

Bone Graft for Nasal Dorsum Depressions A Review of 22 cases

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DEPRESSION of the dorsum of the nose may occur in the cartilaginous or bony wall of the nose. When both portions are involved the deformity is often called as 'saddle nose.' The defect could be congenital, as in the majority of cases, or acquired due to injury from trauma, septal haematoma, septal abscess resulting in destruction of cartilage or from operative procedures on septal cartilage.

Cartilaginous depressions may be corrected by the use of local tissues from lateral cartilage by using turn-up flaps (Kazanjan, 1937) or by using cartilaginous implants: When the bony dorsum also is involved autogenous bone or cartilage-grafts are indicated. Cartilage homograft (Brown & McDowell, 1921), bovine cartilage (Gillies, 1951). Silicone, acrylic, ivory and other foreign implants have been tried by various authors. Many of the synthetic and foreign materials are rejected as a result of infection either at operation or on exposure of implant.

The most popular transplant material at the present day is bone graft. Many surgeons use only cancellous bone. In this series, a cortical part also is incorporated to give support and a smoother nasal bridge.

Here a study of 22 cases of bone graft done for nasal dorsum depressions in the

plastic surgery department, Medical College, Trivandrum during the period 1969-1975 is presented.

There were 14 female and 8 male patients. Youngest was 10 years and oldest 35. The cause was congenital in 14, injury in 5 and septal abscess in 3.

Bone graft was taken from iliac crest in 20 and rib in 2 cases. Graft was shaped in situ on the crest before its removal. Then it is shaped in such a manner that it fits into the dorsal depression without any 'rocking'. The essential condition for the success of a bone graft is the firm contact between the graft and bony dorsum which is stripped off the periosteum. The graft should be placed proximally underneath the periosteal pocket (Holmes, 1958) (Fig. 1 & 2).



Fig. 1 Side view, Preoperative Fig. 2 Side view, Postoperative

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Correction of maxillary deformity was also done in 2 cases where there was extreme retrusion of the lower nasal elements of the maxilla. A crossbar transplant was necessary from one ala to the other, passing underneath the columella. This correction was done 3 months before the bone graft on nose.

There are various routes of introduction of bone graft to the dorsum of the nose viz. inter cartilaginous incision, transcartilaginous incision through one nostril, external incisions like mid columellar incision or butterfly incision at the columella alar junction. Here mid columellar incision was used in 21 cases and butterfly incision in one.



Fig. 3—Preoperative Photograph

Fig. 4—Postoperative Photograph

A separate strut in the columella resting on the nasal spine was employed in 2 cases (Fig. 3 and 4). The junction of the strut with the dorsal graft was fixed by tent-pole method (Kazanjian and Converse, 1959). An L shaped graft was used in 4 cases (Fig. 5 and 6).

Various types of fixation have been employed in keeping the graft in position. Kirashner wire drilled through entire length of the graft, pegging the graft into the frontal bone, K-wire passed through the skin



Fig. 5—Preoperative side view.

Fig. 6—Postoperative side view (following L shaped graft)

over the upper portion of the bone graft and fixation with stainless steel wire etc., are some of the methods. In this series application of 2 cm. wide sticking plaster strips across on gauze protected nose for 3 days was the only fixation used.

Result: There was no incidence of haematoma formation, infection or extrusion of graft in any case. One patient developed psychiatric disturbance on 2nd postoperative day and had to be referred to the Psychiatrist for treatment. In two cases, bone absorption was more than expected and re-graft over the previous graft was done in one case. There was slight lateral deviation of the graft in one patient. Follow up extended from 3 months to 5 years. Appearance was satisfactory in 18

patients. (Figs. 7,8,9, and 10)



Fig. 7-8—Preoperative photographs front view and side view.

Fig. 9 & 10—Postoperative photographs front view and side view

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