A Lining Vomer Flap
For Palate Pushback
in Unilateral
Cleft Palate Repair

A combination vomer mucoperiosteal flap and nasal floor mucoperiosteal flap is described which is used to achieve nasal coverage in unilateral cleft palate patients requiring pushbacks. A posteriorly based readily accessible vomer flap is raised on the cleft side and used as nasal lining for the palatal mucoperiosteal flap on the non-cleft side. On the cleft side, a symmetrically sized nasal floor flap is easily elevated under direct vision and used to cover the nasal aspect of the corresponding mucoperiosteal palatal flap.

Since the introduction of palatal pushback surgery, mainly by Dorrance (1925), Dorrance and Bransfield, (1943), and Wardill (1937), cleft palate surgeons have realized the importance of lining on the raw nasal surface of the posteriorly displaced soft palate (Baxter, 1942; Edgerton, 1960). This lining limits wound contraction that would otherwise obviate much of the improvement achieved by palatal pushback. Methods described to achieve nasal coverage of the palatal mucoperiosteal flaps include skin grafts, buccal mucosal grafts (Spina, et al., 1961), buccal mucosal flaps, nasal floor mucoperiosteal flaps, pharyngeal flaps, and palatal island flaps (Millard, 1962, 1963).

Cronin (1957) first described using mucosal flaps taken from the nasal surface of the hard palate to cover the raw surface of the palatal pushback flaps. However, the nasal mucosal flaps are incised through the nose and cannot be dissected under direct vision.

There have been other modifications of the nasal floor mucosal flaps, for example, Stark's (1963) description of a staggered closure for nasal mucosal flaps in partial palatal clefts. Horton et al. (1973) described using bilateral posteriorly based vomer flaps for nasal coverage in pushbacks when there is a large accessible non-attached vomer.

Method

Our method for vomer flap coverage of the nasal lining may be used in complete unilateral cleft palates and many incomplete clefts in patients requiring a palatal lengthening procedure. Standard mucoperiosteal flaps are raised from the bony palate (Figure 1). The vomer mucosa on the cleft side is raised as a flap based on the anterior nasal mucosa of the soft palate following division of its aponeurotic attachment to the hard palate (Figure 2). The vomer flap is used as nasal coverage for the mucoperiosteal flap developed on the non-cleft side (Figure 3). This obviates the need to develop nasal mucosal flaps from the floor of the nose on the non-cleft side which have to be dissected blindly and often end up thin, friable, and torn. On the cleft side, a symmetrical sized flap of mucosa from the readily accessible nasal floor is used to cover the nasal defect of the corresponding mucoperiosteal flap (Figure 4).

Discussion

We feel there are many advantages to this combination of vomer mucoperiosteal flap and nasal floor mucoperiosteal flap to achieve nasal coverage in unilateral cleft palate patients requiring pushbacks. The operation is

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done completely under direct vision. Tissue is used that is directly adjacent to the soft palate. Extensive dissection is eliminated with resultant less scarring. The anterior palatine vessels and nerves are left intact compared to the island flap technique of dissecting them free from the posterior aspect of the palatal mucoperiosteal flaps. The readily accessible
nasal mucosal flaps decrease the operating time.

References

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FIGURE 3. Vomer flap shown in appropriate position for coverage on raw surface of pushback flap.

FIGURE 4. Suture in place through all four flaps. Palatal mucoperiosteal flaps are retracted laterally to show the vomer flap on patient's right side and nasal floor mucosal flap on left side.

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