Buccal Fat Pad Reconstruction in Oral Submucosal Fibrosis

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Introduction

Oral submucosal fibrosis is a well known clinical entity since the time of Sushruta as 'vidari' [1]. Joshi in 1953 was the first person to describe this entity in India. This disease is predominantly found in the Indian subcontinent. The highest incidence is found in the state of Kerala with an overall prevalence rate of 2.5% in various states of the country [2].

Oral submucosal fibrosis is characterized by gradually increasing fibrosis of the submucosal oral cavity and pharynx, mainly the soft palate and cheek resulting in trismus. Though the exact aetiology is not known chronic irritation due to habit of chewing betel nut in various forms is a major contributory factor.

There is no definite treatment for this condition. Many medical and surgical modalities have been tried. Various flaps have been used to reconstruct surgical defects following excision of fibrous bands. Buccal fat pad for intra oral reconstruction was used by us with excellent results and the same is described here.

Case Report

A 17 year old male patient presented with complaints of inability to open the mouth fully along with nasal twang in voice and muffled speech of 5 months duration. He gave history of betel nut chewing since he was ten years of age and had repeated episodes of stomatitis. There was no history of any fever, trauma, burns or radiation exposure. There was no history suggestive of painful soft tissue inflammation around oral cavity or of intake of phenothiazines.

Examination revealed trismus with interdental distance between central incisors of 2 cm. There was blanching and stiffness of buccal mucosa and soft palate, the uvula was shortened and movements of soft palate were restricted. Tonsils appeared small and strangulated. There was no ankyloglossia or atrophy of tongue papillae. There were no ulcers, vesicles, granulations or leucoplakic patches over the buccal mucosa. Laryngopharynx and larynx were normal on indirect laryngoscopy. Oral hygiene was good. Neck examination was normal with no cervical lymphadenopathy. Ear and nose examination was normal. Systemic examination was unremarkable. He was diagnosed as a case of oral

submucosal fibrosis. After routine investigations he was taken up for surgery for excision of fibrous bands and reconstruction using buccal fat pad (Fig -1).

An incision was made in the buccal mucosa along the occlusal line and fibrous bands were sectioned. Mouth gag was applied to achieve maximum mouth opening. Buccal fat pad was teased out by dissecting a tunnel along the ascending ramus of the mandible and from lateral surface of buccinator muscle by gentle dissection and lateral pressure on the cheeks. The fat was interposed in the raw area and was sutured to the mucosa using 3.0 vicryl. Tincture benzoin packs were placed over the fat pad for haemostasis and sterility of operated field. Postoperatively he was given systemic antibiotics, analgesics and Ryles tube feeding for 7 days. He was discharged with instructions to maintain proper oral hygiene and to do passive oral dilatation exercises. He was reviewed 4 weeks postoperatively. There was no trismus, mouth opening was found to be 5 cms, the buccal mucosa was found to have healed well and there was no change in the facial contour or in cheek fullness (Fig 2).

Discussion

Soft tissue defects in the oral cavity created after resection of fibrous bands in submucous fibrosis present a distressing problem both to the patient and the surgeon. Though abundant blood supply within the oral cavity facilitates any reconstructive procedure, the oral cavity is a storehouse of a variety of micro organisms which can compromise the viability of flaps.

A large number of flaps are available for reconstruction of oral defects, like tongue flap, palatal flap and skin grafts. Egyedi [3] first published the use of buccal fat pad as a pedicled graft for closure of oral defects, he lined it with a split thickness skin graft. Neder [4] described the use of buccal fat pad as a free graft for intra oral defects. Tideman [5] showed that the pedicled fat pad graft when unlined would epithelialize in 1 to 4 weeks and therefore the use of split thickness skin graft was not necessary. Yen [6] first described application of buccal fat pad for oral submucosal fibrosis. He found that a pedicled graft of buccal fat enables closure of oral defects upto 60mm x 60mm and 6 mm in thickness. He found no obliteration of the oral vestibule

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Fig. 1 : Showing preoperative trismus

and very little morbidity at the donor site as compared to other local flaps. Mehrotra et al [7] also used buccal fat pad in various maxillofacial surgeries like submucosal fibrosis, oroantral fistulae and scar tissue adhesions in the cheek with good results.

The buccal fat pad is a mass of specialized fatty tissue which is distinct from subcutaneous fat. It was first mentioned by Heister. It consists of a main body and four extensions, buccal, pterygoid, superficial and deep temporal. The body is centrally positioned and is located above the parotid duct and extends along the anterior border of masseter muscle. It courses medially to rest on the periosteum of the posterior maxilla and overlies the uppermost fibres of buccinator muscle. Posteriorly it travels through the pterygoid maxillary fissure in contact with the maxillary artery. The buccal extension lies superficially within the cheek. The pterygoid extension rests on the pterygoid muscle. The superficial and deep temporal extensions reside in the temporal region. The buccal fat is a specialized type of fat termed syssarcosis, it enhances intermuscular motion. It is enclosed in a fascial envelope which when opened leads to herniation of the fat pad. The buccal fat pad has a good blood supply, efficient uptake at recipient site and

Fig. 2 : Showing postoperative relief of trismus

spontaneous epithelialization in oral cavity. It has a major advantage of not producing any morbidity at the donor site [8].

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A pipe burst in a doctor's house. He called a plumber. The plumber arrived, unpacked his tools, did mysterious plumber-type things for a while, and handed the doctor a bill for \$600.

The doctor exclaimed, "This is ridiculous! I don't even make that much as a doctor!."

The plumber quietly answered, "Neither did I when I was a doctor."