

There are many options for dural reconstruction following endoscopic pituitary surgery and the pedicled naso-septal flap has significantly reduced reported CSF leak rates. However for standard pituitary surgery a nasoseptal flap is often not required and adds significant time to the procedure with additional potential nasal morbidity. This study aims to review the use of free middle turbinate mucosa for reconstruction following resection of pituitary adenomas.

A prospective study of a consecutive cohort of patients undergoing endoscopic endonasal pituitary surgery for pituitary adenoma. Patients having revision surgery were excluded. Patients with giant macroadenomas where a high flow CSF leak was anticipated underwent naso-septal flap reconstruction and were excluded from the study. All other patients had resection of the right middle turbinate during endonasal access and the harvested free mucosa was used to close the sella defect. The reconstruction algorithm used by the senior author is outlined in Table 1. The middle turbinate mucosa was used to cover the sella defect, with fibrin glue used to adhere the edges. The sphenoid was then packed with gelfoam in the same manner as a nasoseptal flap reconstruction. No fat grafts were used. Where the arachnoid was breached, a layer of duragen was placed inside the sella against the diaphragma. No nasal packing was used and no post-operative nasal foley catheter. All patients were reviewed clinically at 6 weeks and 6 months post-operatively.

32 adult patients were included in the current study, 9 microadenomas (28%) and 23 macroadenomas (72%) (Figure 2). The rate of gross total resection confirmed on post-operative MRI was 87.5%. No patients in this series experienced post-operative CSF leak. The median post-operative length of stay was 2 days (range 1 - 5 days).

Figure 3

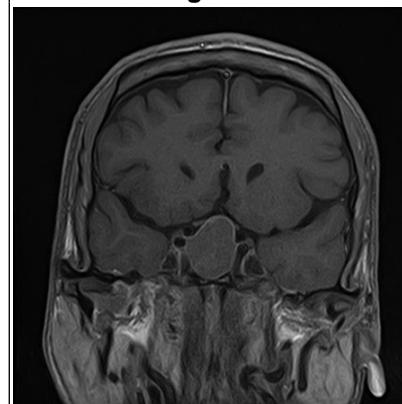
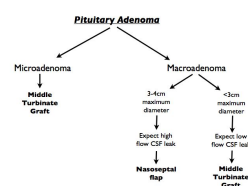


Figure 1

Surgical planning in deciding between a nasal septal flap versus middle turbinate Graft: Influencing factors are anatomy and the size of pituitary adenoma to help predict the CSF flow.



Surgical planning in decision making between a free middle turbinate mucosal graft versus a nasoseptal flap reconstruction after endoscopic endonasal surgery

Free middle turbinate mucosal grafting provides an excellent reconstruction technique in standard pituitary surgery, without the need for additional incisions to harvest fat or the need to raise a vascularised naso-septal flap.

By the conclusion of this session the participants should be able to discuss the options for dural reconstruction after endoscopic pituitary surgery

Graded repair of cranial base defects and cerebrospinal fluid leaks in transsphenoidal surgery.

Esposito F, Dusick JR, Fatemi N, Kelly DF. Neurosurgery. 2007 Apr;60(4 Suppl 2):295-303; discussion 303-4.