Posteriorly Displaced and Lateralized Components of Craniopharyngiomas in Children: Considerations in Modifying Current Classifications.

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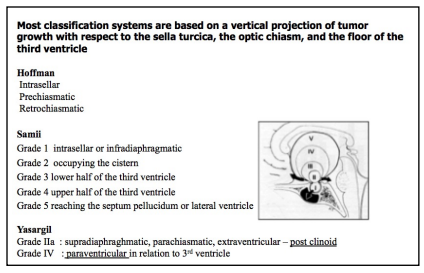
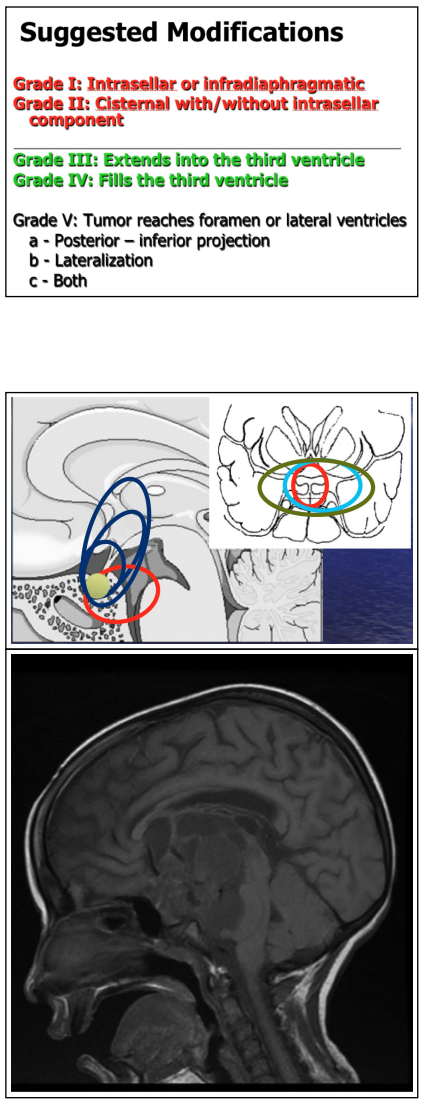
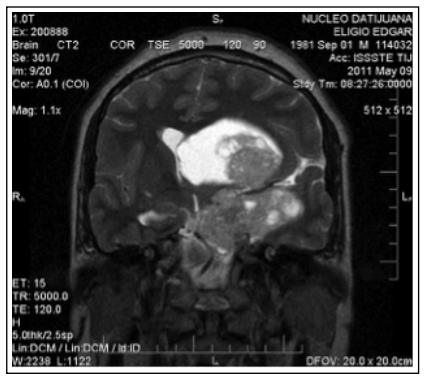
CNS 2016 ANNUAL MEETING San Diego CALIFORNIA SEPTEMBER 24-28, 2016

Introduction

There is no classification of craniopharyngiomas in children that adequately assesses the potential impact of posterior - inferior tumor projection, tumor lateralization, or both, on the clinical outcome following surgical resection. Currently most classification systems of craniopharyngioma are based on a vertical projection of tumor growth with respect to the sella turcica, the optic chiasm, and the floor of the third ventricle. We propose a modification to existing classifications to better describe tumor extent, which should allow for a better understanding of morbidity/mortality related to the resection and may clarify the most appropriate surgical approach.







Results

There were 26 males (mean age = 78.6 ± 56.2 months).We found no relationship between the volume of tumor in the 3rd ventricle and extent of resection ($p > 0.052$) or between hypothalamic injury and grade using the modified classification. Though suggestive, we also found no relationship between optic nerve injury and lateralization ($p > 0.01$) or posterior extent ($p > 0.01$). We found a direct relationship between the incidence of vascular injury /exacerbation of hypothalamic injury and tumor lateralization ($p < 0.01$).

Methods

In the senior author's series of 80 patients, only those undergoing a first time approach utilizing an orbitozygomatic approach were included. Of 54 initial approaches, 37 were included for review. Patients with secondary approaches, undergoing initial combined approaches, or undergoing trans-nasal approaches were not included.

Conclusions

We suggest modifications to the current Yasargil classification would better describe those tumors that are lateralized and/or posterior given the additional complexity associated with approach and resection. We suggest the addition of subclassifications of lateralization (A), posterior extent (B), and both (C) to Yasargil Grade III, IV, and V tumors. Such classification would more accurately describe tumor extent and complexity, and provide for a better understanding of morbidity/mortality when these variables are present.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) contrast the current classification of craniopharyngiomas with the proposed modifications and 2) understand the anatomic and surgical implications of utilizing the modified classification.

References

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