

Tips and Tricks in Endoscopic Frontal Sinus

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Endoscopic sinus surgery (ESS) failure and frontal ostium (FO) stenosis are commonly due to inadequate or incomplete removal of ethmoid cells. Residual cells may be found in 10-96% of cases of revision sinus surgery. Furthermore, the frontal sinus outflow tract is the region where disease recurrence is most likely to occur. Frontal sinusotomy represents a risk to residual or newly created disease due to scarring, osteoneogenesis, middle turbinate or amputated superoanterior stump lateralization. Intraorbital or intracranial violation and anterior ethmoid artery injury are possible complications in this region. Exposure is crucial and it may be obtained by the punch-out procedure (Metson). The first step is the identification of the uppermost attachment of the uncinata process (the “vertical bar” of Stamm). Removing the dome of the terminal recess, the agger nasi cell, in most cases, provides surgeons with a clear view of the frontal ostium and, therefore, according to Wormald, it plays the key role in endoscopic frontal sinusotomy. The frontal cells, type 1, 2 and 3, according to Kuhn, or SAC, SAFC, SBC, SBFC according to the new terminology, are less commonly encountered. The intact bulla technique allows following the natural sinus outflow tract and, at the same time, it reduces the risk of injuring the anterior ethmoid artery (AEA). Pneumatized ethmoid bulla or SBFC, when contacted, anteriorly, the dome of the terminal recess, can extremely narrow the outflow tract and obstacle dissection. In these cases, the ethmoid bulla should be partially resected while leaving the superior attachment to the skull base before identifying the frontal ostium. The AEA is mostly located between the second and third lamella, posterior to the superior attachment of the bulla lamella and constitutes an optimal landmark. The evidence guiding the selection of patients who may benefit from more aggressive surgery is lacking. A type I-II drainage procedure (Draf) is recommended in the frontal sinuses with a large A–P diameter. The correct interpretation of the CT and preop rebuilding the 3D anatomy are mandatory in frontal sinusotomy, allowing to identify step by step the anatomic landmarks. It is important to use cutting instruments and not to grasp and pull out, and the anatomy must be followed, the anatomical route pre-designed by nature (Stammberger).

Key words: chronic rhino sinusitis, endoscopic sinus surgery, frontal sinus