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male: a case report and review

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ABSTRACT

Multiple meningiomas (MM) constitute a small but important subset of intracranial tumours, characterized by two or more independent dural-based lesions. Although more frequently reported in females, their occurrence in middle-aged males without neurocutaneous syndromes is uncommon. This report describes a 55-year-old Indian male presenting with symptomatic parasagittal, parietal, parieto-occipital and sphenoid wing meningiomas. The paper outlines his clinical profile, radiological findings, surgical decision-making, and postoperative outcome, along with a concise review of Indian and global literature.

INTRODUCTION

Meningiomas represent nearly one-third of primary brain tumours diagnosed in India and worldwide.[1] While the majority appear as solitary masses, multiple meningiomas are detected in 1–10% of cases, often due to improved MRI availability.[2] MM is traditionally linked with neurofibromatosis type 2 (NF2), prior cranial irradiation, or genetic mutations.[4] The presentation in NF2-negative adult males is relatively rare and demands a tailored management plan.

CASE PRESENTATION

Patient details

- Age: 55 years
- Sex: male
- Residence: Ajmer, Rajasthan (India)
- History: intermittent headaches and vomiting for 4 months; gradually progressive left-sided weakness.
- No history of radiation exposure, familial tumour syndromes, seizures, or visual impairment.

Examination

- Alert, oriented
- Mild left hemiparesis (4/5)
- Early papilloedema
- Remaining cranial nerves and sensory exam unremarkable

Keywords

intracranial tumours,
multiple meningiomas,
parasagittal lesion,
dural-based lesions,
WHO grade I,
Simpson grade II



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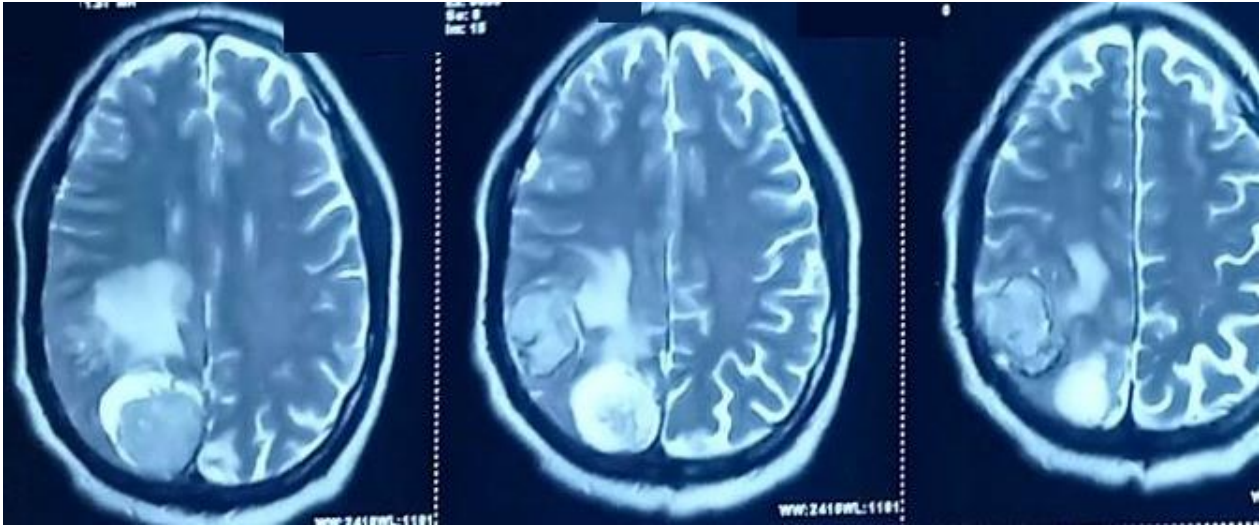


Figure 1. Preoperative MRI of the brain, axial sections.



Figure 2. Preoperative MRI of the brain, sagittal sections.

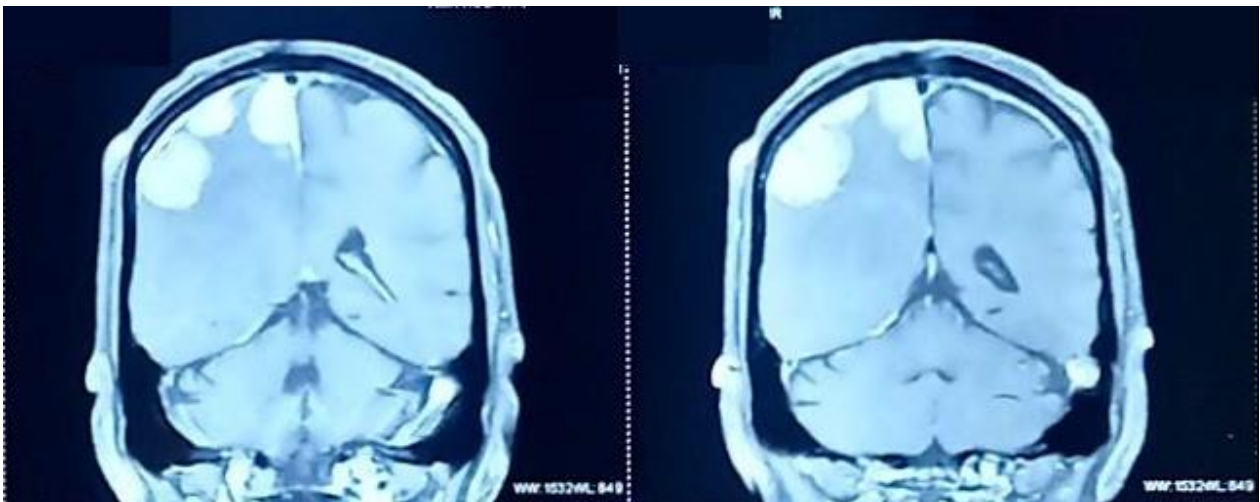


Figure 3. Preoperative MRI of the brain, coronal sections.



Figure 4. Preoperative MRI of the brain, coronal sections.

Radiological assessment: MRI brain (contrast)

1. Right-sided parasagittal and parieto-occipital lesions:

- Three distinct lesions were identified, isointense to grey matter on T1/T2W sequences with increased signal on FLAIR.
- Smallest: 1.5 × 1.5 cm (parasagittal).
- Intermediate: 3.0 × 2.0 cm (parietal).
- Largest: 6.8 × 4.5 cm (parieto-occipital).
- Effect: significant perilesional oedema and compression of the occipital horn of the right lateral ventricle.

2. Left sphenoid wing lesion:

- 1.0 × 1.5 cm
- Mild oedema
- No compression of adjacent structures

No radiological markers indicating NF2 (such as vestibular schwannomas) were observed.

MANAGEMENT STRATEGY

Surgical intervention

Due to mass effect and progressive neurological deficits, the symptomatic right-sided lesions were targeted for excision.

- Procedure: right parieto-occipital craniotomy and Simpson Grade II removal.
- Findings: three firm, well-circumscribed, dural-based tumours; the smaller one (1.5 × 1.5 cm) and the larger one (6.8 × 4.5 cm) were excised.
- Histopathology: WHO Grade I meningotheial meningioma with low proliferative index (Ki-67).

Conservative management

The smaller sphenoid wing lesion was asymptomatic and without mass effect, and was managed conservatively.

- Plan: radiological surveillance every 6 months.

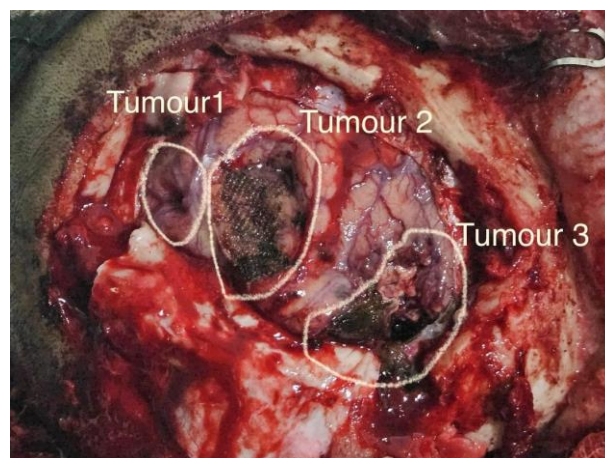


Figure 5. Intraoperative view after tumour excision.

OUTCOME AND FOLLOW-UP

Postoperatively, the patient showed significant clinical improvement. Headaches resolved, and left-sided weakness improved markedly. A 6-month follow-up MRI demonstrated:

- No recurrence of the resected meningiomas
- Stable size of the sphenoid wing lesion

The patient remains neurologically stable without new deficits.

DISCUSSION

Multiple meningiomas are increasingly recognized due to enhanced neuroimaging. In the Indian population, several institutional studies highlight similar patterns of presentation, with most lesions being WHO Grade I.[2]

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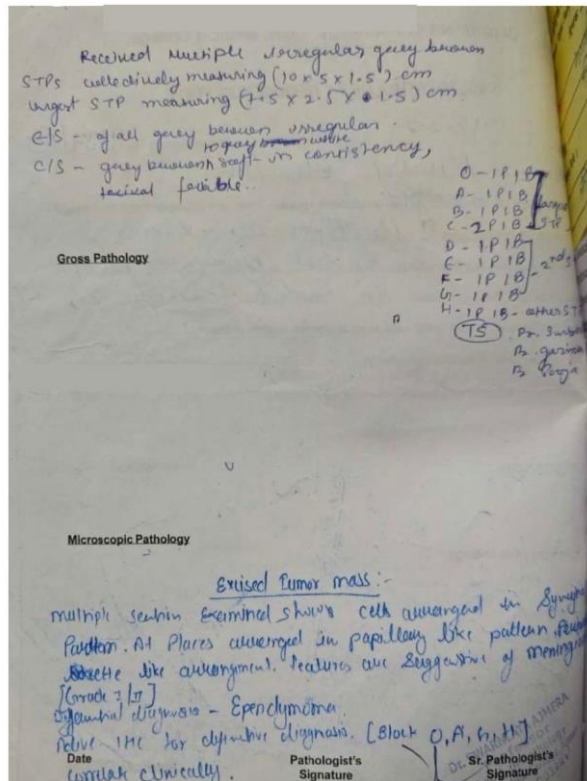


Figure 6. Histopathology report.



Figure 7. Postoperative surgical site.

Etiological considerations

The etiology of MM remains complex. While often associated with the NF2 gene on chromosome 22, sporadic cases in males without a history of radiation suggest a possible “multi-centric” origin theory where different clones of cells undergo neoplastic transformation.[1]

- Sporadic NF2 gene mutations
- Prior cranial radiation (not applicable in this case)
- Hormonal and environmental factors

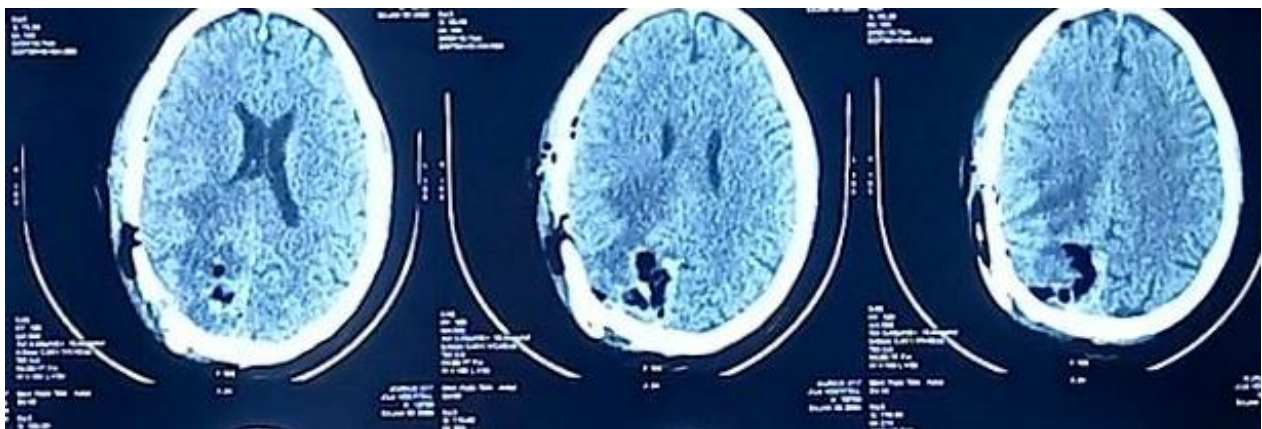


Figure 8. Postoperative non-contrast CT of the brain.

Clinical and diagnostic features

Symptoms are highly dependent on location. Parasagittal lesions often produce motor deficits due to proximity to the motor cortex or venous sinus involvement.[3] MRI with contrast remains the “gold

standard” for diagnosis, essential for differentiating MM from dural metastases or hemangiopericytoma. Symptoms correlate with tumor location and mass effect. Parasagittal lesions commonly produce motor deficits, as noted in this patient.

Management principles

The consensus in Indian neurosurgical practice suggests:[4,5]

- Symptomatic or enlarging tumour → immediate surgical excision.
- Small, asymptomatic tumour → observation with regular imaging.
- Long-term MRI surveillance is essential as new lesions may develop over decades.

CONCLUSION

This case highlights that multiple meningiomas can occur sporadically in males even in the absence of classical risk factors and require individualized treatment. A staged or selective surgical excision of symptomatic lesions combined with vigilant observation of smaller lesions provides excellent outcomes and prognosis and maintains the patient's quality of life. Regular follow-up is crucial to detect future progression.

Patient consent

Informed consent was obtained from the patient for the publication of this case and associated images.

Conflict of interest

The authors have no conflicts of interest to disclose.

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