



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 9(D), pp. 28881-28882, September, 2018

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Case Report

A CASE REPORT OF OROANTRAL COMMUNICATION REPAIR BY DOUBLE LAYER

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DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0909.2752>

ARTICLE INFO

Article History:

Received 13th June, 2018

Received in revised form 11th July, 2018

Accepted 8th August, 2018

Published online 28th September, 2018

ABSTRACT

Oroantral communications are common complications while performing surgical procedures in maxillary posterior region. Though small communications can heal spontaneously but large communications require immediate intervention. Various methods have been employed for closure of oroantral communication. Buccal pad fat is versatile pedicled flap used for repair of oroantral communications.

Key Words:

Buccal fat pad, buccal flap, oroantral fistula, oroantral communication

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INTRODUCTION

An oroantral communication (OAC) may develop as a complication of surgical procedures in the maxilla posterior region or due to infection or pathology in the maxilla, sequelae of radiation therapy, trauma, and removal of maxillary cysts or tumors.[1,2]. The communication size of less than 5mm size heals spontaneously [3] but communication of greater than 5mm size requires surgical intervention. The buccal pad fat (BFP) is a versatile flap for oral cavity, has advantages over other local flaps[4]. It completely epithelises inside the oral cavity in 4-5 weeks.[5]

Case report

A 28 year old male was referred to our department for management of orontral communication which had resulted due to attempted removal of right maxillary first molar. During the attempt palatal root was displaced into the maxillary sinus that resulted into oroantral communication. The root was removed and the defect was closed with buccal pad fat. [Figure 1] [Figure 2]

Procedure

After administration of 2% lignocaine complete anaesthesia was achieved in the right posterior maxillary quadrant. Trapezoidal flap was raised and the extraction site was exposed. Palatal root was retrieved through the extraction

socket. Blunt dissection was done in the right maxillary tuberosity region with the help of curved haemostat and the buccal pad fat was gently teased out. The extraction socket was filled with the BFP. BFP was secured to the palatal mucosa of the with 3-0 vicryl. The trapezoidal flap was advanced buccally and was used to cover the BFP. The flap was secured in place with interrupted sutures. The patient was put on oral antibiotics, nasal decongestants and anti-histamines for three days. The patient was followed up for 6 months and showed no signs of recurrence or flap failure. [Figure 3]



Fig 1 Orthopantomogram showing displaced root stump into right maxillary sinus

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Fig 2 showing double layer closure with bfp and buccal flap



Fig 3 Completes epithelisation and no signs of recurrence after 6 weeks

DISCUSSION

Oroantral communication represents a defect created between the oral cavity and maxillary sinus. The most common factor that result in oroantral communication is maxillary posterior extractions amounting about 92.63%, followed by pathological lesions (4.47%) and trauma (1.3%) [7]. If the oroantral communications are not repaired they will lead to infection of maxillary sinus and its sequelae. 50 % of the patients will experience sinusitis after 48 hours of communication [4]. When epithelial fusion between oral epithelium and sinus lining occurs before the closure of the defect, oroantral fistula results. Szabo found out that 7-8 days is the average time during which an oroantral perforation epithelises and become a chronic fistulous tract.[6] Various materials have been used for closure of oroantral communications. These include autogenous tissues, allogeneous materials, xenografts, alloplasts. In a systemic review and meta analysis by Carro et al have shown excellent results for repair of oroantral communications with BFP.[7] BFP is located within the masticator spaces, surrounded by delicate capsule and consists of a body with four main extensions- buccal, pterygoid, superficial temporal, and deep temporal [9]. When properly dissected, the buccal pad fat provides adequate volume (range, 8.3-11.9 mL) and thickness (6 mm) for the closure of oroantral defects. [10, 11] Its use in oral cavity has some advantages also. It is located near to the surgical site, is easy to harvest, has excellent blood supply by the branches of maxillary artery, superficial and deep temporal arteries [12,13] and low complication rates.

The BFP graft is delicate and can undergo shrinkage. It has been recommended by some authors to cover the exposed BFP. Covering of the BFP can be achieved with skin or oral mucosa [14]. When the BFP is stretched excessively it may undergo thinning and perforation. The use of double layer closure precludes to such complication [8]. So a wider defect, as was in

our case can be better closed by BFP with buccal advancement flaps. The two layer closure provides more stability than the single layer with BFP alone. Healing of BFP is usually uneventful. Histologically, by the second week of post surgery vascularization of the graft takes place and by the 5th week complete epithelisation of the graft has been seen [4].

CONCLUSION

Oroantral communication is a common complication of surgical procedures involving maxillary posterior region. Buccal fat pad serves an excellent graft material for repair of such defects. Double layer closure with buccal pad fat and buccal advancement flap provides more stable and better results for repair of such defects.

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