



ORIGINAL ARTICLE

Donor site morbidity in buccinator-based myomucosal flaps: A retrospective study



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Abstract *Background:* Buccinator-based myomucosal flaps can be used as a lining in oral cavity, pharyngeal, esophageal, and nasal reconstructions. Donor site morbidity is an important factor in selecting a flap, therefore, it was decided that donor site morbidity of this type of flap should be evaluated.

Method: In a retrospective study, patients for whom this flap had been used for oral, nasal, or pharyngeal reconstruction in 2008–2012 were recalled. Donor site morbidity including reduction in maximal interincisal opening (MIO), obliteration of the mandibular vestibule, injury to the Stensen duct, and vertical fibrous band in buccal mucosa were evaluated.

Results: Twenty-two buccinator-based myomucosal flaps (20 patients) had been used for oral, nasal, or oropharyngeal reconstruction. The most common flap used was the Facial Artery Musculomucosal (FAMM) flap (50%), and the commonest cause for flap use was the presence of a cleft lip/palate sequel in patients (45%). Four patients had developed complications (minimal reduction in MIO) related to the donor site.

Conclusion: Donor site morbidity associated with buccinator-based myomucosal flaps is low. However, minimal reduction of mouth opening occurred in 20% of the patients.

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1. Introduction

Buccinator-based myomucosal flaps can be used as a lining in oral cavity, pharyngeal, esophageal, and nasal reconstructions.^{1–4} The mucosal surface is better than skin for reconstruction of mucosal defects in these regions. Buccinator-based myomucosal flaps are thin flaps with the ability to secrete saliva; therefore, they are optimal for

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Table 1 Demographic data of the patients in which variants of buccinator-based myomucosal flaps were used for oral, nasal, and oropharyngeal reconstruction.

No.	Age (y)	Sex	Type of buccinator-based flap used	Flap size (cm)	Diagnosis/defect	Complication	Donor site closure	Follow up (y)	Radiotherapy
1	12	M	FAMM (Sup based)	2.5 × 4	Edentulous atrophic Premaxilla	—	DC	3	—
2	22	F	Posterior BUMIF (Bilateral)	3.5 × 4 3.5 × 4	Palatal fistula	Limitation in MIO (32 mm)	BFP	3	—
3	14	M	FAMM (Sup based)	2.5 × 4	Unilateral wide AC	—	DC	1	—
4	35	F	FAMM (Sup based)	1.5 × 3	Anterior mandibular vestibule	—	DC	1	—
5	40	F	Inf BUMIF	5 × 5	Tongue SCC	Limitation in MIO (31 mm)	BFP	4	+
6	18	F	FAMM (Sup based)	2.5 × 4	Edentulous atrophic Premaxilla	—	DC	3	—
7	87	M	Inf BUMIF	4.5 × 4.5	Floor of mouth SCC	—	BFP	2	+
8	13	F	Pribaz flap	2 × 4	Palatal schwannoma	—	DC	4	—
9	70	M	FAMM (Inf based)	2 × 4.5	Mandibular vestibule (Trauma)	—	DC	1	—
10	60	M	Pribaz flap	2.5 × 5	Traumatic palatal fistula	—	DC	2	—
11	18	M	FAMM (Sup based)	2 × 5	Nasal lining (Trauma)	—	DC	1	—
12	15	F	FAMM (Sup based)	2.5 × 4	Edentulous atrophic Premaxilla	Limitation in MIO (32 mm)	DC	2	—
13	35	M	Sup BUMIF	3 × 4	Large palatal fistula	—	Masseter flap	2	—
14	45	M	Inf BUMIF	4 × 4	Oropharynx (Adenoid cystic carcinoma)	—	BFP	2	+
15	25	F	FAMM (Sup based)	2.5 × 4	Edentulous atrophic Premaxilla	—	DC	2	—
16	62	M	Inf BUMIF	4 × 5	Contra lateral mandibular vestibule (Ameloblastoma)	—	BFP	1	—
17	68	M	Anteriorly based	1.5 × 5	Lower lip vermilion (SCC)	—	DC	2	—
18	18	F	FAMM (Sup based)	3.5 × 5	Large palatal fistula	Limitation in MIO (33 mm)	BFP	2	—
19	22	F	FAMM (Sup based)	3.5 × 4	Large palatal fistula	—	BFP	1	—
20	35	M	FAMM (Sup based) bilateral	2.5 × 4	Anterior maxillary melanoma	—	DC	4	+

AC = alveolar cleft; BFP = buccal fat pad; BUMIF = buccinator based myomucosal island flap; DC = direct closure; F = female; FAMM = facial artery myomucosal flap; Inf = inferior; M = male; MIO = maximal interincisal opening; SCC = squamous cell carcinoma; Sup = superior.

reconstruction of medium-sized defects of the oral cavity.⁵ These flaps are arterialized, based on the facial or maxillary arteries, which makes them very reliable. Donor site morbidity is an important factor to consider when selecting a flap; therefore, a decision was made to evaluate donor site morbidity in this group of flaps.

2. Materials and method

In a retrospective study, patients for whom this flap had been used for oral, nasal, or pharyngeal reconstruction in 2008–2012 were recalled. All the patients had been

operated on by the same surgeon. Donor site morbidity including reduction in maximal interincisal opening (MIO), obliteration of the mandibular vestibule, injury to the Stensen duct, and vertical fibrous band in buccal mucosa were evaluated. Limitations in mouth opening were recorded as a decrease in MIO and classified based on the suggestion of Thomas et al⁶: severe (MIO < 15 mm), moderate (15 mm < MIO < 30 mm), minimal (30 mm < MIO < 35 mm), and no limitation in mouth opening when MIO was >35 mm. In edentulous patients the same measurements were made while removable complete dentures were in the mouth.

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