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Treatment of recurrent oro antral fistula in left maxillary posterior region: a secondary repair procedure with buccal fat pad advancement technique

Siddharth Phull[1], Geetanjali Phull[2], Divia Chugh[3]*, Pardeep Sheokand[4]

[1]MDS Professor Department of Prosthodontics,Luxmi bai institute of dental sciences, Patiala, India
[2]MBBS, M.D (1st yr pg) Department of Pathology, **Govt. Medical college,** *Patiala, India*
[3]BDS, MDS (1st yr pg) Department of Prosthodontics, Luxmi bai institute of dental sciences, Patiala, India
[4]BDS, MDS (1st yr pg) Department of Prosthodontics, Post Graduate Institute of Dental Science, Rohtak, India

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ABSTRACT

There are many causes of fistulas that involve the nasal and antral cavities or both. They may result from pathological entities or secondary to removal of tumours or maxillary cyst. However extraction of maxillary molar or premolars is most common cause of oro- antral fistula. This is explained by close relationship between apex of these teeth and the thinness of antral floor. When the primary fistula repair fails to heal spontaneously during 1st three weeks after surgery, a secondary repair may be indicated. During treatment process of the fistulas, there are procedures to make a direct close or the use of sliding mucosal flap, all techniques allow an equal and high degree of failure.

Keywords: Naso-tracheal intubation, curette, fistula, infiltration, suture

Introduction

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]. OAC of less than 5 mm does not require any interventions and closes spontaneously[3]. OAC of more than 5 mm requires surgical treatment. Some of the traditional methods that are being employed in the repair of OAC include buccal advancement flaps, palatal rotation and palatal transposition flaps, tongue flaps, and nasolabial flaps[1–4].

Recently, because of various advantages, buccal fat pad (BFP) is increasingly being employed in the repair of oroantral fistula (OAF) and other oral defects worldwide[5].However, there are some problems that can be encountered while harvesting BFP which has to be taken care of. In this paper, we present a case with one of such problems, its management using BFP with buccal advancement flap and review of literature on the long-term effectiveness of the same.

Case report

47 year old female complaining of pain on the left hemi face and of persistence of non healed oro antral communication due to a superior tooth extraction 6 months before. At the clinical examination, a fistula in alveolar bone of left maxilla was observed with communication with maxillary sinus and pus drainage after orifice pumping with a curette. Antibiotics and anti inflammatory medications have been used to

*Correspondence
Dr. Divia Chugh
BDS, MDS(1st Year)
Depatment of Prosthodontics
Luxmi Bai Institute of Dental Sciences and Hospital,
Patiala, Punjab, India
Email: chughdivia@gmail.com

control infection and to a further closing surgery through the use of buccal fat pad technique. After 7 days using medication, the patient undervents a new evaluation, when she presented with no symptoms and no pus drainage in fistula. The closing surgery happened under general anesthesia through naso-tracheal intubation. The approach has been started with infiltration of vaso constrictor solution (adrenaline 1:90000) in an area adjacent to perforation and at the bottom of left maxillary groove.

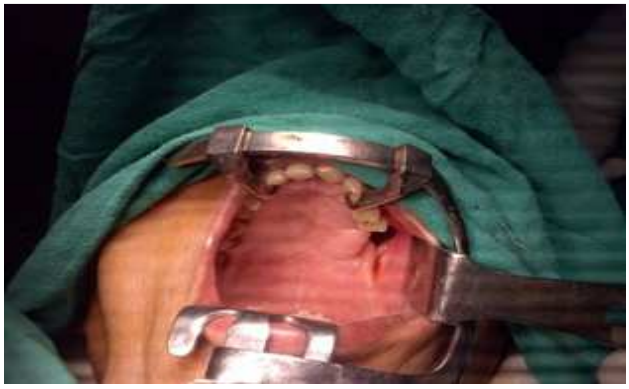

Figure 1: Oro antral communication more than 1 mm

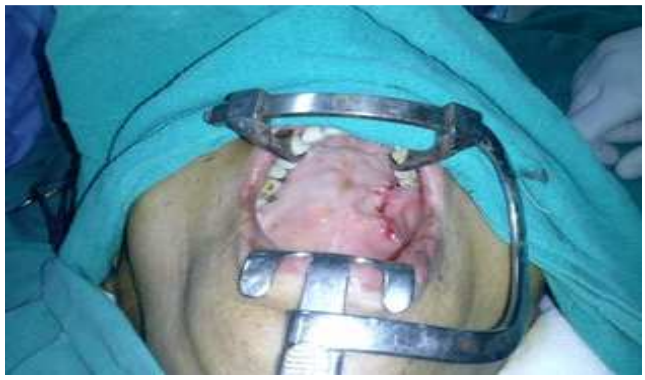

Figure 2: Closure of OAC using buccal fat pad technique

The borders of fistula were subperiostally incised in wedge with superior extension in vestibular floor upto the inserted mucosa.the posterior superior elevation was done with a freer elevator, close to maxillary wall until buccal fat pad was found, mild suction was started was started with aspirator beak, which enabled fat elevation upto oral cavity. The buccal fat pad was gently stuck by tweezers and gripped upto fault. After the complete covering of bone defect, the fat was stitched/sutured to adjacent mucosa with 3.0 sutures.

After surgery patient was medicated and guarded to not do intraoral negative pressure. The post surgical phase has no complications.

Discussion

The primary closing of an oro antral fistula in 48 hours presents a 90-95% success rate and such rate fails to 67% when closing is secondary. The latter is still a problem with difficult solution. The buccal fat pad may be used to close oro antral communication. Once its success has been proved in medical literature and because it doesn't interfere with vestibular groove depth[6,7]. Due to its anatomical position, it has beneficial chance to be used as pedicellate graft to reconstruct intra oral defects, especially in posterior region of maxilla [8-10]. Problems that can be noted while harvesting BFP ranges from perforation to shrinkage of BFP.

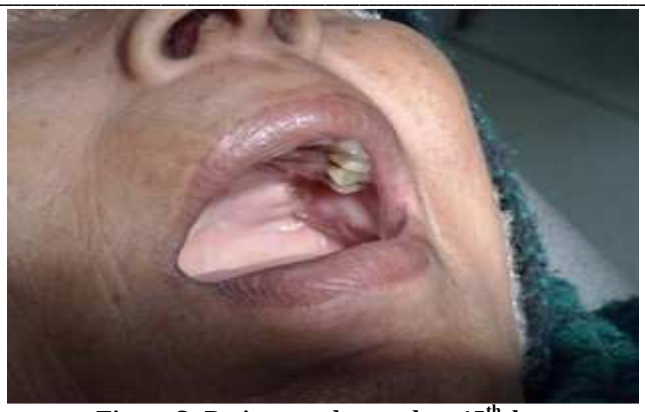

Figure 3: Patient as observed on 15th day

Conclusion

The treatment of oro antral communication through the use buccal fat pad is simple and complete method, which enables several uses in most of cases. The blood supply of buccal fat is not affected due to its displacement, once it is gripped and replaced between flap and maxillary wall. The operated case had no complication as observed on the 15th day.

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