

FOLDED FOREHEAD FLAPS FOR RECONSTRUCTION OF CHEEK DEFECTS

**Dr. R. Bharat, M. Ch, P.G. *Dr. K. Ramakrishnan Nair, Professor.*

**Dr. O. J. Jacob, M. Ch. P. G. *Dr. U. R. Nandakumar, Asstt. Professor.*

SUMMARY :

The temporal forehead flap is a useful flap for reconstruction of cheek defects. Experience of ten cases is being presented where folded forehead flaps were used for reconstruction of post-excisional full thickness cheek defects. It has been found that it is quite a simple, safe and satisfactory method involving the use of a single flap.

INTRODUCTION

The temporal forehead flap is a versatile flap based on anterior branch of superficial temporal vessels. It was first used by McGregor in 1963 for reconstruction of intraoral defects following resection of squamous cell carcinoma of lower alveolus, floor of the mouth and tongue. In 1967, Wilson reduced the width of the pedicle to 2 cm, carefully avoiding damage to the vessels, thereby facilitating movement of the flap. Millard in 1964 used a longitudinally folded forehead flap in conjunction with primary bone grafting to replace the resected mandible. On occasions the flap has been raised as an island (McGregor and Reid, 1966) with a totally subcutaneous pedicle. In this paper experience of ten cases

is being presented where folded forehead flaps have been used for reconstruction of full thickness post excisional defects of cheek.

MATERIALS AND METHODS :

All the ten patients were males ranging in age between 50-68 years. The diagnosis of squamous cell carcinoma was established by biopsy followed by a course of radiation. Lesions were situated over the lower alveolus and adjoining cheek, varying in extent. Since the general condition of these patients were not satisfactory, operation was done in two stages. In the first stage wide excision of the lesion with hemimandibulectomy and suprahyoid block dissection was carried out leaving an orocutaneous fistula. Reconstruction of the defect was undertaken in the second stage 8-12 weeks after the first operation. The whole forehead was used for the flap which was raised from the pericranium. Base of the flap was above the ipsilateral zygomatic arch. Margins of the defect were freshened defining the skin and mucosal layers. The distal part of the flap was folded upon itself. The deeper layer of the folded part was sutured to the mucosa and the

*Department of Plastic and Reconstructive Surgery, Medical College, Trivandrum (India).

returning superficial layer was sutured to the skin. The intervening segment of the flap was tubed. The donor defect was split skin grafted. Three to four weeks later in the subsequent stage the pedicle was divided and the inset over the posterior edge of defect was completed. The remaining part of the pedicle with side burn was returned to the preauricular region.

During the operation it was observed that there was good dermal bleeding from the distal edge of flap. In four out of the ten cases intravenous fluoresceine was injected to confirm the vascularity of the flap. Under the ultraviolet light all these four cases revealed yellowish fluorescence right upto the tip of the flap.

RESULTS :

In nine out of ten cases the flap settled well with satisfactory healing. In one case distal part of the flap forming the lining layer and part of covering layer sloughed resulting in complete detachment of the flap from the defect. However, three months later the same forehead flap was advanced to line the defect and a sternomastoid myocutaneous flap was used for cover.

Two of the ten cases had recurrence, one after four months and another after 18 months after reconstruction. In both cases the recurrence was in the form of ulcer of the edge of remaining hemimandible. Further resec-

tions were carried out, advancing the flap to cover the raw area. One healed well, but the other had postoperative infection and healed leaving a small salivary fistula.

DISCUSSION :

Formerly it was believed that permissible limit of the forehead flap was upto midline or just beyond the midline, because of inadequate vascular connections across the midline. But now even for a full length forehead flap no delay is recommended. However, Millard has suggested that contralateral superficial temporal artery should be ligated as a delay where external carotid artery of that side has been ligated in some prior surgical procedure. In doubtful cases intravenous fluoresceine is a useful aid for evaluation of vascularity of flap.

In majority of circumstances the temporal forehead flap is used as a lining for closure of defect of the cheek in which case another flap is necessary for cover, a random cervical flap, Bakamjian flap or sternomastoid myocutaneous flap. Single forehead flap is easy to raise, less time consuming with relatively less blood loss.

When whole forehead is split skin grafted, it is cosmetically acceptable, although this has been an objection by many authors earlier. It is certainly better than a situation where one half of the forehead is split skin grafted after the use of the flap for lining alone.



Fig. 1. The defect.



Fig. 2. Flap outlined.



Fig. 3. The Result.

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