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Indication and limitations of endoscopic extended transsphenoidal surgery for craniopharyngioma

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The transsphenoidal approach has been utilized in intrasellar craniopharyngioma surgeries. However, the advent of endoscopic extended transsphenoidal approach (EETSA) has expanded its indication to suprasellar craniopharyngiomas. We compared the indication and limitations of EETSA to those of unilateral basal interhemispheric approach (UBIHA), which presents similar indications for surgery. We analyzed 30 patients with tumors located below the foramen of Monro and the lateral boundary extending slightly beyond the internal carotid artery (UBIHA: N = 18; EETSA: N = 12). Postoperative MRI revealed gross total resection in 10 patients in the EETSA group (83.3%) and 12 in the UBIHA group (66.7%). Postoperative MRI in the EETSA group revealed residual tumor at the cavernous sinus in one patient, at the prepontine in one; in the UBIHA group, residual tumors were located in the retrochiasmatic area in two patients, infundibulum-hypothalamus in one, on the stalk in one, and in the intrasellar region in two. No intergroup differences were observed in the preservation of pituitary function and postoperative improvement of visual function. The extent of resection was better with EETSA than with UBIHA. EETSA is considered the first-line therapy because the distance between the optic chiasm and the superior border of the pituitary is large; the lateral extension does not go beyond the internal carotid artery; and the tumor does not extend inferiorly beyond the posterior clinoid process. However, in patients showing poorly developed sphenoid sinuses or pituitary stalks anterior to the tumor, surgery is difficult regardless of the selection criteria.

Biography

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