SEPTAL DISLOCATIONS IN THE NEWBORN INFANT

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It is the purpose of this paper to explore the diagnosis and treatment of septal dislocations observed in the newborn. It would seem advantageous to clearly identify the anatomical deformity and then describe a corrective procedure which evolves logically.

In general the temporary nasal deformity which corrects itself within a few days after birth should be differentiated from the permanent septal cartilage dislocation with which we are here concerned. Cottle (1) initially made us aware of the external nasal pyramid deformities seen at birth, and he described flattening of the nose and the dislocation of septal cartilage from the vomerine ridge. Neumann (2) emphasized the fact that growth during childhood caused the deformity to increase rather than correct itself. Steiner (3) stated that nasal injury can occur in the prenatal period, from the fourth month of gestation until term, a time when the nasal capsule is well developed. His diagrams also depicted the possibilities for nasal injury when there is positional contact through the birth canal during labor.

Briant (4) in considering birth injury as a cause of dislocated septa, points to the common birth presentation of L. O. A. (80%) and correlates this with the most frequent deviation of a newborn's nose to the right (80%). Most obstetricians and pediatricians are aware of the high incidence of simple flattening of the lobule seen in nursery infants. The ability of the infant nose to regain its normal contour is well documented. However, Cottle, Loring, Philpott and Gaynon, (5) stated that 5—7% of newborns show irreversible nasal injury which occurred in utero or in the birth canal.

One of the objectives of this paper is to call attention to septal deformities which will not return to normal despite the inherent forces of the nose, (totipotence), which works for a return to normal.

Ladd (6) has suggested that infants tolerate surgical procedures better in the first two or three days of life than after a week or more. In our twelve

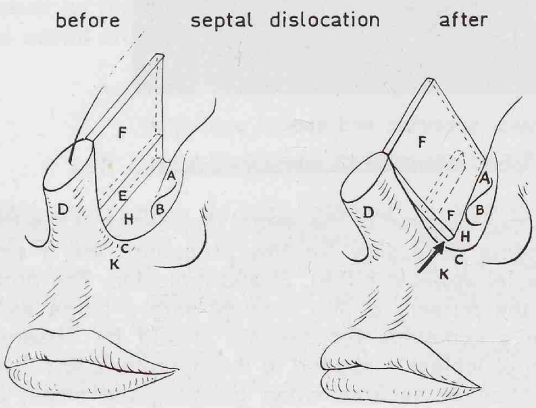

Fig. 1. Arrow indicates minute aperture

A-Inferior Turbinate
B-Inferior Meatus
C-Crest of Pyriform Aperture
D-Columella
E-Premaxillary Wing and Vomer
F-Septal Cartilage
H-Floor of Internal Nose
K-Floor of Vestibue

patients we have encountered no reflex side effects during or following manipulation of the nasal septum on the third day after birth.

The diagnosis of septal dislocation is difficult because the size of the nares and internal os of the newborn infant limit visualization of the architecture of the internal nose. When the caudal border of the septal cartilage is dislocated out of the groove and this is viewed anteriorly it can simulate the appearance of the floor of the nose per se. (Fig. 1). Using a small infant's nasal speculum to inspect the internal os, it is apparent that the mucosa covering the crest of the pyriform aperture and the inferior turbinate blends with the mucosa of the septal dislocation. These structures are clearly delineated in the other nostril.

The degree to which the relationship between the cartilage and bony joint has been disrupted can be determined by visualizing the nose from the base view. This reveals the oblique direction of the columella and the dislocation can be palpated with a fine cotton tipped applicator. It is inserted into a 1—2 mm. space (difficult to visualize) between the crest of the pyriform aperture and septal cartilage (Fig. 2) to feel for the floor of the nose. The applicator is moved toward the midline and then upward toward the dorsum and when a septal dislocation is present it becomes impacted beneath the ridge.

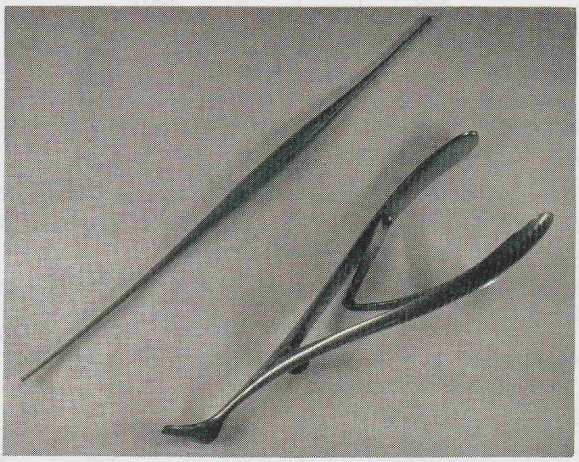

Fig. 2. Infant nasal speculum and special applicator.

Speculum nasal pour enfants et «applicator» spécial.

The most suitable time for manipulation of the septal dislocation is the third day after birth. The instruments necessary for this procedure are a small infant nasal speculum, a special applicator (Fig. 2) and moleskin. The procedure may be performed in the nursery of the hospital with a nurse as an assistant. The usual routine precautions for asepsis should be observed.

By means of a small patch of moleskin applied to the operator's left thumb and index finger, better traction is secured when grasping the small, oily

external nose. The nurse restrains the infant in the supine position. Orientation of the head in the supine position and the septal relationship is to be pictured when deciding the direction of forces necessary for reduction of the dislocated septal cartilage. If the columella is leaning to the right and the septal cartilage dislocated to the floor of the left nostril the procedure is performed in the left side of the nose. If the columella is to the left and the septal cartilage to the right the procedure is done on the right side and the direction of forces of the left thumb and index finger are reversed.

The deformity is visualized with a small infant speculum and the septal elevator enters the internal nose in the minute space between the crest of the pyriform aperture and the septal ridge of the cartilaginous dislocation and inserted along the floor of the nose and toward the midline. The instrument is pushed toward the dorsum in the direction necessary to force the septal cartilage onto the cephalic surface of the bony septum. The external nose and septum is pulled with the thumb and finger in a dorsal direction to lift the caudal border of the dislocated cartilage onto the bony groove. Also the left index finger exerts force against the caudal border of the septal cartilage toward the midline while dorsally the thumb on the opposite side is pushing the septum toward the midline. An audible click is heard, like the snap of a dry twig, as the septal cartilage slips back into its normal position. The columella immediately assumes an almost normal midline position. If there is a slight leaning of the columella, it corrects itself by the end of the week. These changes should be recorded by photographing the preoperative and postoperative base views. No intranasal packing or other type of dressing is necessary.

SUMMARY

Dislocations of the caudal border of the septal cartilage from the V-groove of the bony septum have been observed in newborn infants. Although other types of reversible nasal deformities have been well documented, it is the purpose of this paper to describe a specific irreversible deformity of the nose and nasal septum. Unless definitive diagnosis and therapy is accomplished by the third day after birth, permanent deformity of the external nasal and septal architecture occurs.

LES DISLOCATIONS SEPTALES CHEZ LE NOUVEAU-NÉ

Des dislocations du bord inférieur du cartilage quadrangulaire par rapport à la gouttière en V de la cloison osseuse ont été observées chez les nouveaux-nés. Bien que nous soyons bien documentés sur d'autres sortes de malformations nasales, le but de cet article est de décrire une malformation du nez et de la cloison nasale. A moins qu'un diagnostic définitif et un traitement soient effectués avant la fin du troisième jour après la naissance, une malformation permanente de la pyramide nasale et du septum se produit.

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