Microsurgical resection of extensive craniopharyngiomas using a frontolateral approach: operative technique and outcome.

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Abstract

Object An extensive craniopharyngioma is a tumor that extends into multiple compartments (subarachnoid spaces) and attains a size larger than 4 cm. A wide spectrum of approaches and strategies has been used for resection of such craniopharyngiomas. In this report the authors focused on the feasibility and efficacy of microsurgical resection of extensive craniopharyngiomas using a frontolateral approach. Methods A retrospective analysis was performed on 16 patients with extensive craniopharyngiomas who underwent operations using a frontolateral approach at one institution. The preoperative and postoperative clinical and radiological data, as well as the operative videos, were reviewed. The main focus of the review was the extent of radical tumor removal, early postoperative outcome, and approach-related complications. Results Gross-total resection of craniopharyngioma was achieved in 14 (87.5%) of 16 cases. Early after surgery (within 3 months), 1 patient showed improvement in hormonal status, while in the remaining 15 patients it worsened. No major neurological morbidity was observed. Two patients experienced temporary psychotic disorders. Visual function improved in 6 patients and remained unchanged in 9. One patient experienced a new bitemporal hemianopsia. Three patients with features of short-term memory disturbances at presentation did show improvement after surgery. There were no deaths or significant approach-related morbidity in this patient series. Only 1 patient required revision surgery for a CSF leak. Conclusions The safe and simple frontolateral approach provides adequate access even to extensive craniopharyngiomas and enables their complete removal with a reasonable morbidity and approach-related complication rate.

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