

FACIAL ARTERY MUSCLOMUCOSAL FLAP FOR RECONSTRUCTION OF LIP DEFECTS: A CLINICAL STUDY

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Introduction

The lips are complex, laminated structures consisting of skin, subcutaneous tissue, muscles, submucosa, and mucosa. The vermilion spans the junction between the intraoral, moist mucosa and the keratinized, dry mucosa that join the skin at the white roll. With any surgical reconstruction, one must take into consideration many factors that affect overall satisfaction in terms of functional and aesthetic results. Lip defects may be traumatic or pathological following excision of large lesions such as squamous cell carcinoma and basal cell carcinoma. Numerous techniques for lip and vermilion reconstruction have been described. J. Pribaz in 1992 described the facial artery musculomucosal (FAMM) flap, which is taken from the lateral cheek as a composite flap. The FAMM flap is an axial flap based on the facial artery as it courses through the cheek lateral to the buccinator muscle, but medial to most of the other muscles of facial expression. In this study, we used FAMM flap in lip reconstruction.

Aim of the work

The purpose of this study was to assess the versatility of facial artery musculomucosal flap in reconstruction of lip defects.

Subjects and Methods

Subjects: After approval of the medical ethics committee of Alexandria Faculty of medicine, an informed consent was taken from all patients to include their data in this study. This study was carried out for ten patients admitted to the Plastic Surgery Department at Alexandria Main university hospital with lip defects whether traumatic or pathological.

Methods: All patients were subjected to the following: Detailed history taking, Thorough clinical examination with stress on defect size, Preoperative photography, Routine laboratory investigation: For lip and vermilion reconstruction, a long, narrow flap was generally required. For this reason, it is absolutely mandatory that the flap was extended over the facial artery so that the artery remains axial throughout the entire length of the flap. A Doppler ultrasound was used to mark the course of the facial artery which is 1 cm lateral to the oral commissure.

Exclusion criteria: Patients with history of previous lip surgery, Smoking patients.

Results

Eleven facial artery musculomucosal (FAMM) flaps were elevated to close lip defects in ten patients. Nine flaps were inferiorly based, and two flaps were superiorly based. The number of males was 5 patients (50%) and number of females was 5 patients (50%). The age of the contributing subjects ranged between 7 and 70 years with a mean of about 39 years.

Defect size ranged between 5 to 9 cm length, and 2 to 3 cm width. A ruler was used to determine defect size in cm. Defect was in the lower lip in 8 patients and in the upper lip in 2 patients. Unilateral flaps were done in 9 patients, while bilateral flap was done in one patient. Superiorly based flaps were used in 2 patients, while inferiorly based flaps were used in 8 patients. Operative time ranged from 1.5 to 3 hours, with a mean of 2 hours. All flaps were pink as noted intraoperatively. Signs of congestion of the flap were observed in almost all patients except two patients. Congestion resolved soon after, and all the flaps attained a good pink color, except for 2 patients who had a pale distal end of the flap after 24 hours. 8 flaps survived completely (72 %) . In 3 flaps (28 %), there was partial loss of the distal end of the flaps, which was noted after one week. No intervention was needed. Healing of the donor site wound occurred without complications in all cases. Feeling of tightness of the cheek was noted in all patients during the first 2 to 3 months, but it did not cause limitation in mouth opening.

Table: The following table shows etiology of lip defect in our study

Etiology	Number of cases	Percentage %
Tumor	7	70%
Trauma	1	10%
Venous malformation	1	10%
Post burn contracture	1	10%



Figure: a case of squamous cell carcinoma reconstructed using FAMM flap

Conclusion

Facial artery musculomucosal flap is an axial pattern flap based on the facial artery. FAMM flap can be superiorly or inferiorly based. It is a single stage operation if the flap is taken as island flap. FAMM flap is used to reconstruct upper and lower lip defects. The FAMM flap was ideal for reconstructing the inner, moist lip mucosa because it consists of similar tissue, with the same color, texture, and moisture as a normal lip. It was effective in reconstruction of small to medium sized lip defect without leaving external scar or causing donor site morbidity.