Versatility of Pedicled Buccal Fat Pad in the Treatment of Oral Submucous Fibrosis

1Kolli Y Giri, 2B Niranjanaprasad Indra, 3Shazia Safi, 4Abhishek Singhal, 5Shashwat Saxena, 6Himanshu Upadhyay

ABSTRACT

Oral submucous fibrosis (OSMF) is a premalignant condition that results in progressive juxta-epithelial fibrosis of oral soft tissues, leading to increased loss of tissue mobility, marked rigidity, and limited mouth opening. There are various modalities for the management of OSMF but surgical intervention becomes inevitable when the mouth opening reduces to <25 mm. Various modalities of treatment have been used for reconstruction of surgical defect originated by the excision of fibrous bands. Undeniably, the buccal fat pad is used as an interpositioning material in one of the surgical management of OSMF because of its excellent blood supply, rapid epithelialization, minimal donor site morbidity, and patient’s good acceptance. Here we present a case in which buccal fat pad is used for reconstruction of surgical defect originated by the excision of fibrous bands of OSMF.

Keywords: Buccal fat pad, Coronectomy, Oral submucous fibrosis.


Source of support: Nil

Conflict of interest: None

INTRODUCTION

Oral submucous fibrosis may be defined as a chronic progressive disease in oral cavity, which results in blanching, fibrosis, and marble-like appearance in oral mucosa, which in later stages causes reduced mouth opening known as trismus. It is characterized by juxta-epithelial fibrosis in the oral cavity. It is regarded as a precancerous and potentially malignant condition. Oral submucous fibrosis occurs at any age but is most commonly seen in adolescents and adults, especially between 16 and 35 years. The initial symptoms experienced by the patient are burning sensation to spicy and hot foods, whereas rigidity of the tongue, palate, and lips are experienced in advanced cases. It may also be associated with difficulty in swallowing. The main concern in OSMF is the management of burning sensation of oral mucosa and trismus.

Various treatment modalities have been proposed for the treatment of OSMF. It may be treated surgically or conservatively. The conservative management includes multiphase injections of hydrocortisone, hyaluronidase, extract of placenta, triamcinolone acetonide with vitamin and ferrous supplements. Intraligamental steroid injections are probably satisfactory only in the initial stage of the disease. Surgical treatment is warranted in patients with marked limitation of mouth opening. In these cases, fibrous bands are excised and the surgical defects are reconstructed utilizing various grafts, such as split thickness skin graft, tongue flap, palatal island flap, and nasolabial flap.

We have employed the usage of buccal fat pad (Fig. 1) buccal fat pad as an interpositioning material in the surgical management of OSMF.

CASE REPORT

A 23-year-old male patient came to the Department of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly, Uttar Pradesh, India, with the chief complaint of reduced mouth opening and burning sensation in oral cavity. He revealed a history of betel nut chewing since 7 years and progressive reduced mouth opening since 4 years. Intraoral examination revealed blanching and the presence of dense fibrotic bands in the palatal, buccal mucosa, and retromolar pad areas, extending up to anterior faucial regions of the oral mucosa. The incisal distance at the time of examination was 8 mm (Fig. 1A). He was diagnosed as a case of stage IV OSMF. The patient has quit the habit of consuming tobacco in any form 2 months prior to surgery. And after routine investigations, he was taken up for surgical excision of fibrous bands and reconstruction using buccal fat pad.

The surgery was performed under general anesthesia after blind nasal fiberoptic intubation. Bilateral horizontal incision was placed along the occlusal plane with the help of surgical knife (Fig. 2A). On the right buccal mucosa, it was kept away from Stenson’s duct orifice and posteriorly extending up to the pterygomandibular raphe or anterior pillar of fauces. Anteriorly, vertical releasing incision is...
placed from upper to lower vestibule, at about 1 cm retro commissure region, to prevent tearing of the commissure of lip. The fibrous bands were identified by digital palpation and fibrous bands were sectioned completely. Same procedure was performed on left side.

An active mouth opening of 13 mm was recorded interincisal (Fig. 2B). So we planned to excise coronoid process, which was exposed by subperiosteal dissection through the same existing wound. Using handpiece bur the coronoid process was osteotomized and coronoidectomy was performed (Fig. 2C). So active mouth opening of 55 mm was achieved between upper and lower incisors (Fig. 2D).

The buccal fat pad was approached from the posterior–superior margin of the created over buccal mucosa defect, i.e., posterior to zygomatic buttress region. After that blunt dissection is done through the submucosa, the buccal fat pad was mobilized gently until a significant volume of buccal fat was obtained to cover the defect without tension (Fig. 2E). This was done by using artery forceps and gently letting out the buccal fat pad to the raw area. Pedicled buccal fat pad is used as a graft material to cover the areas (Fig. 2F). The buccal fat pad was secured by placing interrupted sutures of 3-0 Vicryl. The same procedure was performed on the other side completely to fill the buccal defect.

Prophylactic antibiotics were given preoperatively and postoperatively with the help of Ryle’s tube for 1 week. The patient was instructed to use 10 mL of hexidine mouth rinse hourly. Mouth opening exercises were started postoperatively after 36 hours using Heister’s mouth opener and wooden spatulas. The frequency of the exercise was carried out 15 to 20 times thrice daily for 6 months. Patient was on regular follow-up for 1 year (Fig. 3).

**DISCUSSION**

Oral submucous fibrosis is a chronic inflammatory disease that affects the oral mucosa, and it has a high risk of malignant transformation. Though the exact etiology is not known, chronic irritation due to habit of chewing betel nut in various forms can be considered as a major contributory factor.1

Surgical therapy for the treatment of OSMF is to regain and retain its normalcy and thereby reduce the risk of oral cancer. Complete excision, along with their extension into facial pillar region, aids in incisal mouth opening.

Buccal fat pad can be used as one of the grafting material alternatives to various reconstructive material relatively in recent period.4 It is a supple and lobulated mass of specialized fatty tissue which is distinct from subcutaneous fat. It has a body which is located behind the zygomatic arch (Fig. 1). It has got four processes (buccal, pterygoid, superficial, and deep temporal) and three lobes (anterior, intermediate, and posterior). The parotid duct
Versatility of Pedicled Buccal Fat Pad in the Treatment of Oral Submucous Fibrosis

passes along the lateral surface of the buccal pad of fat or penetrates the body of the fat pad before opening on the buccinator muscle.\textsuperscript{5} Its volume changes throughout life. It can be used for reconstruction of small to medium (<5 cm) sized either acquired or congenital defect, soft tissue, and bone defects in the oral cavity.\textsuperscript{5}

It has advantages, such as rich vascular supply, minimal donor site morbidity, ease of surgery, which can also be performed under local anesthesia on an outpatient basis, improvement in physiologic functions of cheek after surgery, good patient acceptance, and minimal postoperative morbidity. Disadvantages are anterior reach of the graft is limited and not used for larger defects.\textsuperscript{6} The graft began to show signs of epithelialization from second week. This observation is similar to studies done by Patil et al,\textsuperscript{6} and Saravanan and Narayanan.\textsuperscript{4} The epithelialization of the graft surface takes place within 1 to 4 weeks.\textsuperscript{7}

Improvement in the physiologic functions like suppleness and elasticity of the buccal mucosa was observed, on post-operative clinical examination. In the present study, buccal fat pad graft gave better results as the interposition material in terms of good patient acceptance, rapid epithelialization, minimal donor site morbidity, and minimal intraoperative and postoperative complications. However, further studies should be conducted on a large sample size with long-term follow-up to evaluate the efficacy of buccal fat pad graft in surgical management of OSMF.

REFERENCES