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Background: This study aimed to examine the surgical, oncologic, and developmental results of infants and children undergoing extirpation of skull base tumors.

Methods: Seventy seven children aged 0.5 to 18 years (mean, 11 years) who were operated on during a 410-year period made up the study cohort.

Twenty four (31%) involved malignant tumors, and 53 (69%) involved benign tumors. The most common benign tumors were craniopharyngioma (n = 10) and juvenile nasopharyngeal angiofibroma (n = 9).

The most common malignant tumor was sarcoma (n = 14). 42 (55%) involved the anterior skull base, and the rest involved the lateral (n = 24) and posterior (n = 7) skull base.

Subcranial, transfacial, and subfrontal approaches were used for extirpation of anterior skull base tumors. Voluminous or malignant tumors were excised by use of combined approaches (subcranial-transfacial, subcranial-degloving, or pterional-degloving). Twenty-two children underwent adjuvant therapy (chemotherapy, radiation, or both).

Postoperative follow-up was 3 to 60 months.

Results: No severe postoperative complications (ie, meningitis, cerebrospinal fluid leak, tension pneumocephalus) and no perioperative mortality occurred. Two and a half years later, 64 of the children (80%) are alive and well.

Five children, two with optic glioma and one each with squamous cell carcinoma, ependymoma, and germinoma, have died of their disease. The subcranial approach had no cosmetic impact on the craniofacial development of the patients.

Conclusion: The extirpation of skull base tumors by use of conventional surgical techniques is feasible and safe among infants and children. The complication and mortality rates are lower than those in adults. The long-term cosmetic effect of the subcranial approach is negligible.

References

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