

approach type, reconstruction technique, tumor pathology and outcomes were collected. Results: Forty-six patients underwent transclival EEA. The majority had ASA scores II and III (71.7%), with clival chordomas being the most common pathology (37%). Cranial nerve impairment was present in 65% of patients, and 80% showed improvement post-surgery. The mean procedure duration was 308 minutes, with a mean blood loss of 424 mL. A lumbar drain was used in 10.9%, and 76.1% received a pedicled nasoseptal flap for reconstruction. Complete tumor resection was achieved in 74% of malignant cases. Postoperative CSF leaks occurred in 4.3%, and the mean length of stay was 12.2 days. Higher readmission rates were associated with ASA IV classification ($p=0.006$). Conclusions: EEA to the clival region is safe and effective, with low perioperative complications and high rates of postoperative improvement.

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Endoscopic endonasal approaches for the resection of anterior skull base meningiomas

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Background: This study aims to review the clinical outcomes, extent of resection, complications, and prognostic factors in patients undergoing endonasal endoscopic resection (EEA) of anterior cranial base meningiomas. Methods: We conducted a retrospective review of 25 patients who underwent EEA resection of these lesions between 2001 and 2023. We assessed the extent of resection, complications, postoperative outcomes, and key technical aspects of the procedure. Results: 84% of patients were classified as ASA class III. Additionally, 64% of patients presented with visual disturbances. The mean blood loss was 472 ml. Intraoperative lumbar drains were used in 40% of cases, and dural sealants in 56%. A pedicled nasal flap was employed for reconstruction in 92% of cases. One vascular injury was documented, and 16% of patients developed a cerebrospinal fluid (CSF) leak in the postoperative period. The degree of resection varied according to tumor location. Prognostic factors for achieving gross total resection, functional improvement, and key factors for reconstruction are discussed. The rate of CSF leaks decreased dramatically in the later years of the series. Conclusions: Cranial base meningiomas can be successfully managed via a purely endoscopic endonasal approach, with acceptable morbidity and mortality rates.

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The role of indocyanine green fluorescence in the treatment of pituitary tumors

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Background: Biochemical cure in functional pituitary adenomas (FPA) is crucial for reducing patient morbidity and improving

quality of life following endoscopic endonasal procedures (EEA). The extent of resection plays a key role in achieving these outcomes. However, even with the aid of intraoperative navigation, complete resection of tumor components can be challenging due to the difficulty in distinguishing them from normal pituitary tissue. Indocyanine green (ICG) fluorescence has been used effectively in various cranial and spinal procedures, but its role in endoscopic skull base surgery has not yet been routinely established. Methods: In this study, we describe our experience using ICG during EEA for the resection of FPA. Results: We discuss the fluorescence profiles of both adenomas and normal gland tissue. ICG helped identify additional tumor tissue that was not initially detected after macroscopic adenoma resection. It also allowed for perfusion assessment of the pituitary gland and nasoseptal flaps. No complications were observed following the ICG injection, and biochemical cure was achieved in more than 90% of cases. Conclusions: Our experience suggests that ICG is a safe and promising tool, improving both the extent of resection and endocrinologic outcomes in patients undergoing EEA for FPA.

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TERT expression predicts progression-free survival in meningiomas

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Background: TERT promoter mutation (TPM) is an established biomarker in meningiomas associated with aberrant TERT expression and reduced progression-free survival (PFS). TERT expression, however, has also been observed even in tumours with wildtype TERT promoters (TP-WT). This study aimed to examine TERT expression and clinical outcomes in meningiomas. Methods: TERT expression, TPM status, and TERT promoter methylation of a multi-institutional cohort of meningiomas ($n=1241$) was assessed through bulk RNA sequencing ($n=604$), Sanger sequencing of the promoter ($n=1095$), and methylation profiling ($n=1218$). 380 Toronto meningiomas were used for discovery, and 861 external institution samples were compiled as a validation cohort. Results: Both TPMs and TERT promoter methylation were associated with increased TERT expression and may represent independent mechanisms of TERT reactivation. TERT expression was detected in 30.4% of meningiomas that lacked TPMs, was associated with higher WHO grades, and corresponded to shorter PFS, independent of grade and even among TP-WT tumours. TERT expression was associated with a shorter PFS equivalent to those of TERT-negative meningiomas of one higher grade. Conclusions: Our findings highlight the prognostic significance of TERT expression in meningiomas,