

Extradural Spinal Meningioma: Mimicking Metastasis

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Abstract: Meningiomas are usually arise within the dura, sometimes extend beyond it, but completely outside the dura are very rare. Spinal meningiomas represent around 10% of all meningiomas and, commonly occur as intradural extramedullary lesions. Purely extradural spinal meningiomas are very rare and only few cases are reported in literature. We describe a case of 50yr old female who presented with upper dorsal region pain and sensory-motor spastic paraparesis. Imaging features were suggestive of D1-3 epidural lesion with significant cord compression. Patient underwent complete excision of lesion. On HPE, a diagnosis of meningothelial meningioma was made. Post-operatively patient showed a good clinical outcome without any recurrence during follow-up of 6 months.

Keywords: meningioma, spine, extradural, sensory, motor

I. Introduction

Meningiomas usually arise within the dura from arachnoid cells. They are mostly situated in the brain and only around 10% are found in the spinal canal, of which most of them are found intradurally, predominantly at dorsal region.^[1,2] Epidural compression of the spinal cord by meningioma occurs very rarely and only few cases are reported in literature.^[3] We report a case of extradural dorsal spine meningioma in a 50 year old lady.

II. Case History

A 50 year old female presented with a history of upper dorsal region backache for 4 months and progressive weakness and numbness of both lower limb for 3 months. General physical and systemic examinations were within normal limits. Neurological examination showed spastic paraparesis (2/5), hyperreflexia and graded sensory loss (D2 and below). All of the routine laboratory investigations including viral markers and chest X-ray were normal except deranged renal function (RFT). USG abdomen showed grade II MedicoRenalDisease (MRD). MRI of the dorsal spine revealed D1-3 epidural lesion with intermediate signal intensity on both T1 and T2 weighted images (Figure 1A-D). Contrast imaging was not done in view of deranged RFT. There was a preoperative impression of metastatic epidural lesion with possibility of lymphoma or chronic granulomatous disease. No primary lesion was detected on whole body scan.

D1-3 laminectomy with complete excision of lesion was performed. The tumour was extradural, moderately vascular, greyish white in color, soft to firm in consistency and easily separable from the underlying dura. Patient had an uneventful post-operative period and some sensory improvement in early post-operative period. The histopathological examination (HPE) of the specimen showed meningiothelial neoplasm comprising of meningiothelial cells arranged in whorls, sheets and clusters in fibrocollagenous tissue, and congested blood vessels. Individual tumor cells have vesicular nuclei, intranuclear inclusion and moderate amount of eosinophilic cytoplasm (Figure 2A-B). Based on HPE diagnosis of meningiothelial meningioma was made. During follow-up the patient regained power in both lower limbs (5/5) over a period of 2-3 months. There was no evidence of clinical recurrence of the lesion at 6 months follow-up.

III. Discussion

Meningiomas represents for 25 to 46% of primary spinal neoplasms of which most of them are found intradural, predominantly at the dorsal spine.^[4] They have a female preponderance and a median age of presentation in the fifth or sixth decade.^[5,6] Extradural spinal location is rare and accounts only 2.5 to 3.5% of all spinal meningiomas.^[3,7,8] They show the same frequent location in the dorsal spine and the same sex preponderance of female patients.^[3] Their origin is probably in the ectopic extradural arachnoid cells.^[9]

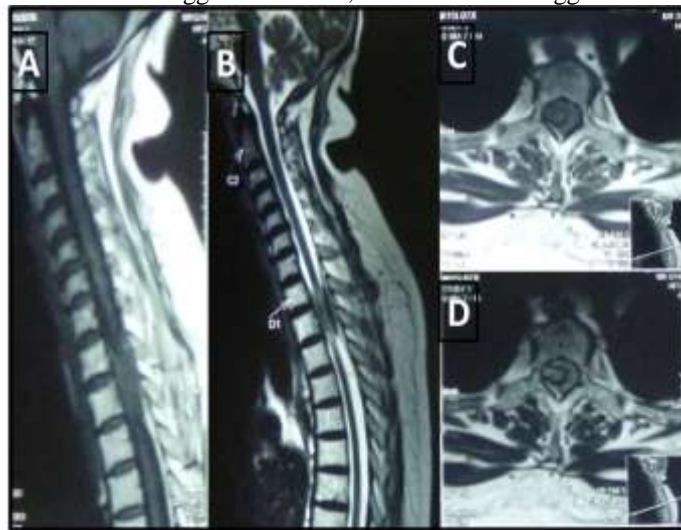
Common clinical presentation of spinal meningiomas patients are back pain, motor or sensory deficits, and bowel, bladder irregularity. The clinical presentation depends on the level of affected spinal cord and the degree of cord compression. Generally back pain precedes the weakness and sensory changes, and the sphincter dysfunction is always a late finding.^[10] Our patient presented with upper dorsal region back pain and sensory-

motor spastic paraparesis. Spinal meningiomas appear isointense on T1-weighted images whereas hypo or isointense on T2-weighted images with homogeneous contrast enhancement on T1-weighted images.^[5] Hyperostosis is seen uncommonly in patients with extradural spinal meningiomas than in patients with cranial counterparts of these lesions.

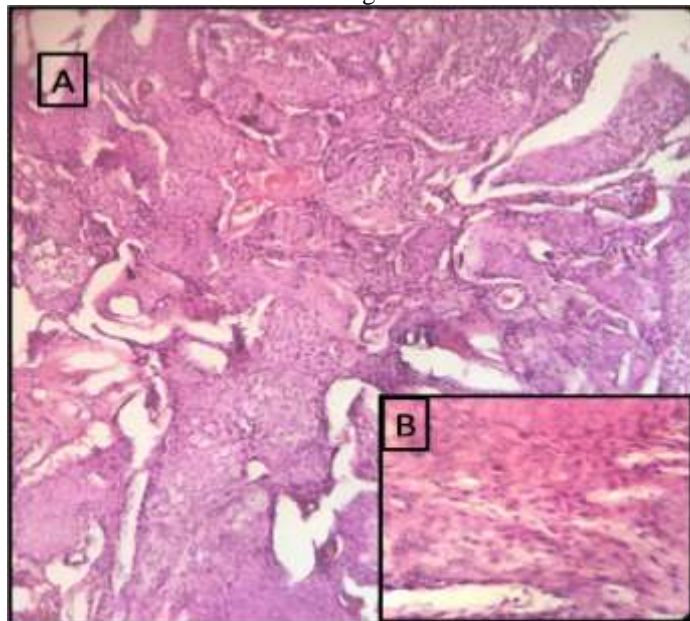
Most of the meningiomas are benign, well-circumscribed, slow growing tumors, and behave mostly according to the pathological (WHO) grading and usually follow an uneventful clinical course. The WHO grades meningiomas in a three-tiered scheme: benign, atypical, and malignant. Common histological patterns are meningothelial, psammomatous, fibroblastic and transitional (WHO Grade I).^[1] However Grade II (atypical) and Grade III (anaplastic) tumors can behave aggressively clinically and histologically.^[11] Majority of meningiomas are benign therefore after complete excision of tumour prognosis is good but in case of bony involvement and paraspinous extension complete excision of tumor difficult to achieve, and is responsible for the worse prognosis.^[12] It is pertinent to be aware of the fact that purely extradural spinal meningioma, especially the “en plaque” variety may mimic metastatic disease (as in our case).^[12] Therefore high index of clinical suspicion is warranted.

IV. Figures

1. A and C MRI T1W1 saggital and axial, B and D T2W1 saggital and axial



2. HPE images



V. Conclusion

To conclude, although extremely uncommon, extradural spinal meningioma should be kept as a differential diagnosis for epidural compressive lesions. Preoperative extradural meningioma diagnosis can be extremely difficult and requires a high index of suspicion. Meningiomas are mostly benign neoplasms and a complete surgical resection provides recurrence free long-term survival.

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VII. References

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