

Does Putting Back Hyperostotic Bone Flap in Meningioma Operation Cause Tumor Recurrence? An
Observational Study

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Introduction

Replacing the skull defect with synthetic materials for hyperostotic bone secondary to meningioma operation is recommended due to the possibility of tumour invasion. In our center neurosurgeons are putting back the refashioned hyperostotic bone flap after meningioma excision due to budget constraint.

Learning Objectives

Tumour recurrence surveillance using refashioned hyperostotic bone flap cranioplasty.

Methods

This prospective observational study was conducted from 2011 to 2014, with selected intracranial meningioma patient. Pre-operative computed tomography brain (CTB) scans were done in all patients and reviewed during the preoperative rounds to confirm bony hyperostosis. Intraoperatively part of the hyperostotic bone was sent for histopathological examination. The rest of the bone was refashioned by drilling off the hyperostotic part. The flap was put back over the craniotomy site after soaking in distilled water. All these patients were followed up in our neurosurgery clinic for any tumor recurrence.

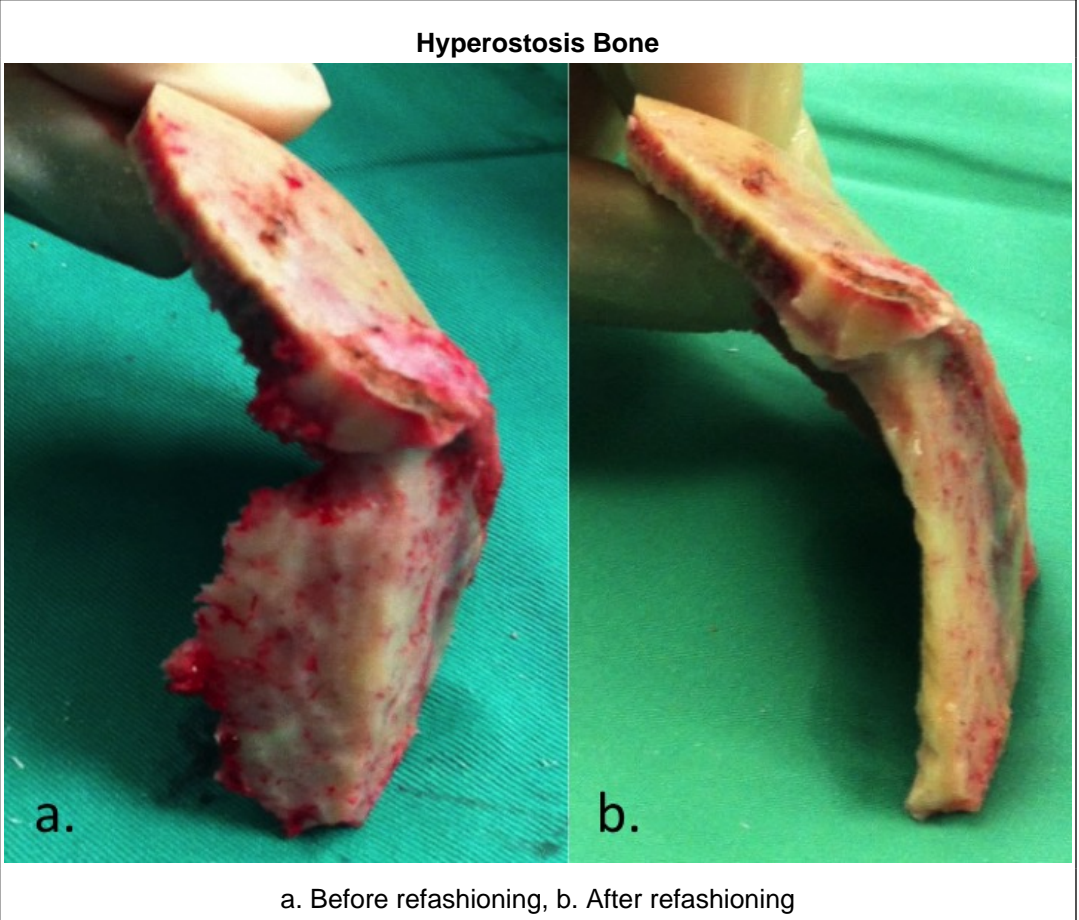
Results

This study included 16 patients with meningioma WHO grade I with Simpson I-II excision. Radiological evidence of hyperostosis was present in all patients. On histopathological examination, tumor invasion of the bone was seen in 8 (50%) patients. No recurrence was seen over a mean follow-up of 24.25 months (range 9-48 months). One of the patients needed to have the refashioned bone flap removed 1 year after operation due to infection.

n=16		
Bone Tumour Invasion		
Simpson		
	Present	Absent
	I	6
II	2	3

Conclusions

Autologous cranioplasty with refashioned hyperostotic bone in meningioma cases has not shown any tumor recurrence with a mean follow-up of 24.25 months. A larger number of patients with a longer duration of follow-up are needed in order to yield a more significant result.



References

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