A New Instrument for Correcting the Obstructing Deviated Septum

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DEVIATION of the nasal septum is a common anomaly which may be either congenital or acquired, and all nose and throat specialists are familiar with the simple form of this condition. When the deformity of the septum is sufficient to be an obstruction to the normal nasal airway and interferes with the ventilation of the sinuses and the Eustachian tube, a submucous resection is the generally accepted procedure for its correction.

However, not infrequently the deviation is not a simple one, but is the result of repeated injury to the septal cartilage with formation of hematomas. The cartilage also becomes fragmented, with displacement of the pieces which tend to over-ride each other and become connected, and more or less embedded with fibrous tissue, which always forms where there is such injury, making the septal surface uneven.

This condition of fragmentation and hematomas of the septal cartilage is seen most often in prize fighters, but occurs among boxers generally.[1]

The usual method for submucous resection is well-known, but will be outlined briefly to set the stage for what follows. The preparatory steps are the same in all cases, and consist in thoroughly cleansing the face and the nasal vestibules with soap and water, followed by 70 per cent alcohol. The hairs at the entrance of the nares are carefully cut out without injuring the skin.

When these processes are completed, the anesthesia is begun by spraying the nasal cavities three times with small quantities of the anesthetic solution, with epinephrin 1:1,000, followed by packing the passageways with cotton pledgets wet with a solution of 10 per cent cocaine hydrochloride and epinephrin. When this has become effective, a vertical incision is made through the mucosal membranes, in front of the convexity of the deviation.

Through this incision, the membranes overlying the septum are elevated with a septal elevator, keeping close to the cartilage so that the mucosa and the other membranes may not be injured. An incision is then made through the septal cartilage to the perichondrium on the opposite side, following the line of that made in the mucosal membranes, and always being very careful not to puncture those on the opposite side of the septum.

The septal elevator is then passed through the septal incision and the opposite membranes are

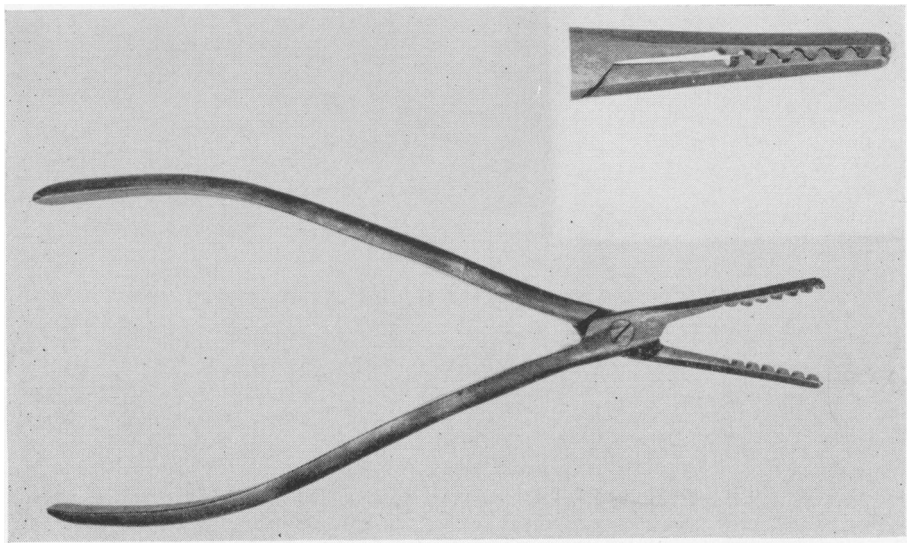

Fig. 1

elevated. A special nasal speculum is then introduced, so that a blade lies on either side of the septal cartilage and beneath the membranes. At this point, the deflected cartilage, which lies between the blades of the speculum, is excised either with biting forceps piecemeal, or with a Ballenger swivel knife. The edges of the incised membranes are then approximated and suitable packing is introduced on both sides.[2]

The special points of this report are the differences resulting from successive repeated fractures of the septum. Ordinarily, a separate surgical operation must be done for each individual injury, because of the complexity of the resulting deformity and the consequent nasal obstruction. The presence of surface irregularities and the growth of scar tissue make the usual operation unsuitable because of danger of injury to the mucosal membranes.

For this operation, the procedure is the same as for the orthodox method until anesthesia is established; then an additional step is introduced by the injection of the anesthetic between the columella and the septal cartilage; also an additional injection is made into the mucoperichondrium and the septal mucosa of 1 per cent procaine hydrochloride with 1:50,000 adrenalin solution, allowing a period of at least ten minutes to secure complete anesthesia. An incision is then made between the columella and the septal cartilage. If the columella thus freed is drawn to one side, the thickened, deformed septum is clearly seen.

The new crushing forceps are then inserted with all the blades entered on either side of the septum, which is then crushed in all directions thoroughly, causing it to break under the pressure exerted. After the crushing action is completed, without removing any part whatever of the tissues, the septum is forced into the normal midline by the instrument, and a strip of plastic film is placed along each side of the septum (a piece of x-ray film may be used for this if desired), and a Simpson splint is then added on the outer edges. Then the columella is replaced in its normal position where it is held by one or more sutures.

Water is then injected into the Simpson splint, which is of highly compressed, and very hydrophilic fibers, so that it swells enough under the effect of water to exert a high degree of pressure and acts to hold the cartilage in firm position, which is continued for five days, when all of the packing is removed. An adhesive dressing is applied, and the further postoperative treatment follows the same rules as for any submucous resection of the septum.

The crushing forceps are of heavy steel, with the handles slightly bowed laterally, and somewhat angulated antero-posteriorly (Fig. 1). The instrument is 10½ inches (26 cm.) over-all in length; the width at the joint is ½ inch (13 mm.); the length of the blades is 2 inches (5 cm.), slightly tapered toward the tip. The apposing surfaces of the blades are bluntly dentate (corrugated), six on one side and seven on the other, which are so adjusted that, when they are closed, the teeth on one side fit into the interdental spaces on the other; this arrangement furnished a firm hand grip and an effective crushing action when they are closed with strong pressure on the handles.

The procedure, as outlined, with the crushing forceps has been used by the writer on six patients, with entire success and satisfaction in five of these cases.

LITERATURE CITED

1. A. P. SELTZER, Surgery of the Pugilist Nose, Ann. Otol., Rhin. and Laryng, 19:924, 1950.
2. A. P. SELTZER. Plastic Surgery of the Nose, Phil., Lippincott, 1949.

HOPKINS, DUKE AND EMORY ADMIT FIRST NEGRO STUDENTS

The John Hopkins University, Baltimore, Md., Duke University, Durham, N.C., and Emory University, Atlanta, Ga., will admit their first Negro students in September 1963. Robert L. Gamble, of Washington, D.C., an honor graduate of Howard University, will attend Johns Hopkins. W. D. Meriwether, of Charleston, S.C., a graduate of Michigan State University, will enter Duke, and Hamilton Holmes of Atlanta, Ga., Phi Beta Kappa graduate of the University of Georgia and the first male Negro student admitted to this institution, will attend Emory.

All three students have been awarded four year Sloan Foundation Scholarships through National Medical Fellowships, Inc. (see pp. 446-447, this issue.)

Duke University and Johns Hopkins University previously announced the decision to admit Negro students (see this *Journal,* v. 53, p. 410, 1961, and v. 54, p. 262, 1962.)