Tuberculum Sellae Meningioma Outcome

Although benign, they are associated with substantial morbidity, especially visual disturbance. At present, there are three main treatment options for patients with tuberculum sellae meningiomas: observational, with serial imaging follow; microsurgical resection; and stereotactic radiosurgery. The advantages of the supraorbital eyebrow craniotomy are the direct visualization of the anterior cranial fossa, anterior circulation, and the optical apparatus, reducing the extent of brain retraction, and the absence of risks of temporalis muscle hypotrophy and posterior chewing discomfort ¹⁾.

During the macrosurgical era, visual improvement varied between 40% and 63% ^{2) 3) 4)}.

The range of improvement rates in microsurgical series is 25%–80% ^{5) 6) 7) 8) 9) 10).}

In the series of Seol et al., seventy-four of 86 patients (86 %) underwent total removal of the tumor. In three of these cases (3.4 %), recurrence developed. Thirty patients were classified into the "Excellent" group, 21 into the "Good" group, 20 into the "Fair" group, and 15 into the "Poor" group. In multivariate analysis, adhesion to optic nerve was an independent and significant predictor of clinical outcome. Favorable visual outcomes in both short- and long-term postoperative periods were achieved in 80.8 % of cases. Preoperative and short-term visual outcomes were closely related to long-term visual outcome. Six of eight patients with preoperative CF status showed reversibility to a serviceable status after surgery. However, there was no conversion to serviceable status from no perception of light (NPL), to hand movement (HM) ¹¹.

Han et al., hypothesized that changes in visual function after tumor removal may be related to changes in blood supply to the optic nerve that might be seen in the pial circulation at surgery. Indocyanine green (ICG) angiography was used to attempt to document these changes at surgery. The first patient in whom the technique was used had a left-sided, 1.4-cm, tuberculum meningioma. Time-lapse comparison of images was done postsurgery, and the comparison of video images revealed both faster initial filling and earlier complete filling of the ON pial circulation, suggesting improved pial blood flow after surgical decompression. In follow-up the patient had significant improvements in both visual acuity and visual fields function. Intraoperative ICG angiography of the ON can demonstrate measurable changes in pial vascular flow that may be predictive of postoperative visual outcome. The predictive value of this technique during neurosurgical procedures around the optic apparatus warrants further investigation in a larger cohort ¹².

Endocrinopathy

The pooled incidence of postoperative transient diabetes insipidus (DI) was 7.5% (95% CI 2.9-12%; p = 0.001; I2 = 75.9%) and permanent DI was 1.6% (95% CI 0.3-2.7%; p = 0.01; I2 = 0%). The pooled rate of postoperative hypopituitarism was 3.6% (95% CI 1.6-5.7%; p < 0.001; I2 = 22.2%), while the incidence of hyperprolactinemia was 1.3% (95% CI 0.1 = 2.6%; p = 0.036; I2 = 8.74%). The incidence of SIADH was 4% in one study but was not included in the meta-analysis. Endocrinopathy after TSM microsurgical resection is rare, but the available studies' poor quality of evidence and inconsistent

methodology may reflect that it is underreported in the literature. Nevertheless, clinicians should consider the risk of hormonal impairment and counsel their patients accordingly when selecting a TCA for these lesions ¹³.

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