

Microsurgical Pearls In The Operative Management of Petroclival Meningioma

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Objectives

A retrospective analysis of 129 cases of petroclival-premeatal meningiomas surgically managed in our institute for 25 years from from 1st Jan 1990 was carried out to see the outcome with various approaches.

Material & Methods

While tumor resection was carried through an anterolateral/lateral route in 35(23%), it was through a combined posterior subtemporal /pre or trans-sigmoid (posterior petrosal) in 24(19%) & retrosigmoid supra-paracerebellar route in 61 cases (47%). In three cases with extra cranial extension to infratemporal area, a modified Fisch approach was used. Six patients who were in poor clinical condition had only a CSF diversionary procedure. The tumor could be radically removed in 78 patients (63%), subtotally in 27 (22%) and decompression only in 11. Seven patients had tumor excision in two stages. There was an operative mortality of 7.7% (10 cases).

Results

Forty three of the 59 patients who underwent surgical decompression since Jan 2004 were operated by the retrosigmoid route and operative mortality for this group of 53 patients have been 3.3%(2 cases). There was only one operative mortality among the last 43 cases operated by the retrosigmoid route. Out of the 97 patients on long term follow up 67 are independent. Eleven out of the thirteen patients who had symptomatic recurrence were re-operated. Discussion: The classical petroclival (medial to 5th nerve) and the premeatal anterior petrous meningiomas (medial to 7th & 8th, lateral to 5th nerve) both displace cranial nerves VII and VIII posteriorly and inferiorly. Although petrosal approaches have contributed significantly to improve tumour resectability, experience directed us towards simpler and safer retrosigmoid para-supracerebellar approach whenever feasible. The anatomic space between the cranial nerves is relatively narrow, but large tumors widen this corridor to allow safe manipulation. For tumors with significant middle fossa extension, we use extended middle fossa approach.

Conclusion

The percentage of these tumors operated by conventional retrosigmoid route has increased in the later part of the series thus proving that in many of these tumors without significant middle fossa extension, it is not necessary to use complex and time-consuming skull base approaches which in themselves can cause morbidity.