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Dental Implant and Fungus Ball in the Ethmoid Sinus

A 57-year-old healthy man presented with a 5-year history of left nasal obstruction. Physical examination revealed multiple polyps originating from the left middle meatus. Computed tomography (CT) scans demonstrated a metallic foreign body (arrow, Fig. 1) and calcified lesion (arrowhead, Fig. 1) in the left ethmoid sinus. CT also revealed chronic sinusitis involving the left maxillary, ethmoid, and frontal sinuses.



Fig. 1 Neck CT scan demonstrating the presence of a metallic foreign body (arrow) and calcified lesion (arrowhead) in the left ethmoid sinus.

The patient underwent functional endoscopic sinus surgery. After removal of the nasal polyps, a dental implant (arrow, Fig. 2) and fungus ball (arrowhead, Fig. 2) were observed in the ethmoid sinus. The ostium of the maxillary sinus was already wide open and only the surrounding nasal mucosa was removed. Histopathological analysis of the fungus ball revealed *Aspergillus*. The patient had received 10 dental implants into the maxilla approximate



Fig. 2 Dental implant (arrow) and fungus ball (arrowhead) observed in the left ethmoid sinus.

ly 8 years ago, without complications. Thus, it appeared that one of them had become displaced into the maxillary sinus and transferred to the ethmoid sinus. Subsequently, fungus ball, chronic sinusitis, and nasal polyps appeared to be triggered by the dental implant. Seven months after the endoscopic sinus surgery, the patient had no residual nasal symptoms and the ostium of the maxillary sinus was patent with normal mucosa on nasal endoscopy.

Discussion

The displacement or migration of dental implants into the paranasal sinus may be related to poor surgical technique,

bone destruction due to alveolar bone infection, osteoporosis, or bone resorption. Most often, it occurs in the maxillary sinus during surgery or within 6 months after dental implantation. The nasal obstruction had occurred 3 years after the dental implants were placed, suggesting possible displacement of the dental implant.

Dental implant displacement into the ethmoid sinus is extremely rare. The displaced implant in the maxillary sinus seems to have been transferred to the ethmoid sinus through the ostium of the maxillary sinus via mucociliary clearance of the maxillary sinus.

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The Dental Anesthesia Assistant National Certification Examination was developed to provide a continuing education curriculum for professional allied staff. A Dental Anesthesia Assistant (DAA) possesses the expertise to provide supportive anesthesia care in a safe and effective manner. The

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DENTAL FUN FACT



The most valuable tooth belonged to John Lennon. It sold for £19,500 (\$36,857). Exceeding Sir Isaac Newton's tooth at \$3,633 in 1816, (a value of \$35,700 today). The tooth was said to be set in a ring, but its location is now unknown. <https://www.guinnessworldrecords.com/>

This explanation is suggested by the fact that there was no destruction of the medial wall of the maxillary sinus, and the CT scan and surgical field findings showed that the ostium of the maxillary

sinus was widely enlarged. Symptoms associated with dental implant displacement or migration into the maxillary sinus include maxillary sinusitis, oroantral fistula,

postnasal drip, nasal obstruction, and pain. This patient had no oroantral fistula and was indicated for surgical management of sinusitis and polyps. The main lesion involved the ethmoid sinus, war-

ranted endoscopic removal.

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Dr. Brian Simpson
announces the 41st meeting of the

NANUET IMPLANT STUDY GROUP

“Getting the Edge on Removables Part II”

Speaker: Dennis Urban CDT
Certified Dental Technician
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Tuesday, March 3, 2020
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