Efficacy of the Interhemispheric Approach for Excision of Craniopharyngiomas in Pediatric Patients

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Introduction

The goals of surgery in childhood craniopharyngioma have been the subject of much debate. The interhemispheric transcallosal approach has been advocated for difficult cases with third ventricular extension and hypothalamic involvement. This study assesses the efficacy of this approach.

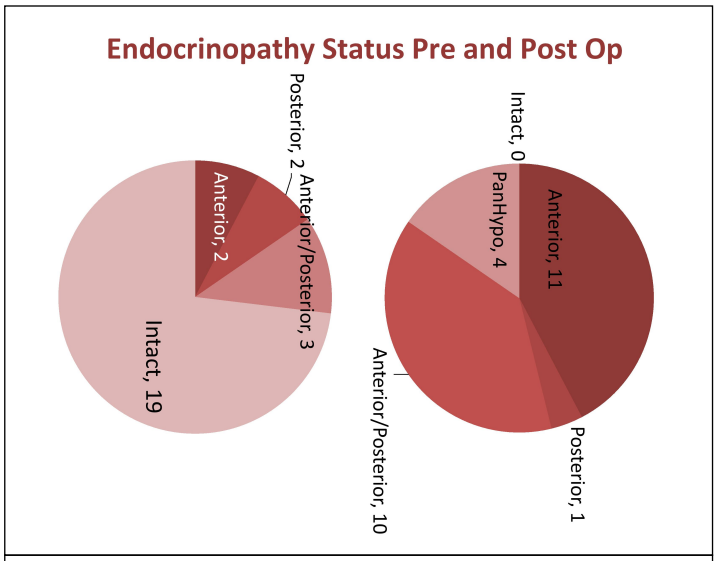
Methods An institutional retrospective review was performed on all children operated on for craniopharyngiomas with an interhemispheric approach from April 1998 to July 2013.

Table 1: Patient Demographics

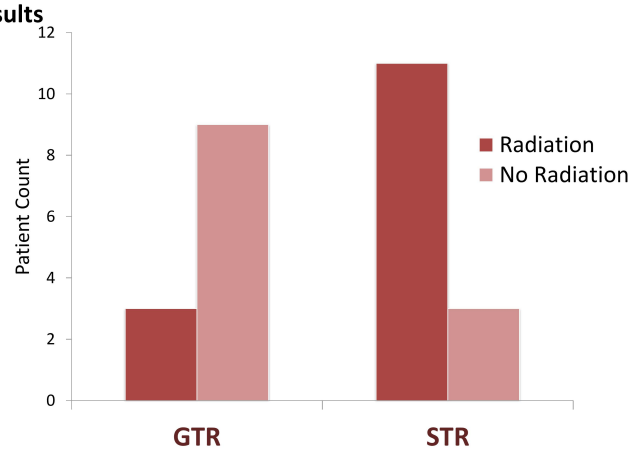
Male	14
Female	12
Median age (months)	100
Median follow up time (months)	27

Table 2: Surgeries and Follow-Up

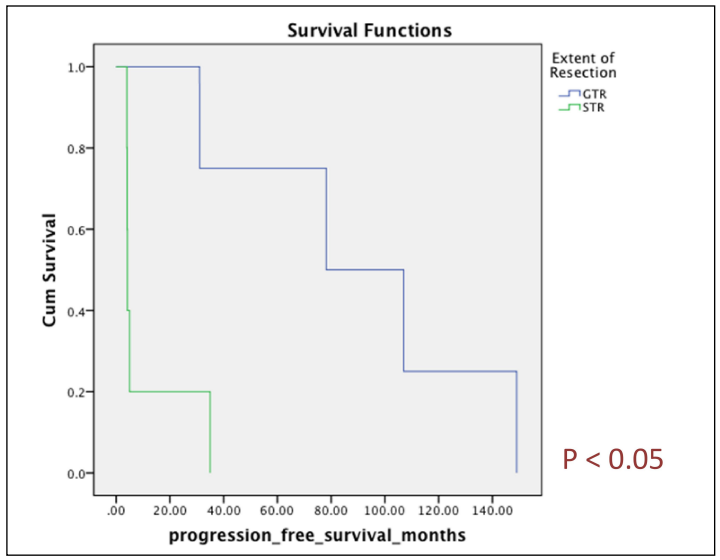
Factor	Count
GTR	12
STR	14
Radiation	7
New Endocrinopathy	18
Obesity	11
New Visual Dysfunction	2
Recurrence	9
Second Surgery	7
Transsphenoidal	4
Pterional	2
Frontotemporal	1



Results



Contingency Analysis of Postoperative Radiation Rates and Extent of Resection: $p < 0.05$



Two of the patients with a second surgery also underwent a third surgery; in both cases a pterional approach was implemented. One of these patients had a fourth surgery, pterional. Median progression free survival times for patients who had undergone GTR and STR were 153 and 4 months, respectively ($p < 0.05$, Kaplan-Meier). Mean progresstion-free survival times for patients who had undergone radiation and for those who did not were 90 and 34 months, respectively, although this difference is not statistically significant.

Conclusions

The interhemispheric transcallosal approach can be used to treat difficult craniopharyngiomas with third ventricular and hypothalamic involvement. Treatment outcomes are acceptable and comparable to those of the transspheniodal, pterional, and frontotemporal approaches.

References

Jeeves, M.A., Simpson, D.A., and Geffen, G. (1979). Functional consequences of the transcallosal removal of intraventricular tumours. *Journal of Neurology, Neurosurgery and Psychiatry.* **42**. 134-142.