Planum sphenoidale meningioma systematic reviews

Meningiomas of the tuberculum sellae (TS) and planum sphenoidale (PS) are challenging to treat surgically. Transcranial approaches (TCAs) were the mainstay before endoscopic endonasal approaches (EEA) were developed, however, the efficacy and safety of EEA approaches relative to TCA approaches remains unclear.

Jimenez et al. conducted a PRISMA-compliant systematic review of existing literature detailing the outcomes of both approaches. PubMed, Embase, Cochrane Library, and Clinicaltrials.gov were searched. Studies were included if they analyzed TS and/or PS meningiomas, included \geq 5 patients, and reported at least one outcome of interest.

Results: Overall, 44 retrospective studies met inclusion criteria, the majority being from single centers, between 2004 and 2020. In studies directly comparing postoperative outcomes among TCA and EEA approaches, EEA had significantly higher odds of visual improvement (OR = 3.24, p = 0.0053) and significantly higher odds of CSF leak (OR = 3.71, p = 0.0098) relative to TCA. Further, there were no significant differences between visual worsening (p = 0.17), complications (p = 0.51), and GTR rates (p = 0.30) for the two approaches. Meta-analysis demonstrated no significant association between nasoseptal flap (NSF) use and postoperative outcomes among EEA patients. There was also no significant association between study publication year and postoperative EEA outcomes.

The present study demonstrates that EEA offers a viable alternative to TCA in the treatment of suprasellar meningiomas. In particular, EEA shows promise for superior visual outcomes, though postoperative CSF leaks are an important consideration among patients undergoing this approach ¹⁾.

Jimenez AE, Harrison Snyder M, Rabinovich EP, Malkawi D, Chakravarti S, Wei O, Cheshire M, Carrie Price MLS, Khalafallah AM, Rowan NR, Mukherjee D. Comparison and evolution of transcranial versus endoscopic endonasal approaches for suprasellar Meningiomas: A systematic review. J Clin Neurosci. 2022 May;99:302-310. doi: 10.1016/j.jocn.2022.03.029. Epub 2022 Mar 21. PMID: 35325729.

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