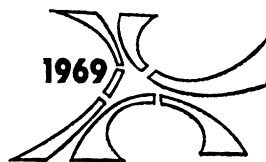


Cheek Flap for Short Palates



MURARI MOHAN MUKHERJI, M.B., M.S., F.R.C.S.
Calcutta, India

An ideal operation for cleft palate is to produce a long mobile soft palate.

Short soft palates with wide cleft of palatal processes are a source of concern to plastic surgeons, orthodontists, and speech therapists.

Short soft palate is a relative term; length will be short if the nasopharynx is deep even though the actual length of the soft palate is fairly satisfactory. Average length of soft palates in children of one and one half to two years is about 2.5 cm, the range varies from 1.75 to 3 cm.

For 35 patients, the distance between the elevated nasal side of the soft palate and the posterior pharyngeal wall has been studied to establish the inadequacy of the soft palate. The distance has been measured from x-ray films showing soft palate and nasopharynx, and has been calculated properly. Of the 35 patients, 15 (42.8%) had distances between the soft palate and the posterior pharyngeal wall of less than 5 mm, 11 (or 31.4%) had distances greater than 5 mm but less than 10 mm, and 9 (or 25.7%) had distances greater than 10 mm.

This 25.7% of the cleft palate children and a few of the second group (greater than 5 mm and less than 10 mm) present the problems to be solved.

In the Plastic Unit of the Institute, the treatment of the cleft lip and palate is carried on in a very systematic way through a Cleft Palate Clinic which is held twice a month. The clinic is composed of plastic surgeons, orthodontic surgeons, a pediatrician, a speech therapist, and an anesthetist, whenever such a problem is faced.

Treatment of these infants is started almost one month after birth. Base splint is fitted for all infants a) to prevent the protrusion of the tongue into the nose, hampering the growth and falling down of the nearly vertical palatal processes which are also very short at the time and b) to maintain the normal arch relations. The lip is repaired as soon as possible to help in reducing the palatal gap, and also to maintain

Dr. Mukherji is Professor, Department of Plastic Surgery, Institute of Post-Graduate Medical Education and Research, Calcutta.

This paper was presented at the 1969 International Congress on Cleft Palate, Houston.

the arch relation. Reconstruction of the alveolar arch by replacement of bone is always kept in mind.

Then these children with base splints are watched every 2 to 3 months. The palatal gap is reduced in most of them, due to normal growth and probably assisted by the base splint. Some, however, do not show any evidence of improvement. These refractory cleft palates are being watched for 3 to 5 years, until the time the repair with a pharyngeal flap is possible. In a few patients, the soft palate is repaired leaving a gap in hard palate for fitting of an obturator. The pharyngeal flap operation is almost indispensable for a wide gap between soft palate and the posterior wall of the nasopharynx. However, this operation disturbs the normal anatomy of the nasopharynx. This operation is rather troublesome at a very young age (the ideal age of one to one and one half years for cleft palate repair). So this procedure of pharyngeal flap is adopted in children when they are nearly five years old, preferably between four and five. The result of the upper pedicle pharyngeal flap has been excellent in this unit. Intelligible speech has been achieved in about 93% of these cleft palate children. But having learned to talk for years with cleft palate unrepaired, some defects of speech were maintained even after the nasopharyngeal closure was brought about by Wardill's V.Y. operation, combined with upper pedicle pharyngeal flap.

A few residual unfortunate children have gaps that are too big and so have arm tube repairs. Pharyngeal flap might make a tolerably long

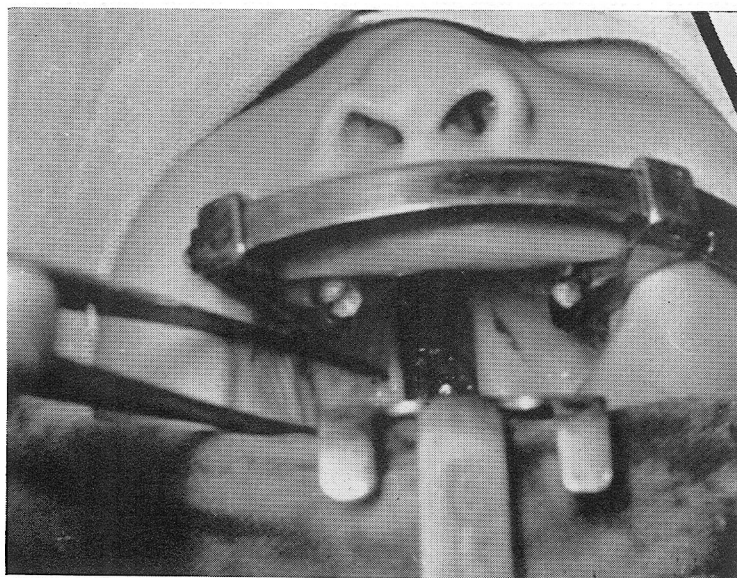


FIGURE. 1. Short palate with wide gap.

soft palate but the whole of the anterior palate will have a very wide gap. So these patients wait for an arm tube repair after five years of age. Some of them have the soft palate repaired with a pharyngeal flap and use an obturator until the final operation.

This being the state of affairs, it is obvious that some extraneous tissues are needed for quite a number of these cleft palate babies.

Since the tongue is a very mobile organ, flaps from it are thought unsuitable for the purpose. So the cheek was the next sheet anchor. Moderately wide (1.5 cm) and long (5 to 6 cm) flaps are lifted up from the mucous membrane of the cheek, taking care of the parotid duct (Figures 1, 2, and 3).

These flaps were based near the anterior pillar of the fauces. When brought to the palatal region, they were found to fit comfortably between the soft palate and the hard palate, between the four flaps of the universally accepted Wardill-Veau operation. The cheek flap was best suited for the oral layer in the cleft palate repair but it could be used as the nasal layer by rotating its pedicle. This rotation of the pedicle did not create circulatory disturbance. Thus the rotated flap with

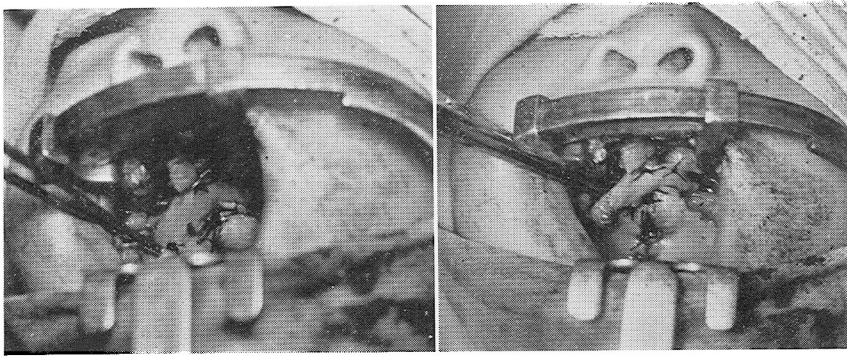


FIGURE 2. Check flap elevated (left) and sutured (right).

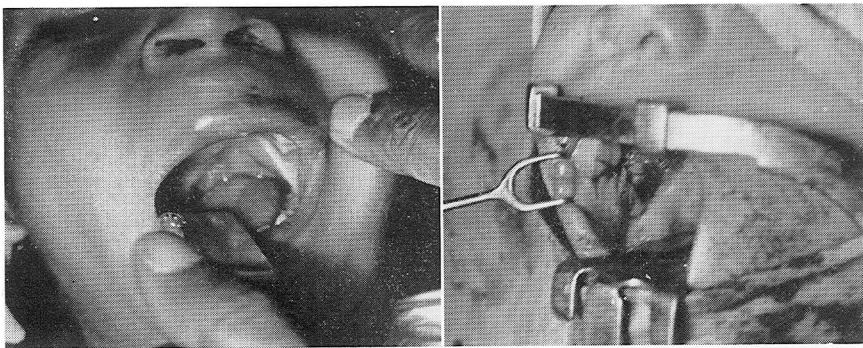


FIGURE 3. Immediately postoperative (left) and three months after repair (right).

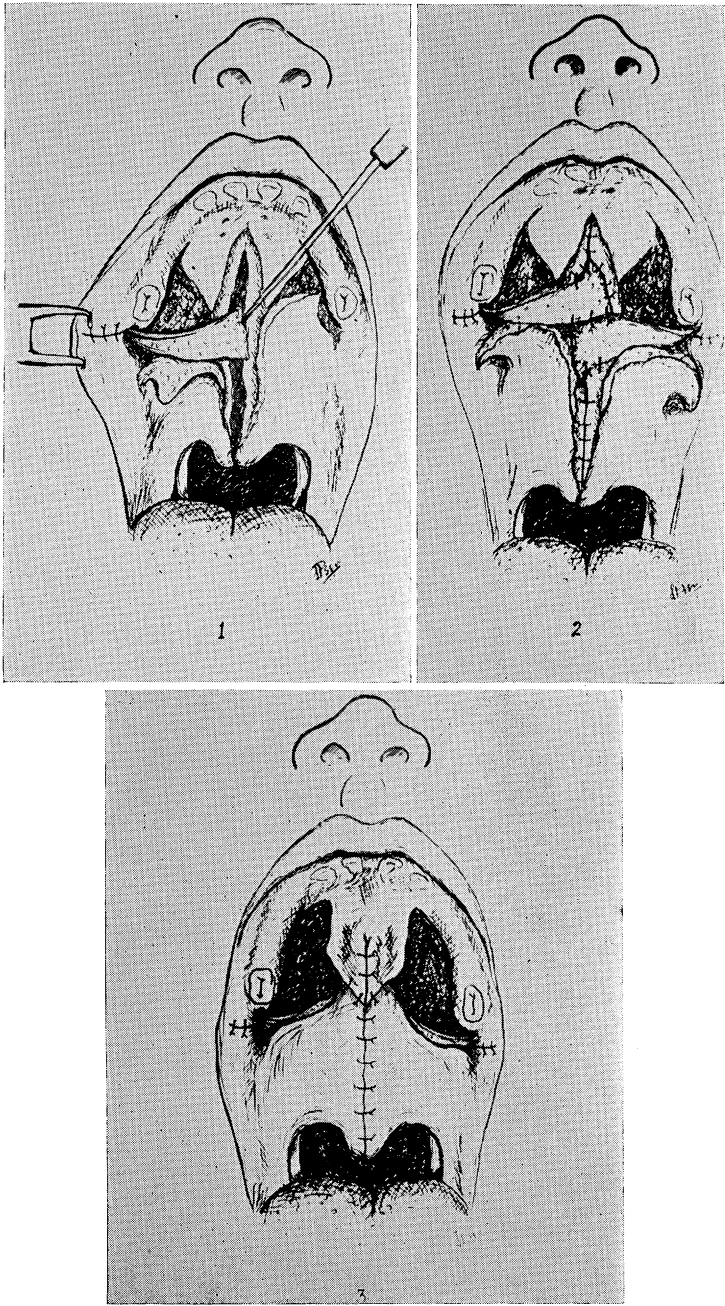


FIGURE 4. Procedure for using cheek flaps for nasal layer, in combination with Wardill.

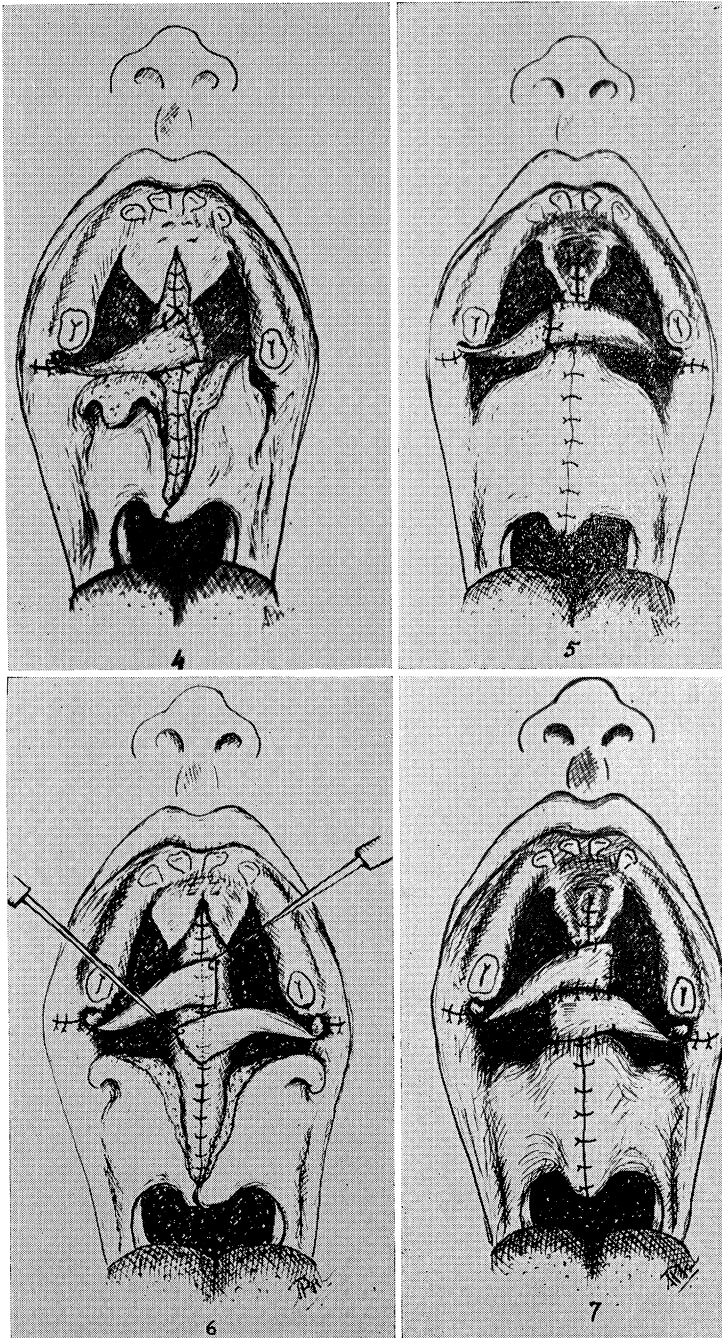


FIGURE 5. Procedure for using cheek flaps for both oral and nasal layer, in combination with Wardill.

raw surface upwards could be utilized for the nasal layer. In fact the two flaps from the two cheeks have been used for all purposes: the buccal layer only, the nasal layer only (Figure 4), or one for the nasal layer and another for buccal layer (Figure 5).

This flap is normally 1.50 cm in width and has been found to give the same length to the newly repaired soft palate. In most problems, the flaps are used for the oral layer since the nasal layer can be increased in length at the cost of the buccal layer. This extra width from the buccal aspect can be utilized to increase the length of the nasal layer by making V-incisions on one side or by even doing a Z-plasty at the junction of hard and soft palate. A considerable amount of interference on the nasal layers is possible as the cheek flaps lie intact over them, that is, without any overlapping suture over the Z-plasties of V-incisions. The tip of the flap may be lost in some patients but the tip is fixed near the opposite molar margin and so this loss does not interfere with the final result.

In conclusion, the advantages of the cheek flaps are as follows: increase in length of the soft palate for at least 1.50 cm, prevention of the abnormal anatomy of pharyngeal flap operation in a fair number of cleft palate children, and decrease in the incidences of perforation at the junction of soft and hard palates.

The only disadvantages which may be created by interference with the parotid duct or its opening would be stricture or, at the most, an intraoral parotid fistula. No such complications have been met as yet. So we feel that cheek flaps are good substitutes for short soft palates and should be given a fair trial.

Summary

A procedure for using cheek flaps in cleft palate surgery is described.

reprints: *Dr. Murari Mohan Mukherji*

Department of Plastic Surgery

Institute of Post-Graduate Medical

Education and Research

244, Lower Circular Road

Calcutta-20, India