CNE-normal, motor and sensory examination-upper limbs- normal, lower limbs-bulk- normal, tone-bilateral increased, power-bilateral 4+/5, DTR-exaggerated, plantar-extensor, sensory-normal

Neuroradiology

In radiological investigation, MRI of the multiple intradural extramedullary lesions as described above with significant cord compression at D1-D2 and at D8 levels-likely nerve sheath tumor schwannomas. An intradural extramedullary well-defined oval-shaped lesion of size 3.7×1.3 cm is noted in the thecal sac at the D8 level. Another similar lesion of size 3×1.5 cm is seen at the D1-D2 level displacing and compressing the spinal cord towards the left anterolateral aspect. intradural extramedullary nodular enhancing lesions are also noted in the thecal sac at C3-C4 (9 mm size) and D4 (5 mm size) levels causing no significant cord compression (Figure 1 A and B).



Figure 1 (A and B): MRI of the case. T1 contrast image surgical section green line showing IDEM tumors. T1 contrast image (Axial section) showing tumors.

Operation

Given the clinical and radiological findings, the patients were treated under the expert guidance of a neurosurgeon. The patient underwent a surgical procedure-The patient was placed in a prone position and levels were marked. Posterior midline vertical incision is given from C3 to D2 level and D7 to D9 levels and posterior elements - exposed C3 C4, D1 D2 and D8 D9 Laminectomy. Tumours are C3/C4, D1/D2, and D8 levels were excised completely. D4 level tumor was very small and hence left behind for follow-up (Figure 2 A and B).

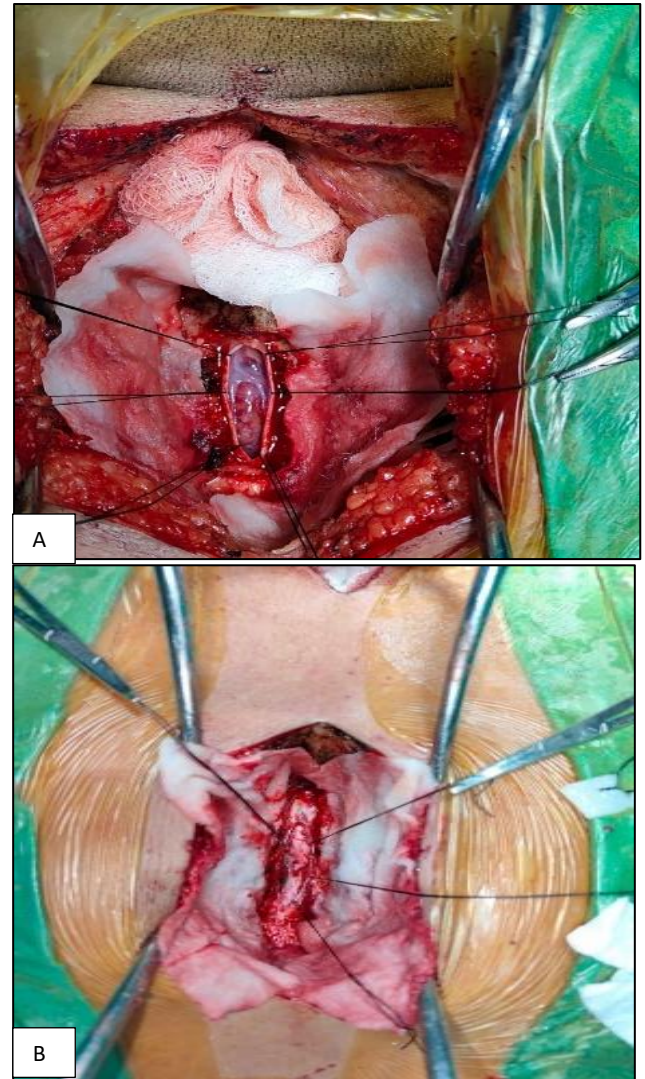


Figure 2 (A and B): The inter operation before surgery. The tumor was removed after surgery.

DISCUSSION

The first pathologist to report an IS in 1931 is acknowledged to have been James Kernohan.⁸ Meningioma and schwannoma are the most prevalent extramedullary and intradural tumors. Neurofibromatosis may be linked to both conditions. Schwannomas are the most frequent intradural extramedullary spinal tumors;

they are usually benign tumors originating from the spinal nerve root sheaths.⁹ Schwann cells of macroscopically identifiable nerve fibers give rise to benign encapsulated nerve sheath neoplasms known as spinal schwannomas (less frequently named neurinomas or neurilemmomas). The development pattern of these lesions is eccentric, and the nerve fiber is typically integrated into the tumor capsule. These lesions represent over one-third of all spinal neoplasms and are thought to be the most prevalent tumors of peripheral nerves.^{10,11} Schwannomas are mostly well-differentiated eosinophilic Schwann cells that are intradural extramedullary WHO grade I spinal tumors. The suspicion of schwannomas should always be raised in the presence of a thickened augmenting nerve root lesion or a mostly extramedullary component.¹² According to published literature, the existence of a nerve root component is a unique but unusual finding that confirms the diagnosis of schwannoma and might cause the root pain that results in the clinical presentation, as in the instance being reported. MRI can help with the accurate diagnosis. The 30-year-old male patient was admitted to the male ward with low back pain, numbness, and aches, which had been persisting for 4 months. The patient received care from a team of health professionals, including neurosurgeons, clinical pharmacists, and nursing staff. After getting proper care from the health care professional, his symptoms were relieved, and he must take medicines as prescribed.

CONCLUSION

In this report, we discussed a rare case of spinal schwannomas of multiple intradural extramedullary tumors. our study reports that her symptoms were relieved after taking proper medication and after the surgical procedure done by a neurosurgeon. This case highlights the importance of MRI as in detecting the condition and surgical treatment for improving outcomes. Early surgery is indicated to prevent any further complications.

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Ethical approval: Not required

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