External nasal deformity

Surgeons have become increasingly aware of the impact of endoscopic endonasal surgery (EES) of the skull base on sinonasal-related quality of life. The prior retrospective investigation described a correlation between nasoseptal flap (NSF) reconstruction in EES with postoperative nasal deformities, such as nasal dorsum collapse.

Transsphenoidal surgery for sellar lesions may affect patency and function of the nasopharyngeal airways, smell and sinonasal quality of life.

In a prospective study, 68 patients scheduled for transsphenoidal operations (32 female, 36 male, age 17-72 years) underwent otorhinolaryngological evaluation of their nasal morphology, a standardized smell test (Sniffin' Sticks test) and rhinomanometry to analyze nasal breathing function preoperatively, 3-5 days postoperatively (without rhinomanometry), after 3-4 months and after 9 months.

Immediately after surgery, a reduction in smell sensation was detected in almost all patients. Within 3 months, this impairment resolved in all cases except one. In 2 patients (3%) with preoperative anosmia, improvement of smell function to > 6 out of 12 sniffin' sticks was observed. At the final visit, no patient was noted to have new anosmia. Within 3 months, the results of the rhinomanometry revealed that all patients except one regained their preoperative nasal breathing function. In 6 patients (8.8%) improvement in their nose breathing abilities compared to the preoperative state was found. Three patients (4.4%) underwent a LASER transection of mucosal synechiae. In one case with persistent nasal obstruction (1.5%), secondary septoplasty had to be performed. There was no case in which perforation of the nasal septum, nasal tip deflection, or external nasal deformity was observed.

Microsurgical resection of pituitary tumors via the endonasal transsphenoidal approach poses an acceptable risk with regards to sinonasal complications. The incidence of secondary rhinosurgical interventions is low. Standardized comparative studies between endoscopic and microsurgical transsphenoidal operations should be undertaken [1].

The primary objective of Rowan et al. was to prospectively evaluate the incidence of, and contributing factors to, postoperative changes in nasal structure following EES. Secondary goals included assessing subjective changes in nasal appearance as well as objective nasal analysis.

Clinical demographics and detailed perioperative information was prospectively collected for patients undergoing transsellar/suprasellar EES for skull-base tumors. Preoperatively, 1-month and 6-month photographs were completed for objective photographic nasal analysis and blinded assessment by surgeons. Subjective patient feedback was also solicited.

Overall, 14.7% (5/34) of patients subjectively reported postoperative nasal deformities, whereas both blinded-surgeon and objective nasal measurements identified deformities in 12.9% (4/31) of patients. Patients with postoperative deformities were more likely to have skull-base reconstruction with an NSF ($p = 0.01$) and trended toward an increased incidence in patients with nonpituitary neoplasms ($p = 0.07$). There were no other associations between clinical or operative characteristics and external deformities. No patients planned to undergo corrective repair.

External nasal deformities following EES are more frequent than previously acknowledged. Postoperative deformities appear to be associated with NSF reconstruction and may be associated with surgery for nonpituitary neoplasms. Patients should be counseled on this potential outcome, and future studies should investigate how to minimize postoperative sequela [2].

see also: Saddle nose deformity

References

1)
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Rowan NR, Valappil B, Chen J, Wang EW, Gardner PA, Snyderman CH. Prospective characterization of postoperative nasal deformities in patients undergoing endoscopic endonasal skull-base surgery. Int Forum Allergy Rhinol. 2019 Oct 30. doi: 10.1002/alr.22466. [Epub ahead of print] PubMed PMID: 31665569.