


Management of Bilateral Cleft Lip with Protruding Premaxilla

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NE of the most horrifying experiences for young parents is the first sight of their new born infant, disfigured by bilateral cleft lip. The author presents his experience of a simple technique for the repair of the bilateral cleft lip. All clefts in this series have been repaired, in two stages over the protruding premaxilla. No effort was made to retropose the premaxilla by surgery.

Technique of Repair

Points are marked as shown in fig. 1. Point A' is marked little beyond the base of the columella. Point C' is marked at the centre of the prolabium at the muco-cutaneous junction. Point B' is located at the muco-cutaneous junction so that B'C' forms the proposed length of one limb of the Cupid's bow. Point A is marked at the level of the base of the ala and point B is located at the maximum fullness of vermilion so that AB is equal to A'B'. Points C marked at the muco-cutaneous junction making BC equal to B'C'.

Incision is made at muco-cutaneous junction from A' to C' and extended vertically down from C' in the prolabial vermilion for 2 to 3 mm. This extension of the

incision facilitates in turning down the prolabial vermilion flaps. On the lateral lip element through and through incision from A to B is made and the vermilion flap is turned down. Lip elements are mobilised thoroughly. Closure of the lip is done in two layers as shown in Fig. 1. Vermilion flap from the lateral lip element is sutured beneath the prolabium, excising excess of tissue beyond C. Alar correction is done according to the method already described (Sharma, 1969).

The other side of the cleft is repaired as a second stage after three months. Columellar lengthening is done by Millard's forked flap technique at a later date when the premaxilla has got retroposed.

Results

In the present series 45 cases of bilateral cleft lip with or without a cleft palate and with varying degrees of protrusion of the premaxilla are included. Initially 10 lips were repaired by using triangular or rectangular skin flaps from the lateral elements beneath the prolabium as described by Barrett Brown (1947). Follow up of these cases showed that the lip became too long, hanging like a curtain over the upper incisors. The repaired lip was also found to be tight

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horizontally in some broad clefts.

The other 35 cases were repaired by the method as described in Fig. 1, in two stages (Fig. 2 & 3). The follow up of these cases revealed that the length of the lip which appeared short to begin with at the

record the relation of premaxilla with the lateral maxillary arch. In the pre-operative dental models, the amount of protusion of premaxilla in relation to the maxillary arch was recorded by measuring the distance between the maxillary arch and the most

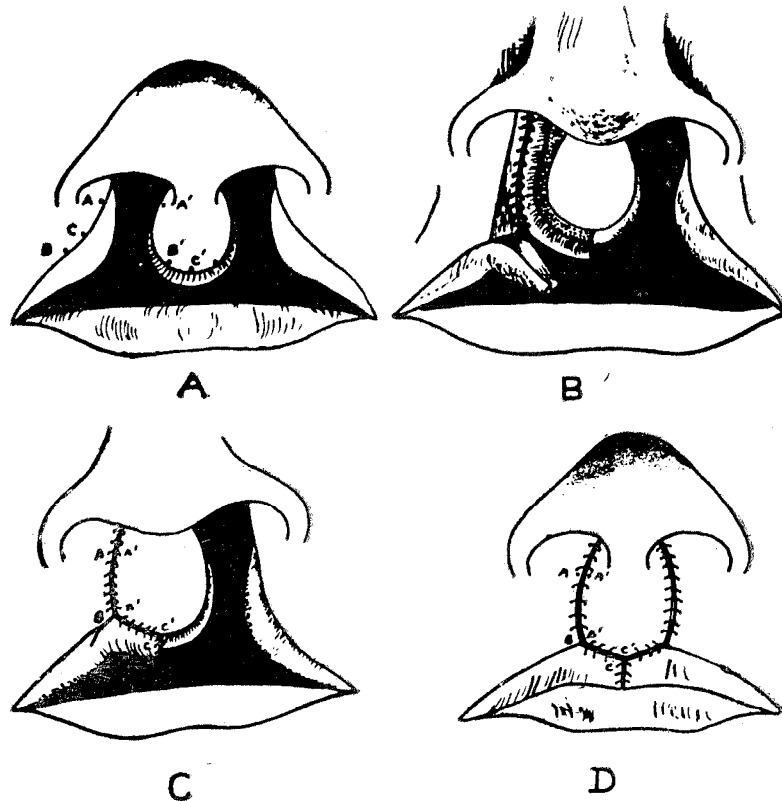


Fig. 1—Showing marking and the closure of the lip

time of the repair, assumed normal proportions later. The lip looked symmetrical with a good Cupid's bow, and there was no tightness horizontally. The upper sulcus at the premaxillary region was found to be shallow.

Effect of Lip Pressure on Premaxilla

A study of pre and post-operative dental models of the upper arch was done in all clefts with protruding premaxilla to

distal limit of the premaxilla as shown in Fig. 4. In my cases, it ranged from 0.5 cm to 2.2 cm. In the post-operative review between 2-4 years, position of the nasal septum, and the nasal airway was studied. The amount of retropositioning of the premaxilla was recorded by studying the post-operative dental models (Fig 4).

This study revealed that the alignment of premaxilla was achieved in all cases,

A good arch alignment was obtained in cases who took regular orthodontic treatment in the post-operative period to expand the maxillary arch. In patients who did not turn up for orthodontic treatment, the maxillary arch collapsed and further retropositioning of the premaxilla was arrested.

It was however interesting to observe that although the premaxilla was retroposed by the lip pressure in all cases, the septum was buckled blocking the airway in cases where the Premaxilla was protruded beyond 1.8 cm. from the lateral maxillary arch. In cases with less than 1.8 cm. protrusion of premaxilla, retropositioning was achieved



Fig. 2—Pre-operative and post-operative by the present technique.



Fig 3—Pre-operative and post-operative. Columellar lengthening is done by the forked flap.

without any secondary changes in the septum and nasal airway.

Discussion :

Schultz (1946), Brown (1947), Manchester (1970), Millard (1971) and Micheline et al (1973) repaired both sides of the cleft in one stage. All these authors advocate retropositioning of the premaxilla either surgically or by external lip pressure before the lip repair. Schultz and Manchester mobilise the muscle and mucosa from the lateral lip element and suture them in the midline under the prolabial skin. Millard banks much of the prolabial skin at the time of primary repair of the lip for secondary lengthening of the columella later. Brown sacrificed much of the tissue from the lateral lip element. All these procedures are not possible without tension on the stitch line, unless the premaxilla is set back before the lip repair. Manchester frees the prolabium completely from the premaxillary attachment and while closing the

lip no consideration is given to the raw area left over the premaxilla. These procedures when followed are bound to be produce tension due the protrusion of the underlying premaxilla resulting in, either a break down or a broad scar. Repair in two stages avoids the tension and saves the operating time in infants.

We feel that, all cases do not require retropositicning of the premaxilla by a surgical procedure. It was observed that protrusion of premaxilla of less than 1.8 cm. goes back by lip pressure alone without any secondary changes in the nasal septum.

It is further experienced that any skin flap borrowed from the lateral lip element and sutured beneath the prolabium gives an undue length to the repaired lip. The loss of substance from the lateral elements often causes horizontal tightening of the lip, particularly in wide clefts.

Lengthening of the columella may



Fig. 4--Showing dental model before and after the lip repair, Premaxilla is retroposed by lip pressure.

be postponed till the premaxilla recedes into position. The upper lip by then loses its tenseness and a forked flap can be borrowed easily.

Basically the aim of every technique is to give a good looking lip which has a normal height, good Cupid's bow and vermillion, a deep upper sulcus and not too tight a lip horizontally. All these criteria are fulfilled by our simple procedure of lip repair except that the sulcus remains shallow which can be deepened at a later stage.

Summary

Experience in the management of bilateral cleft lip with protruding premaxilla has been presented. A simple technique of lip repair is described and the results of 45 cases of bilateral cleft lip, repaired by this technique, are presented. A study of lip pressure on the protruded premaxilla was done and it revealed that surgical repositioning of the premaxilla was not necessary in all cases.

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