The Use of Apron Flap in Head and Neck Malignancy
(A case report)

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THE modern trend in the managment of oral cavity tumours is based on their early diagnosis, complete surgical excision of the lesion including its lymph shed, immediate reconstruction of the operative defect if possible and early rehabilitation of the patient.

Extensive use of different types of flaps for reconstruction of oral defects is being practiced. Each flap procedure has to be designed to fit the individual requirement of the defect, for its reconstruction.

Apron Flap was first designed and practiced by Kiehn et al (1960) for a patient of squamous cell carcinoma of floor of the mouth. In the patient reported here an Apron flap was used for large a giant cell epulis of the lower jaw in a young boy.

Case History

T.R,. 12 yrs, a young boy was admitted to the Surgical service of G.M. & Associated Hospitals K,G's Medical College, Lucknow, in July, 1970, with complaints of having a huge swelling of the lower jaw, involving symphyseal region and body of the mandible for the last more than 9 months. The growth was first noticed on the right side of the jaw involving the gum and was progressive. The relatives of the patient could not tell the exact duration. It started growing rapidly for the last 9 months and was not associated with any other symptoms, or clinical findings in the body except for the fact that he had difficulty in speech and taking meals.

On examination, the lower jaw was swollen, from the angle of the mandible on right side across the symphysis of the mandible to the left side. Intra-orally it was extending from right first molar to the premolar area on left side, encroaching over the floor of the mouth(fig. 1).Both the tables of mandible were found to be expanded with variable consistency over the skin and mucosal surface. The overlying mucosa was adherent to the growth. It was friable at places. The teeth were loose and few of them were missing, Preoperative biopsy revealed it to be a giant cell epulis. Excision of the growth and one stage reconstruction was planned by an Apron Flap.

A superiorly based Apron Flap was delayed infront of the neck and the raw area over the neck was grafted with the split skin graft, at the same time. After a week, the growth was excised in toto. The bony defect was bridged by an autogenous rib

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graft. Apron flap was lifted up and transferrd to its new position and the required non hairy area of the flap for the reconstruction was marked out. The remaining part of the flap coming inside the wound was de-epithelialised, which too was non hairy. The flap was rolled in, so as to cover the bone graft and raw area the floor of the mouth. The flap was stitched to the cut edges of the buccal

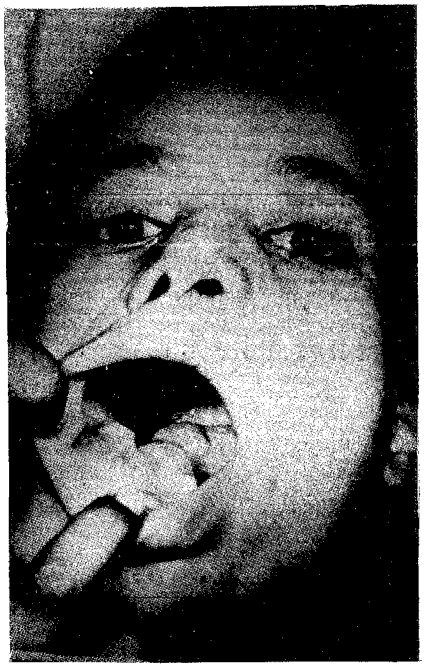

Fig. 1—Preoperative photograph of the patient showing the extent of the swelling in the mouth.

mucosa on the the sides and to the cut edges of the mucosa of the lower lip sulcus anteriorly (Figs. 2 & 3). The tongue musculature was given a fresh insertion into the posterosuperior aspect of the flap on its raw aspect covering the lingual side of the rib graft. The inferior edge of denuded area of the flap was stitched to the upper edge of the already present split skin graft.

The immediate post operative phase was uneventful except for swelling of the face. After three months the rib graft sequestrated out without any change in the contour of the jaw.

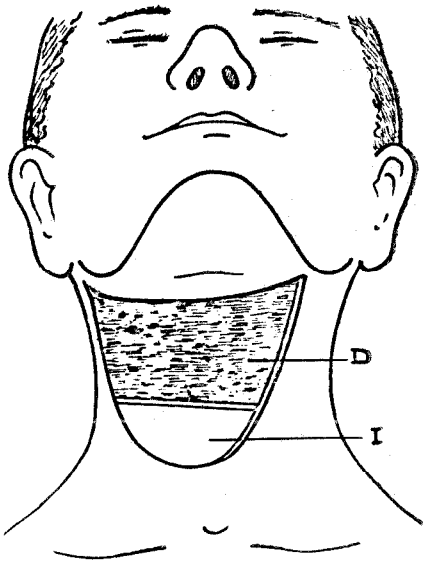

Fig. 2—Line diagram showing the designing of the flap. D=De-epithelized area I=Island flap

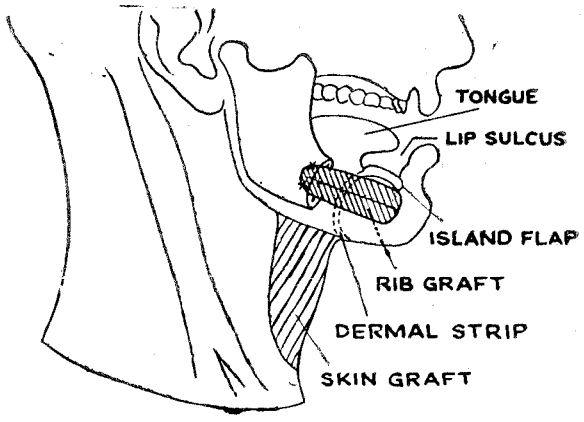

Fig. 3—Line diagram showing final operative step.

The ultimate cosmetic and functional result in this case was excellent. The opening of mouth was adeqate. The profile of the face was good. After four years he is now well

and taking his meals normally and having good range of tongue movements with good speech (Fig 4)

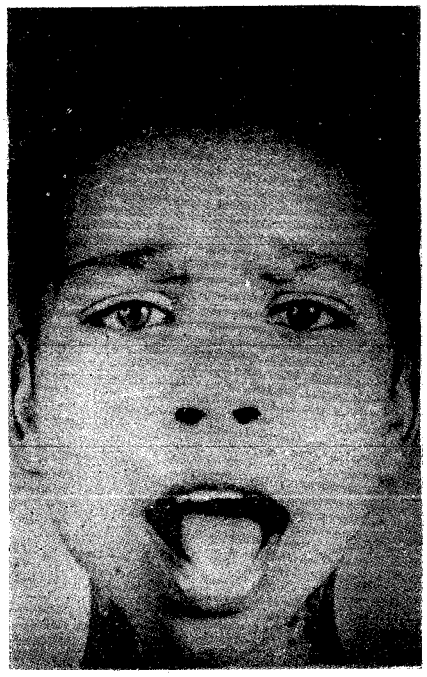

Fig. 4—Post operative photograph one year after surgery, showing satisfactory position of mandible and satisfactory mouth opening.

Discussion

Apron flap is suitable in cases of either benign or malignant lesions, with or without secondaries in the neck, of mandible, alveolus or lesions of floor of the mouth. For anterior lesions the tip of the flap lies over the anterior midline of the neck, while for more posterior lesions the apron flap is outlined laterally. But its use has its own limitation in malignant induration and scarring, or contracture of the neck, in cases where high types of tracheostomy has been done or both the external carotids have been ligated for some reasons or the other. The lip sulcus must be present to give its anterior attachment.

Zovikian (1957) has pointed out that the bulk and rigidity of the apron flap will often suffice to stabilize the mandible without internal matallic or bone splinting. The unsupported mandible even after removal of a metallic splint at a later date, maintains its position well, as was apparent in our case.

Summary

The apron flap has been used in a 12 years boy of with giant cell epulis of the lower jaw with good cosmetic and functional result, accomplished by one stage reconstruction.

Acknowledgement

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