

# Extensive Dorso-lumbar En-plaque Meningioma Mimicking Ligamentum Flavum Hypertrophy

AMIT AGRAWAL\*, RAJESH DULANI†, ANIL AGARWAL‡

## ABSTRACT

We report a case of extensive dorso-lumbar en-plaque meningioma that was mimicking ligamentum flavum hypertrophy and review the literature. A 65-year-old male presented with history of low back pain of 2-year duration with worsening of the pain since past 2 months. On examination, he had flaccid paraplegia with bowel and bladder involvement. Magnetic resonance imaging findings were suggestive of extensive ligamentum flavum hypertrophy. The patient underwent D9-L2 laminectomy. The dura was thickened and extensively vascular and the lesion could be partially excised. Histopathology was suggestive of meningioma. Spinal en-plaque meningiomas are rare and challenging lesions associated with poorer outcome.

**Keywords:** En-plaque, meningioma, spinal tumor

Spinal en-plaque meningiomas are rare and challenging lesions and<sup>1-4</sup> rarely en-plaque spinal meningioma can mimic ossification of the ligamentum flavum, and only reported once in the literature.<sup>4</sup> We report a case of extensive dorso-lumbar en-plaque meningioma that was the mimicking ligamentum flavum and review the literature.

## CASE REPORT

A 65-year-old male presented with history of low back pain of 2-year duration and worsening of the pain since past 2 months. He also developed progressive weakness of both the lower limbs with complete loss of movements since past 15 days. He had urinary retention 1 week back for which he was catheterized. He also complained of constipation since last 15 days.

There was no history of trauma or fever. His general and systemic examination was normal. Higher mental functions and cranial nerves were normal. Neurological functions in upper limbs were normal. There was flaccid paralysis in both lower limbs with grade 0/5 power. There was complete loss of sensation below D-10 level to all modalities. Anal sphincter tone was lax. All deep tendon reflexes in lower limbs were absent. Abdominal reflexes were absent and plantars were not elicitable.

Magnetic resonance imaging (MRI) of dorso-lumbar spine showed dorsally placed mildly hyperintense lesion on T1 images becoming hypointense on T2 images extending from D9-L2 level (Fig. 1). A diagnosis



Figure 1. Dorsally placed extensive lesion from D9-L2 level.

\*Associate Professor (Neurosurgery)

Dept. of Surgery

†Associate Professor

Dept. of Orthopedics

‡Associate Professor

Dept. of Pathology

Datta Meghe Institute of Medical Sciences, Sawangi (Meghe), Wardha, Maharashtra

Address for correspondence

Dr Amit Agrawal

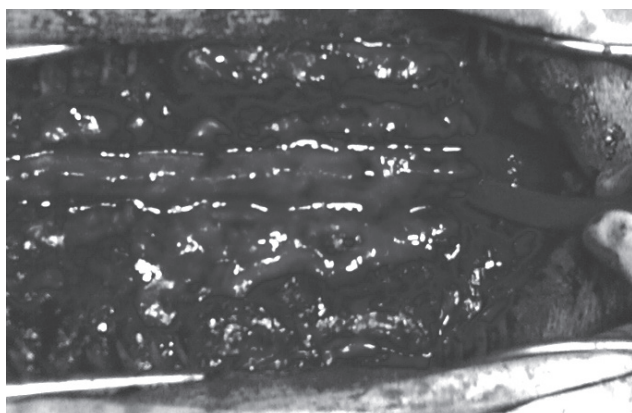
Associate Professor (Neurosurgery)

Clinical and Administrative Head, Division of Neurosurgery

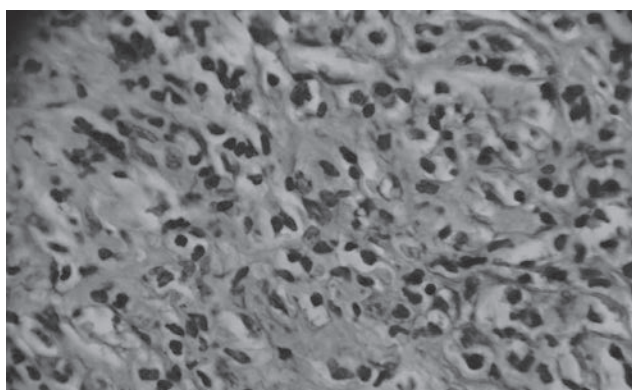
Datta Meghe Institute of Medical Sciences, Sawangi (Meghe),

Wardha - 442 004, Maharashtra

E-mail: dramitagrawal@gmail.com



**Figure 2.** Extensively vascular and thickened dura.



**Figure 3.** Histopathology showed that the tumor was a meningioma (H&E, 40x).

of ligamentum flavum hypertrophy was suspected. The patient underwent D9-L2 laminectomy. There was extensively vascular and thickened dura (Fig. 2). Because of an ill-defined plain of cleavage between the dura and the cord, the tumor could be excised partially. Histopathology was suggestive of meningioma (Fig. 3). There was no improvement in his neurological deficits.

**DISCUSSION**

En-plaque spinal meningioma though rare, but can involve dura extensively with significant neurological deficits.<sup>4-7</sup> These lesions can be suspected on computerized tomography (CT) and MRI and present as an unusual stratified architecture, with a conspicuous highly calcified component attached to the dura that

may surround it posteriorly and laterally.<sup>5</sup> In our case, the imaging features were similar but we did not suspect this diagnosis. The surgical treatment of en-plaque meningioma is more complex than that of classic meningioma.<sup>1,2,5</sup> However, in patients with good plane of cleavage complete tumor removal is possible<sup>1,2,5</sup> and the wide dural defect can be closed with autologous fascia lata graft.<sup>5</sup> The difficulty may be due to the infiltration of surrounding structures and associated arachnoid scarring that may render complete resection difficult to achieve.<sup>7-9</sup> Spinal en-plaque meningiomas have a poorer prognosis than that of classic meningiomas with regard to the possibility of a definitive surgical cure.<sup>1,4,5</sup>

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