

Implant Induced Oral-Antral Fistula – The Radiographic Picture

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ABSTRACT

An unnatural communication between the maxillary sinus and oral cavity is known as oroantral communication (OAC). If this communication fails to close spontaneously, it gets epithelialized to form an oroantral fistula (OAF). The most common cause of an OAC/OAF is the extraction of a maxillary molar or premolar. However, sometimes ill-placed implants without adequate knowledge or radiographic assistance can lead to OAF formation.

Keywords: Complication of implant placement, Maxillary sinus, Oroantral communication, Oroantral fistula

CLINICAL IMAGE

A 45 year old male patient was referred for a Cone beam computed tomography (CBCT) view post an implant placement. CBCT of field of view 5*5 was taken, which revealed implant placed in region of 26 going at least 1 cm beyond the level of apices of adjacent teeth suggestive of breaching the floor of the maxillary sinus. 3-dimensional

views, panoramic view and sectional views confirmed the breach thus suggestive of an oro-antral fistula induced because of improper implant placement (**Figure 1**). Measurement revealed that the implant was about 3.6 cm beyond the floor of the maxillary sinus. The patient was referred back to the dentist for removal of implant and imminently required closure of the fistula.

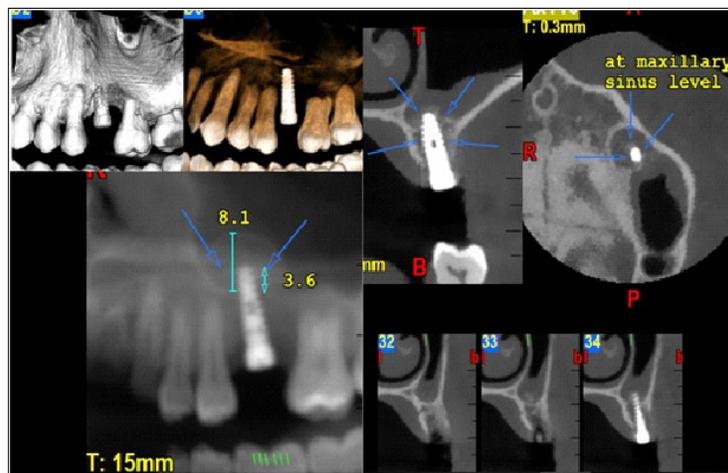


Figure 1. Oro-antral fistula induced by implant seen in 3D, axial, coronal and panoramic slices (clock-wise).

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One of the clinical complications often encountered by dental practitioners and mostly ignored is OAC with subsequent formation of OAF. An OAF is an epithelialized pathological unnatural communication between the oral cavity and maxillary sinus. It develops when the OAC fails to close spontaneously, remains patent and gets epithelialized. This epithelialization usually occurs when the perforation persists for at least 48-72 h [1].

The patient can present with variable immediate or delayed symptoms. The reason for a delayed response is because the closure of the communication due to blot clot or implant as in this case. OACs must be treated as soon as possible to avoid sinus conditions, which can prevent the treatment of the lesion and the resolution of the case. Most importantly, the infection must be resolved before any surgical procedure for OAC closure is undertaken and sinus irrigation along with systemic antibiotic therapy should be administered. In the case of small perforations of the sinus, when there are no signs of sinusitis, spontaneous healing is possible, while in the case of larger perforations, the chance of spontaneous healing is less [2].

Closing this communication is important to avoid food and saliva contamination that could lead to bacterial infection, impaired healing, chronic sinusitis and such various complications [3]. Numerous surgical methods have been described for the treatment of OAFs although only a few have been accepted in daily practice. Some of the commonest techniques include: Buccal Flap, Palatal Flap, Modified Palatal Flap and Pedicled Buccal Fat Pad graft. Furthermore, at times the use of a combination technique such as a BFP with a buccal advancement flap can give more stability than using any conventional method alone [4].

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