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Neoplasm

Ventral petrous meningiomas: unique tumors

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Abstract



Introduction

This study aims to analyze our experience with petrous meningiomas (PM), testing the hypothesis that these tumors have different histologic subtypes and operative outcome depending on the site of origin in reference to the internal auditory canal (IAC).

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Methods

Fifty-eight patients with PM were reviewed retrospectively. Tumors were classified as posterior (PPM; n = 29), superior (SPM; n = 8), and ventral petrous (VPM; n = 19), in reference to the IAC. Two patients had multiple meningiomas arising from different parts of the petrous bone. Petroclival, clival, and jugular tubercle meningiomas were excluded. All patients were operated through a suboccipital retrosigmoid approach. Clinical presentation, tumor size, involvement of IAC, extent of resection, outcome, and tumor histology were analyzed.

Results

Simpson grade I and II resection was achieved in 84.5%: 96.6% in PPM, 100% in SPM, and 57.9% in VPM. Fibrous histology accounted for 69% in PPM, 62% in SPM, and only 10.5% in VPM, whereas meningothelial histology was seen 27.6%, 25%, and 68.4%, respectively. Postoperative hearing loss was the most frequent operative complication, and was seen in 31.6% of VPM, as compared to none in PPM or SPM.

Conclusions

Ventral petrous meningiomas are clearly different tumors in their histology and operative outcome. The predominance of meningothelial histology in this location may imply a different tumorigenesis as compared to other PM. Ventral petrous meningiomas should be viewed as a distinct group of tumors.

Keywords: Histology; Internal auditory canal; Meningioma; Outcome; Petrous

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References

This study was presented at the 18th Annual Meeting of the North American Skull Base Society in Chicago, Ill, on May 26, 2007.



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