

CLINICAL REPORT

Prosthetic Management of Oroantral Communication: A Case Report

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ABSTRACT

Oro-Antral Communication (OAC) is an abnormal communication between the maxillary sinus and the oral cavity. It may be the result of different pathological processes and often occurs following an extraction. This article presents a case of closure of OAC followed by a failed palatal flap. A maxillary obturator was designed and fabricated in heat polymerized acrylic resin. The treatment should always be individualized and planned to avoid failures and promote fast healing.

Keywords: Primary closure, fistula, maxillary sinus

INTRODUCTION

An oroantral communication is an abnormal communication of the maxillary sinus to oral cavity, lined by epithelium, which may occur following a surgery or a traumatic unplanned extraction. Oro-Antral Communication (OAC) is a complication of extraction, infection, sequel of radiation therapy, removal of tumors and cysts of maxillary sinus and trauma. The anatomical

relationship of maxillary posterior teeth with the maxillary sinus, especially the root tips of maxillary molars and premolars and decreased thickness of the antral floor about 1mm to 7mm leads to OAC with the extraction of posterior teeth. These communications are closed primarily with the help of buccal advancement, palatal rotation, palatal transposition and nasolabial flaps. At failures of these primary closures, prosthodontic closure of defect is needed to



[Fig. 1]



[Fig. 2] INTRAORAL VIEW

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prevent entry of saliva and food to maxillary sinus that leads to chronic sinusitis and impaired wound healing.

CASE REPORT

A 25 year old male reported to the Department of Prosthodontics with a history of extracted right first molar followed by regurgitation of fluid from the nose upon swallowing.[Fig. 1] The intraoral examination presented a healing socket in relation to 16 with failed palatal flap and an associated oro-antral communication of 3 to 4 mm diameter. [Fig. 2]



[Fig. 3] PRIMARY IMPRESSION



[Fig. 4] CAST WITH DEFECT

The primary closure with a flap had failed and the choice of treatment was the closure of OAC with an obturator. The opening was closed with a wet gauze piece and a primary impression was made with an irreversible hydrocolloid material (DPI Algitex Alginate) [Fig. 3] and the cast was poured using Type



[Fig. 5] DEFECT CLOSED AND RETENTIVE CLASPS MADE



[Fig. 6] SHELLAC DENTURE BASE AND TEETH ARRANGEMENT FOR TRY IN

3 dental stone. [Fig. 4] The defect in the cast was closed with model plaster with retentive

clasps adapted on 14 and 26. [Fig. 5] Shellac trial denture base was fabricated and try in carried out. [Fig. 6] After correct adaptation was achieved, the trial denture base was retrieved from the patient's mouth, waxed up



[Fig. 7] FINAL PROSTHESIS- LATERAL VIEW



[Fig. 7] FINAL PROSTHESIS- ANTERIOR VIEW



[Fig. 7] FINAL PROSTHESIS- OCCLUSAL VIEW

and acrylized. The prosthesis was fabricated with heat cure denture base resin (DPI Mumbai, India) and inserted into the patient's mouth after final finishing and polishing. Minor adjustments were made till snug was fit achieved. [Fig. 7] Patient was happy with the comfort of the prosthesis. Post insertion instructions were given to the patient and he was recalled for follow up after 24 hours, 48 hours, 72 hours, 1 week and 1 month.

DISCUSSION

Oro-antral communication is a communication between the maxillary sinus and the oral cavity, occurring due to the loss of hard and soft tissues separating the oral cavity from the maxillary sinus. When this communication fails to close with flap reconstruction, it remains patent and gets epithelialized to form a fistula tract. Moreover, maxillary sinus diseases will not allow the fistula to close. Immediate repairs of the acute oro-antral defect have a uniformly high success rate approaching 95% that decrease to 67% in cases of delayed closure.¹

Von Bondsdorff studied 84 human skulls and found that second molar roots have the most intimate relationship with the maxillary antrum floor, followed by the first molar, third molar, second premolar, first premolar and the canine. In spite of this, this study showed that the tooth most often related to an OAC was the third molar; this may be because of the great number of third molar extractions performed.² Healing is always delayed in case of any sinusitis or irritation of sinus lining due to various causes, proper hygiene maintenance and periodic follow-up is the key to proper healing and reduction in the communication.

CONCLUSION

Various treatment modalities such as free or local tissue flaps, with or without autogenous grafts or alloplastic implants or by

prosthodontic management are available to treat OAC. Treatment should always be individualized and planned to avoid failures and fast healing.

CONFLICT OF INTEREST

There is no conflict of interest

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