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CASE REPORT

Oral Reconstruction Of Retromolar Trigone Carcinoma Using Buccal Fat Pad

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ABSTRACT

Pedicled buccal fat pad has been widely used for the repair of oral defects. This clinical report describes a case achieving optimum results in oral rehabilitation in a patient with retromolar trigone carcinoma. The patient underwent left modified neck dissection and marginal mandibulectomy involving the molars. Later on the defect was reconstructed using buccal fad pad and masseter cross over flap. The surgical technique is described and the result suggests that this is a logical, convenient and reliable technique for the treatment of retromolar trigone carcinoma.

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Introduction

There are a variety of methods to reconstruct the oral defect after ablative surgery [3]. The choice of a flap for reconstruction is governed by the type and size of defects and the advantages and disadvantages of the various reconstructive options [7].

Buccal fat pads have long been a source of free fat graft in facial augmentation and when exposed can be mobilized and spread out into a pedicled graft [7].
Its use as a pedicled graft was first reported by Egyedi [5] and its embryology, vascularisation, volume and function was studied by Tideman [15], Marx [16] and other authors [4],[14]. Buccal fat pad excision improves the facial contour in some patients with buccal lipodystrophy [9].

The purpose of this article is to show the advantage of buccal fat pad as a donor site for procedures in the maxillofacial region.

Materials And Methods

A study of a case of squamous cell carcinoma of the left retromolar trigone was carried out in the Department of Oral and Maxillofacial Surgery,Dashmesh Institute of Research and Dental Sciences, Faridkot& the Department of Microbiology Adesh Medical College. Bathinda .

A detailed personal history and a thorough clinical examination were done.

A physician's opinion was obtained regarding the patient's fitness to undergo surgery under general anesthesia. The patient was evaluated post-operatively for color, mouth opening(in mm), trauma from lower teeth, necrosis of BFP, persistent fistula and infection for a period of 6 months respectively to rule out any infection by any aerobe or anaerobe, in case it arises post-operatively. The Department of Microbiology was involved.

The patient received intravenous penicillin and metronidazole for coverage of aerobic and anaerobic bacteria.

Case Report

A 45 year old male patient reported to the Dept. of Oral and Maxillofacial Surgery with the chief complaint of growth in the left lower posterior region for 3 months.

On extra oral examination, left level 1 and level II lymph nodes were palpable.

Intraoral examination revealed ulcero-proliferative growth in the left retromolar trigone region measuring 5×3 cm distal to III molar, as shown in [Table/Fig 1]

The patient complained of left inferior dental nerve anesthesia over the previous 2 months.

Panoramic radiographs had shown a large radiolucent lesion in the left retromolar trigone region.

After administration of local anesthetic, a biopsy specimen of the tumor was taken at the bulging site in the left lower retromolar trigone region.

A histopathology report indicated squamous cell carcinoma.

A week later, with the patient under nasotracheal intubation, the tumor was excised with marginal mandibulectomy, the repair of which was done at the same time with buccal fat pad and masseter cross over flap.

Surgically, the buccal fat pad was accessed through a horizontal incision posterior to zygomatic buttress and gently teased out of its bed and advanced into its new position and sutured into place as shown in [Table/Fig 2].

The resulting defect was quite large and hence a masseteric cross-over flap was used in conjugation with buccal fat pad transfer as shown in [Table/Fig 3].

Post-operatively at 1 week, clinically the surface of orally exposed fat became yellow. At 2 weeks, the color gradually changed to red and turned pinkish at the end of 3 weeks. At 1 month post-operatively, the color of normal mucosa was attained and at 3 months post-operatively, the appearance of mucosa was normal in color indicating that healing was uneventful as shown in [Table/Fig 4].

(Table/Fig 1)

(Table/Fig 2)

(Table/Fig 3)

(Table/Fig 4)

Discussion

The buccal fat pad can be identified as early as in 6-8cm fetuses [1]. The average weight of each fat pad was found to be 9.3gm and its average volume was 9.6ml [11]. The size of the buccal fat pad is constant among different persons regardless of the overall body weight and fat distribution. Because of the ease of access and rich blood supply, the main body and some parts of the pterygoid extension of the buccal fat pad are suitable for closure of defects of posterior maxilla as far as the region of the hard and soft palate and the retromolar region of the mandible [1],[10].

The BFP provides a vascularised tissue bed over which normal epithelization can take place, thus there is no need for skin grafting. Histologically, fat tissue is replaced by fibrous tissue [7]. Post-operative radiotherapy does not affect the BFP graft but should be deferred till complete epithelisation of the graft [15].

It is estimated that the body and buccal extension of the BFP are accessible through the mouth and thus available as a pedicle graft. This brings many defects into the range of reconstruction by the BFP, thus increasing the indications for its use[13]. A fact has to be borne in mind that excessive stretching in the flap invariably impairs the vascularity, so the closure of larger defects cannot be guaranteed without producing flap necrosis or creating a new fistula [2]

A double buccal fat pad flap in association with Le Fort I osteotomy approach can be adopted to remove tumours of the palate and nasal fossae [12].

In the case of squamous cell carcinomas of the left molar trigone, the left modified neck dissection and marginal mandibulectomy involving all the molars were carried out. Due to the large size of the defect, masseteric cross-over flap was used in addition to BPF. Both the flaps healed without complication and adequate epithelization was observed over a period of three weeks. For larger defects such as those resulting after classical maxillectomy the use of BFP together with ipsilateral temporalis myofacial flap, buccal mucosa, palatal mucosa and tongue myomucosal flaps can be used [13] when reconstruction is contemplated,. Haanazawa,*et al* reported that the orally exposed fat gradually transformed into granulation like tissue and epithelization occurred in 3 weeks [6].

Conclusion

The use of BFP graft is a logical, convenient and reliable method for reconstruction of oral defects up to 4cm in diameter on the ipsilateral side of the soft palate, posterior alveolar ridge of the maxilla and mandible. It can also be used in conjunction with other local flaps and with regional myofacial flaps. Since both donor and recipient sites are in the oral cavity, there is no visible scar in the donor area [8].

The use of BFP for reconstruction of small to medium sized intraoral defects is a simple and effective technique that can be performed in a very short time without causing any additional morbidity to the patient.

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