CSF Leaks after Endoscopic Skull Base Surgery: A Single Institution Experience

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Objective: To review our experience with endoscopic endonasal skull base reconstruction.

Materials and Methods: A retrospective review of a single-institution endoscopic endonasal patient database from 2014-2019. The CSF leaks were graded based on defect size from 0 (no leak) to 2. The reconstruction method was documented for all patients.

Results: There were in total 341 endoscopic endonasal operations for performed parasellar pathology. The pathology was: pituitary adenomas (85%), craniopharyngioma (1.1%), meningioma (2.9%), malignant tumors (0.5%) and other (9.9%). The total postoperative CSF leaks rates were 8.7%, and meningitis rates were 4.4%. The vast majority of CSF leaks were in the first 2 years of endoscopic endonasal skull base surgery. The flaps that were used: nasoseptal flap, middle turbinate flap (vascularized), free mucosal graft, fat graft and fat plug and the combination of these matherials.

Conclusion: Reconstruction of skull base defects is of uttermost importance in the prevention of meningitis. There is a slow learning curve in achieving the surgical skills for endoscopic endonasal skull base surgery. The nasoseptal flap is the “work-horse” for anterior skull base reconstruction.

Key words: CSF leak, endoscopic skull base, nasoseptal flap, parasellar endoscopic surgery