USE OF A FOLDED FOREHEAD FLAP FOR RECONSTRUCTION AFTER A LARGE EXCISION OF THE FULL THICKNESS OF THE CHEEK

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The forehead flap has been one of the most versatile flaps for primary reconstructions after resections of head and neck malignancies involving the oral cavity.²⁻⁶

We present a further application of this flap in massive resections of oral malignancies involving the full thickness of the cheek, when the lesion extends to or from the angle of the mouth. In many cases at the Tata Memorial Hospital we found that instead of using a double flap (i.e. the forehead flap and the Bakamjian deltopectoral flap) for immediate reconstruction, we could use the forehead flap to form both the cheek lining and the outside skin.

TECHNIQUE

If the mucosal defect is larger than the skin defect, the flap is hinged down and tunneled through over the zygomatic arch into the oral cavity (Fig. 1, left). The midportion of the flap is sewn in for lining, after which the distal part is folded back on the outside for

![Fig. 1. (left) The forehead flap is hinged down and tunneled through over the zygomatic arch into the oral cavity. Next, the midportion will be sewn in for cheek lining and the distal end will be folded back for cover. (right) Some 5 weeks later the pedicle is divided, the fold is divided and the anterior ends are inset as lining and cover, along with reconstruction of the angle of the mouth. The posterior flap from the upper neck (marked X) was rotated forward to help in the closure.

From the Plastic and Reconstructive Surgery Service of Tata Memorial Hospital.
cover. During the division of the pedi-
cle some 3 weeks later, the fold is
opened and commissuroplasty is done to
close and form the angle of the mouth
(Fig. 1, right, and Fig. 2).

If the skin defect is larger than the
mucosal defect, the forehead flap is
brought down on the outside, the mid-
portion is sewn in place for the cover,
and the distal end is folded back in the
mouth and inset for lining (Fig. 3).

**DISCUSSION**

More than 25 such procedures have
been done in 1½ years at the Tata
Memorial Hospital. The breakdown
rate in this method of reconstruction
was less than 10 percent; the major
causes were hematomas or collections.

Only two of the flaps folded in this
way showed any signs of necrosis due to
a strained blood supply. (A dry type of
necrosis did occur in patients who were

![Fig. 2. Another patient in whom a large full-thickness cheek resection was necessary for carcinoma. The repair was done by the same method used in the patient in Figure 1. Here the defect in the lining was several times the size of the defect in the cover.](image)
Fig. 3. In this patient the defect (from excision of a cheek carcinoma) was about the same size in the lining and cover. The forehead flap was brought down on the outside, the midportion sewn in for cover, and the distal end folded back inside the mouth for lining. Here the flap had to be used to recreate the lateral half of both lips and the commissure—so the appearance is not as good.

atherosclerotic and more than 70 years old.

The color match and the final cosmetic results, after a couple of minor procedures, were far better than the ones obtained by a combination of the forehead and deltopectoral flaps.

Even relatively large lesions could be so reconstructed by also rotating the upper cheek flap forward (as shown in
Figures 1 and 2) and excising a Burow's triangle from the neck skin to facilitate the rotation.

SUMMARY

A further application of the versatile forehead flap for the primary repair of full-thickness defects of the cheek is described. After the malignancy is excised the flap is folded upon itself to provide both lining and skin cover.

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REFERENCES


