

Comparative Analysis of Clinical Outcomes - Cerebellopontine Angle Meningioma versus Cerebellopontine Angle Schwannoma: A Retrospective Insight from Pakistan

BACKGROUND

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- Meningiomas are the second most common space-occupying lesions (SOLs) in the cerebellopontine angle (CPA), after schwannomas.¹
- No prior studies have examined tissue-based differences in outcomes for these neoplasms using the retrosigmoid approach.

OBJECTIVE

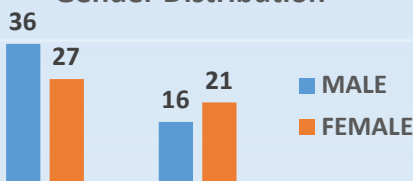
To evaluate tumor characteristics and surgical outcomes based on gross tumor histopathological features.

METHODOLOGY

- Retrospective observational study.
- Department of Neurosurgery in Punjab Institute of Neurosciences - CPA space-occupying lesions (SOL), between 2021 and 2024.
- The chi-square test was used to determine any significant differences between Schwannomas and meningiomas in terms of tumor; Consistency, Vascularity, Extent of resection, and Postoperative complications

RESULTS

Gender Distribution



DISCUSSION

Meningiomas were 59.5 % (22) soft and only 13.5 % (5) were hard, variance in histopathological types can account for variability in consistency of tumor. Little *et al.* reported a reduced percentage of GTR in fibrous consistency tumors, with higher (41%) rates of post-operative CN deficit.² Fibrous tumors are known to be hard and difficult to excise. They are, hence, prone to cause more damage to the nearby structures. Rizk *et al.* reported 65% soft and 35 % firm VS, additionally facial function was better in soft tumors.³

REFERENCES

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VARIABLES	SCHWANNOMA	MENINGIOMA
Mean Age	37.7±13.4	39.3±13.1
Consistency, % (n)		
Soft	76.20(48)	59.50(22)
Firm	9.50(6)	27.00(10)
Hard	14.30(9)	13.50(5)
Vascularity, % (n)		
Mild	15.90(10)	32.40(12)
Moderate	66.70(42)	48.60(18)
High	17.50(11)	16.20(6)
Avascular	0(0)	2.70(1)
Extent of Resection, % (n)		
GTR	88.90(56)	100(37)
NTR	1.60(1)	0(0)
STR	9.50(6)	0(0)
Post-op GCS, % (n)		
3-8	0(0)	0(0)
9-12	19.00(12)	2.70(1)
13-15	81.00(51)	97.30(36)
Complications, % (n)		
Facial nerve weakness	15.90(10)	0(0)
Absent gag	38.10(24)	5.40(2)
CSF leak	0(0)	0(0)
Post-op KPS	76.3±15.4	88.6±10.8
CSF diversion % (n)	Nil	13.50(5)

- Schwannoma were more likely to have postoperative facial nerve weakness and loss of gag reflex in comparison to meningiomas, i.e., $\chi^2(1) = 6.52$ $p = 0.007$ and $\chi^2(1) = 12.94$, $p = 0.000$, respectively
- On the other hand, no significant differences in tumor consistency, vascularity, and extent of resection were observed

CONCLUSION

Schwannomas were more likely to have postoperative facial nerve weakness and loss of gag reflex in comparison to meningiomas.

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