Anterior skull base meningioma treatment

History

see http://thejns.org/doi/pdf/10.3171/2014.1.FOCUS13569

Systematic review

A systematic review of the literature from 2004 and meta-analysis were conducted in accordance with the PRISMA guidelines for Anterior skull base meningiomas. Pooled incidence was calculated for gross total resection (GTR), visual improvement, cerebrospinal fluid (CSF) leak, intraoperative arterial injury, and mortality, comparing endonasal transsphenoidal approach (eTSA) and microsurgical transcranial approach (mTCA), with p-interaction values.

Of 1684 studies, 64 case series were included in the meta-analysis. Using the fixed-effects model, the GTR rate was significantly higher among mTCA patients for OGM (eTSA: 70.9% vs. mTCA: 88.5%, p-interaction < 0.01), but not significantly higher for TSM (eTSA: 83.0% vs. mTCA: 85.8%, p-interaction = 0.34). Despite considerable heterogeneity, visual improvement was higher for eTSA than mTCA for TSM (p-interaction < 0.01), but not for OGM (p-interaction = 0.33). CSF leak was significantly higher among eTSA patients for both OGM (eTSA: 25.1% vs. mTCA: 10.5%, p-interaction < 0.01) and TSM (eTSA: 19.3%, vs. mTCA: 5.81%, p-interaction < 0.01). Intraoperative arterial injury was higher among eTSA (4.89%) than mTCA patients (1.86%) for TSM (p-interaction = 0.03), but not for OGM resection (p-interaction = 0.10). Mortality was not significantly different between eTSA and mTCA patients for both TSM (p-interaction = 0.14) and OGM resection (p-interaction = 0.88). Random-effect models yielded similar results.

In this meta-analysis, eTSA was not shown to be superior to mTCA for resection of both OGMs and TSMs $^{\scriptscriptstyle 1\!\!)}$

Surgery

Anterior skull base meningioma surgery

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Muskens IS, Briceno V, Ouwehand TL, Castlen JP, Gormley WB, Aglio LS, Zamanipoor Najafabadi AH, van Furth WR, Smith TR, Mekary RA, Broekman MLD. The endoscopic endonasal approach is not superior to the microscopic transcranial approach for anterior skull base meningiomas-a metaanalysis. Acta Neurochir (Wien). 2017 Nov 10. doi: 10.1007/s00701-017-3390-y. [Epub ahead of print] PubMed PMID: 29127655.

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