Rhinological Consequences after transsphenoidal approach

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].

A high incidence of nasal complications after conventional transsphenoidal surgery observed through examination and not reported spontaneously point to the need of otorhinolaryngological investigation complemented by nasal endoscopy in patients submitted to procedures through this route [2]

Olfactory dysfunction

The patients must be informed that their olfaction may be impaired [3].

Obstruction

The percentage of nasal obstruction and nasal crusting was 38% in Monnier's series evaluating the transvestibular transeptal approach [4].

Chronic nasal irritation was seen in only 2% of cases in Feigenbaun et al.'s series [5].

A study assessed the long-term impact of endoscopic skull base surgery on olfaction, sinonasal symptoms, mucociliary clearance time (MCT), and quality of life (QoL). Patients with pituitary neuroendocrine tumors underwent TTEA (n = 38), while patients with other benign parasellar tumours

who underwent an EEA with vascularised nasoseptal flap reconstruction (n = 17) were enrolled in this prospective study between 2009 and 2012. Sinonasal symptoms (Visual Analogue Scale), subjective olfactometry (Barcelona Smell Test-24, BAST-24), MCT (saccharin test), and QoL (short form SF-36, rhinosinusitis outcome measure/RSOM) were evaluated before, and 12 months after, surgery. At baseline, sinonasal symptoms, MCT, BAST-24, and QoL were similar between groups. Twelve months after surgery, both TTEA and EEA groups experienced smell impairment compared to baseline. Moreover, EEA (but not TTEA) patients reported increased posterior nasal discharge and longer MCTs compared to baseline. No significant changes in olfactometry or QoL were detected in either group 12 months after surgery. Over the long-term, expanded skull base surgery, using EEA, produced more sinonasal symptoms (including loss of smell) and longer MCTs than pituitary surgery (TTEA). EEA showed no long-term impact on smell test or QoL [6].

1)

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5)

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6)

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