

Prosthodontic Management of Oroantral Fistula: A Case Report

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Abstract

Oroantral fistula (oroantral communications [OACs]) is a pathological communication between the oral cavity and the maxillary sinus which has its origin either from dental infections, trauma, radiation therapy, or osteomyelitis. Various methods have been described for closure of the OACs. This article presents clinical cases of closure of OACs through prosthodontic management after the failure of primary closure.

Key words: Fistulas, Oroantral fistulas, Sutures

INTRODUCTION

An oroantral fistula is an epithelized unnatural communications between the oral cavity and the maxillary sinus. An oroantral communication (OAC) may develop as a complication of dental extractions, due to infection, sequelae of radiation therapy, trauma, and removal of maxillary cysts, or tumors.^{1,2} The extraction of maxillary posterior teeth is the most common cause of OAC, because of the anatomically close relationship between the root apices of the premolar and molar teeth and the maxillary antrum, the thinness of the antral floor in the region which ranges from 1 to 7 mm.³ Some of the traditional methods that are being employed in the repair of OAC include buccal advancement flap, palatal rotation and palatal transposition flaps, and nasolabial flaps.¹ When the primary closure fails, closing these communications prosthodontically is important to avoid food and saliva contamination that could lead to bacterial infection, impaired healing and chronic sinusitis.⁴ This article highlights case reports on prosthodontic management of oroantral fistula.

CASE SERIES

Case 1

A 55-year-old male reported to the Department of Prosthodontics with a chief complaint of regurgitation of fluid from the nose. His dental history revealed that he had undergone extraction with the 26 region a week back. On intra-oral examination, the fistula in the left back tooth region of about 2 mm in diameter (Figure 1). Primary closure was done and failed. Hence, the treatment of choice was closure of the oroantral fistula by giving an obturator. Close the opening with gauze piece. The primary impression was made with the irreversible hydrocolloid impression material (Tropicalgin Zhermack Germany) and was casted using Type III dental stone (Ultra Rock Kalabhai, Mumbai, Maharashtra). On the cast, the wax pattern was made covering the defect region with the retentive clasp on the second premolar. The prosthesis was fabricated with the heat cure acrylic resin (DPI Mumbai). The post denture instructions were given to the patient (Figure 2). Moreover, the periodic follow-up was done.

Case 2

A 52-year-old male was reported to the Department of Prosthodontics with a chief complaint of regurgitation of fluid from the nose. His medical history revealed that he had undergone surgery for cleft palate 15 years back.

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Figure 1: Pre-operative view



Figure 3: Pre-operative view



Figure 2: Post-operative



Figure 4: Post-operative view

Primary closure was done but it failed. On intral oral examination, there was a scarring of the palatal tissue seen. The diameter of the fistula was about 1.5 mm × 2 mm in diameter (Figure 3). Hence, the treatment of choice was to give an obturator.

The primary impression was made with the irreversible hydrocolloid impression material (Tropicalgin, Zhermack, Germany). Then, the impression was casted in Type III dental stone (Ultrarock, Kalabhai, Mumbai, Maharashtra). The wax pattern was made on the cast covering the defect region. The retentive clasps were given on the 1st molar. And then the prosthesis was fabricated with the heat cure acrylic resin (DPI, Mumbai) (Figure 4). The post denture instructions were given to the patient. Moreover, the periodic follow-up was done.

DISCUSSION

OACs are present between the oral cavity and maxillary sinus, and when it fails to close spontaneously, it remains

patent and is epithelialized so that oroantral fistula develops. Moreover, any sinus disease must be cured to allow the fistula to close. Immediate repairs of the acute oroantral defect have a uniformly high success rate approaching 95% that decreases to 67% in cases of delayed closure.⁴

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.³

The primary closing of an oroantral fistula in 48 h presents a 90-95% success rate and such rate fails to 67% when closing is secondary.¹ An important role in the healing process is played by the presence of sinus diseases. In

these cases, the advice of a specialist will help to deal with complications.

CONCLUSION

Treatment modalities to repair the oroantral fistula include local or free soft tissue flaps, with or without autogenous grafts or alloplastic implants, or by prosthodontics management. The closure of an OAC of any origin can be achieved by different techniques.⁴ The treatment should be individualized and carefully planned to avoid failures. An informed consent describing recurrence possibilities is essential previous surgery.⁵

REFERENCES

1. Phull S, Phull G, Chugh D, Sheokand P. Treatment of recurrent oro-antral fistula in left maxillary posterior region: A secondary repair procedure with buccal fat pad advancement technique. *Asian Pac J Health Sci* 2014;1:47-9.
2. Güven O. A clinical study on oroantral fistulae. *J Craniomaxillofac Surg* 1998;26:267-71.
3. Abuabara A, Cortez AL, Passeri LA, de Moraes M, Moreira RW. Evaluation of different treatments for oroantral/oronasal communications: Experience of 112 cases. *Int J Oral Maxillofac Surg* 2006;35:155-8.
4. Borgonovo AE, Berardinelli FV, Favale M, Maiorana C. Surgical options in oroantral fistula treatment. *Open Dent J* 2012;6:94-8.
5. Hernando J, Gallego L, Junquera L, Villarreal P. Oroantral communications. A retrospective analysis. *Med Oral Patol Oral Cir Bucal* 2010;15:e499-503.

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