Various paranasal sinuses anatomic variants have been described in the literature. Detailed knowledge of these variations is critical for surgeons performing functional endoscopic sinus surgery (FESS) and for the radiologist performing the preoperative work-up, in order to increase management outcome and to avoid potential complications. We describe two patients with a very rare undescribed yet anatomic variation that could potentially be dangerous during sinus – mainly FESS- surgery which consists in a bony septum crossing the upper part of the maxillary sinus and the infraorbital nerve being located within this septum.

Case reports

The first patient is a 61-year-old lady (Fig. 1,2) complaining of non specific symptoms of nasal obstruction. A CT scan of the sinus was performed, with no signs of chronic sinusitis but it showed in the right maxillary sinus a septum crossing its anterior-superior portion (Fig 1B,C, Fig 2). The infraorbital nerve is located in this septum.

The second patient is a 72-year-old male admitted in our emergency department with suspicion of cerebral infarction. The sinus findings are incidental but showed bilaterally a septum in the anterior and superior part of the maxillary sinus with an ectopic infraorbital nerve located in the septum (Fig.3).

Discussion

FESS is one of the most commonly performed procedures by otolaryngologists. However, the procedure has many potential complications. It is essential that the anatomic sinonasal variations be clearly described in all sinonasal CT imaging.

The preoperative work-out before FESS has three goals: to describe the signs of sinus inflammation and possible causes, such as odontogenic granulomas; to show the anatomic variations that can disturb sinonasal air circulation; and finally to depict the “dangerous” anatomic variations, helping thus the surgery avoiding unnecessary surgical problems. Those variants are numerous, a few important ones being for example defect in the medial orbital wall, medial septum of the sphenoid sinus inserted on the carotid artery canal, abnormal location of the anterior ethmoidal artery in the ethmoid sinus, hypoplastic maxillary sinus, and septa inside the maxillary sinus with an abnormal ostium (1 and 2).

Key-word: Paranasal sinuses, Anatomy

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It contains an ectopic infraorbital nerve and canal which do not follow the inferior orbital wall up to the orbital ridge but dive into the septum. Any surgical attempt to break down this septum would cause infraorbital palsy, with permanent soreness and paresthesias in the area, a complication relatively frequent after facial trauma with fracture of the orbital floor, or after malar augmentation procedures for aesthetic purposes. It is thus important for the radiologist to mention it in any sinonasal preoperative report and for the surgeon to be aware of any anatomical variant.

Conclusion

We describe two patients with ectopic location of the infraorbital nerve in a maxillary sinus septum. This very rare anatomical variation should be described in the report of any sinonasal preoperative CT scan or MRI to avoid sectioning the nerve during FESS or other maxillary sinus surgery.

Bibliography