



CASE REPORT

USE OF THE BUCCAL FAT PAD AS GRAFT FOR THE RECONSTRUCTION OF THE SURGICAL DEFECT AFTER EXCISION OF THE VERRUCOUS CARCINOMA: A CASE REPORT

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Received: Oct.16 2025; **Accepted:** Nov 16, 2025; **Published:** Nov26,2025

ABSTRACT

Oral verrucous carcinoma is slow growing tumor and it is a variant of squamous cell carcinoma. It generally affects the oral cavity and most commonly involves buccal mucosa region. Clinically it reveals a typical cauliflower growth or exophytic finger like projections. It is more common in males with a history of habit of tobacco use. It has a tendency to become locally aggressive if not treated appropriately. After excision it may result in a large defect in the oral mucosa. Hence, there is need to innovate new methods for the treatment of these lesions. This is a case report of 70 year old female with verrucous carcinoma of right buccal mucosa which was successfully managed conservatively with local excision and reconstruction with a buccal fat pad graft was described.

Keywords: Ackermann's tumor, Buccal Fat Pad, Oral verrucous carcinoma.

INTRODUCTION

The buccal fat pad (BFP) was first described by Heister (1732). He believed this structure to be glandular in nature and called it as "glandula molaris."¹ It is often referred to as "la boule de Bichat"(after Bichat in 1802 described BFP in detail).²

Egyedi³ was reported first time the use of the BFP in oral reconstruction for the closure of orofacial and oronasal communications. Tideman et al.⁴ found that there was no need to cover BFP by a skin graft when it was used for closure of the defects of oral cavity.

Oral Verrucous Carcinoma (OVC) is a variant of oral squamous cell carcinoma and first described by Lauren V Ackermann in 1948.⁵ Hence it was also known as "Verrucous Carcinoma of Ackermann" or "Ackermann's Tumor". Other names used in literature are Buschke-Loewenstein tumor, florid oral papillomatosis, epitheliomacuniculatum, and carcinoma cuniculatum.⁶⁻⁸

It is most commonly seen in oral cavity. Other sites affected by verrucous carcinoma include larynx, pyriform sinus, esophagus, nasal cavity, paranasal sinuses. Local excision is the treatment of choice if regional lymph nodes are not involved. Various flaps have been used in the literature to reconstruct the surgical defects following excision of the lesion in the oral cavity.¹ But, the buccal fat

pad was the most versatile because of its excellent blood supply and minimal donor site morbidity.¹

In this case report, oral verrucous carcinoma of right buccal mucosa managed successfully with local excision and reconstruction with a buccal fat pad graft was described.

CASE REPORT

We presented a case of 70 year old female patient came with a chief complaint of painless growth on right buccal mucosa since 10 to 12 months. Intraoral examination showed presence of sessile, whitish cauliflower-like growth on right posterior buccal mucosa of approximately 2.5 x 1.5 cm in greatest dimensions. The growth was non-tender with well-defined margins. (Fig. 1) There was no history of trauma, trismus or any other complaint. There was also no regional lymphadenopathy. The patient had the habit of chewing tobacco 7-8 times daily since 16-20 years but had no other medical or family history. The toluidine blue test of the lesion was done which showed no retention of the dye and that small amount retained was due to the cauliflower like extensions of the lesion and not because of the dysplasia. (Fig. 2)

Based on the clinical finding, a differential diagnosis of oral verrucous leukoplakia, and oral verrucous carcinoma was considered. Incisional biopsy was done, which revealed diagnosis of oral verrucous carcinoma. Thereafter surgical excision of the lesion was planned. Excisional biopsy of the lesion was done under local anesthesia.



Fig. 1: Clinical picture of the cauliflower-like lesion on the right buccal mucosa in the posterior region.



Fig. 2. Toluidine blue test done at the lesional area showing some retention of the dye at the cauliflower-like growth.

A 1.5 cm linear incision was given near the buccinator at the area of permanent maxillary first and second molar of right side and the buccal fat pad was teased out with its capsule with the help of artery forcep. This buccal pad of fat was antero-posteriorly pulled and sutured at the margins of the defect using round body needle with vicryl sutures (Fig. 3).

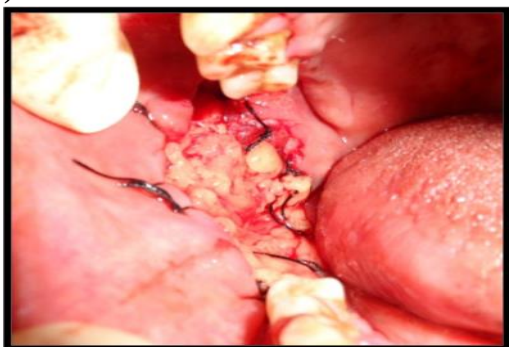


Fig. 3. The lesion was excised with safety margins and the defect was closed using BFP and suturing was done.

The specimen (Fig. 4) was sent for the histopathological examination, which revealed proliferated parakeratinized stratified squamous epithelium with swollen and elongated rete ridges

extending into deeper connective tissue.



Fig. 4. Excised biopsy specimen macroscopically clearly showing the finger-like projections on the surface.

The surface was having parakeratin plugging and there was no evidence of any cellular or nuclear atypia in the epithelium (Fig. 5).

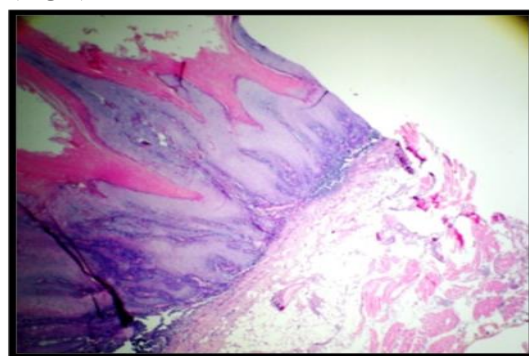


Fig. 5. Histopathological image of the slide revealing proliferated parakeratinized stratified squamous epithelium with finger-like projections on the surface, parakeratin plugging, elephant foot rete ridges and absence of cellular and nuclear atypia.

Two weeks follow-up of the patient showed excellent post-operative healing and complete epithelialization of the grafted area. (Fig. 6)

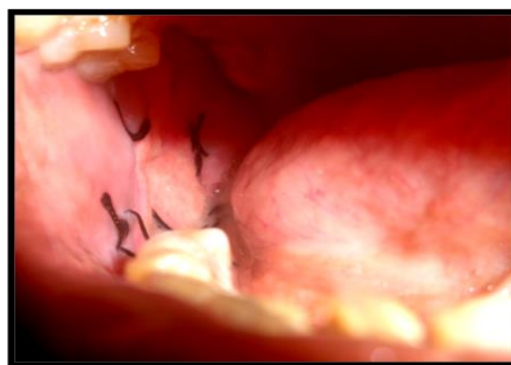


Fig. 6. Two weeks follow-up picture of the lesional site demonstrating excellent healing and successful epithelialization of the grafted BFP.

DISCUSSION

OVC is a rare tumor comprising of 3%–4% of all oral carcinomas. Verrucous carcinoma is more frequently seen in males commonly in the sixth decade of life.⁷ The patient in this case report was a female patient at 7th decade of life.

It is usually seen as a painless growth resembling a cauliflower-like appearance. The most common sites in the oral cavity include the buccal mucosa, followed by the mandibular alveolar crest, gingiva and tongue. The present case report showed the presence of tumor in the most common location of the buccal mucosa.^{5,6}

The tumor is locally invasive nature but not likely to metastasize. Its etiopathogenesis is not well known, but smoking habit, tobacco chewing, alcohol consumption, betel nut chewing and poor oral hygiene are the proved causes.^{7,8} The patient in this case report had the habit of tobacco chewing.

Differential diagnosis of the verrucous carcinoma includes the following lesions^{6,9}:

1. Squamous cell carcinoma showing verrucoid features,
2. Proliferative verrucous leukoplakia,
3. Verruca vulgaris, and
4. Keratoacanthoma.

Anatomically, BFP consists of three independent lobes: anterior, intermediate and posterior. It is consisting of a central body and had 4 processes: buccal, pterygoid, pterygopalatine, and temporal. The main body of the BFP lies deeply along the posterior maxilla and upper fibers of the buccinators. Each lobe is encapsulated by an independent membrane and a natural space between them. The BFP lobes attach to the adjacent structures by 2–4 ligaments. The buccal extension lies superficially within the cheek and is somewhat accountable for cheek shape.^{1,5}

The blood supply to BFP is derived from the maxillary artery through buccal and deep temporal branches, from the transverse facial branch of the superficial temporal artery, and from small branches of the facial artery.¹⁰

Mean volume of BFP is around 10 ml and weighs 9.3 gm on an average with little variation in terms of size or weight, not relative to total body fat as it have rhythm of lipolysis dissimilar to subcutaneous fat. It can cover defects of about 4 cm in diameter size in the oral cavity.⁵ Many authors have introduced BFP flap as the safest reconstructive method for small to medium-sized intraoral defects.⁵

Advantages of BFP flap are¹¹:

1. It requires a simple and rapid surgical technique.
2. Has a low complication rate.
3. Has rich blood supply, hence has high successful rates.
4. Have predictable results without any esthetic sequela.
5. Easy mobilization of the flap.
6. Minimum donor site morbidity.

7. Risk of infection is less because BFP is located in the same surgical area as the defect to be covered.

Limitations to use BFP⁴:

1. It covers the only areas from the premolar area to the posterior tuberosity in the maxilla, retromolar trigone, buccal mucosa, and anterior tonsillar pillar.

Precautions to be taken¹²:

1. It must be sutured to the margins of the defect without tension to prevent necrosis of the flap.

Complications^{13, 14}:

1. Decreased mouth opening can sometimes occurs from the dense fibrous connective tissue in the subepithelial stroma lacking lamina propria and submucosa.

The large defect produced in this particular case report was closed with the help of BFP successfully with excellent healing and without any complications.

CONCLUSION

There are many advantages of the flap as compared to the limitations and complications, which makes BFP as the most ideal graft for the closure of soft tissue defects of the oral cavity in the posterior region including results of excision of OVC.

DECLARATION

Acknowledgments

N/A

Conflict of interests

There are no conflicts of interests

Funding

This study did not receive any funding

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