

### **Surgical Endoscopic Treatment of Odontogenic Sinusitis**

Mihai Alexandru Preda<sup>1,2</sup>, Gabriela Musat<sup>1,2</sup>, Codrut Sarafoleanu<sup>1,2</sup>

<sup>1</sup>Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>ENT&HNS Department, Sfanta Maria Hospital, Bucharest, Romania

#### **Abstract**

*Introduction:* Odontogenic sinusitis is a frequent disease of the maxillary sinus, resulting from a dental inflammatory condition or a foreign body migrated in the sinus cavity. We performed a clinical retrospective study aimed to review the two surgical endoscopic approaches for odontogenic maxillary sinusitis – middle and inferior meatotomy, in terms of realistic indications, efficacy, outcomes, and possible complications.

*Materials and Methods:* In our study, we included a number of 400 patients with odontogenic maxillary sinusitis divided into two groups, treated in our hospital over five years, from January 2019 to December 2023. The patients included in this research were over 18 years old, diagnosed with odontogenic maxillary sinusitis, and underwent either middle meatal antrostomy or inferior meatotomy.

*Results:* We examined the medical records of 400 patients. The vast majority of patients had a history of dental interventions, and the most affected tooth was the first maxillary molar. The symptoms at admission were typical for sinusitis: nasal obstruction, anterior or posterior rhinorrhea, hyposmia to anosmia, cacosmia, and pain or facial pressure. 80% of the patients in the study underwent middle meatal antrostomy, while 20% underwent inferior meatotomy. There were no significant differences between these two approaches in terms of efficacy, complication rates, recovery, or relapses. The complications that occurred after the surgical treatment were minor and with a very low frequency. The most reported were middle meatus synechiae and the persistence of the meatotomy ostium, with mucus recirculation (in patients with inferior meatotomy).

*Conclusions:* Endoscopic surgical treatment of odontogenic maxillary sinusitis can be done as middle or inferior meatotomy, each having specific indications. The maxillary antrostomy is preferred in the majority of cases, as it is a procedure in which the natural ostium of the maxillary sinus is enlarged, thereby maintaining the natural drainage pathway of the sinus. However, the inferior meatotomy is preferred in the case of foreign bodies or maxillary sinus retention cysts localized at the level of the sinus floor or in the alveolar or lateral recesses, or as part of a combined approach (inferior and middle meatotomy), when the ablation of a "fungus ball" is required.

**Key words:** odontogenic sinusitis, middle meatotomy, inferior meatotomy, functional endoscopic sinus surgery