MIDLINE FOREHEAD FLAP RHINOPLASTY IN PATIENTS WITH LOW HAIRLINE

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Reconstructive Surgery for deformities with full thickness defects of nasal tissue employs two types of techniques-free grafting of composite grafts and pedicle flap repair by means of local or distant flaps. When the nasal defect is a small one a composite auricular graft, first practised by Konig (1887) and later revived by Gillies (1943) will provide a satisfactory repair. Equally well reconstruction of such a defect can be achieved by means of a septal composite graft combined with a forehead flap as described by Converse (1959). The septal flap method first employed by de Quervain (1902) and adapted later by Kazanjian (1937) is also a useful procedure for moderate defects of ala, provided a forehead flap or nasolabial flap is used for the outer covering.

When the defect is a big one a pedicle flap becomes mandatory. Among the pedicle flaps employed, the forehead flap is the most reliable and satisfactory method of reconstruction.

The types of forehead flaps commonly employed are :

(*a*) the median flap (Kazanjian, 1946)
(*b*) the oblique forehead flap
(*c*) the up and down forehead flap (Gilles, 1935)
(*d*) the scalping flap (Converse, 1942)
(*e*) the horizontal supraorbital flap (Schmid, 1952) and
(*f*) the temporal flap (New, 1945).

Among these flaps the medianforehead flap is the strongest contender for reconstruction of full thickness defects of the ala or lower portion of the nose, because of its superb vascularity and minimal residual scar in the forehead.

However, in a patient with a very low hairline the median forehead flap has a severe limitation, in that, the length of the flap may not be adequate enough to provide the inner lining as well as the outer cover of the defect of the nose without jeopardising the vascularity of the pedicle at the root of the nose.

George Richardson and his colleagues (1972) have described a modification of the Indian flap to obviate this difficulty. They designed the flap which extended into the scalp as far as necessary to obtain the necessary length. After reconstructing the nose the hair bearing skin providing the cover of the defect was excised and replaced with a full thickness skin graft from post auricular region. This procedure has the obvious disadvantage in that the skin graft is far inferior in colour and texture required for good cosmetic appearance.

The author has used a simple modification of midline forehead flap to eliminate the disadvantage of inadequate length of the flap in a patient with a very low hairline.

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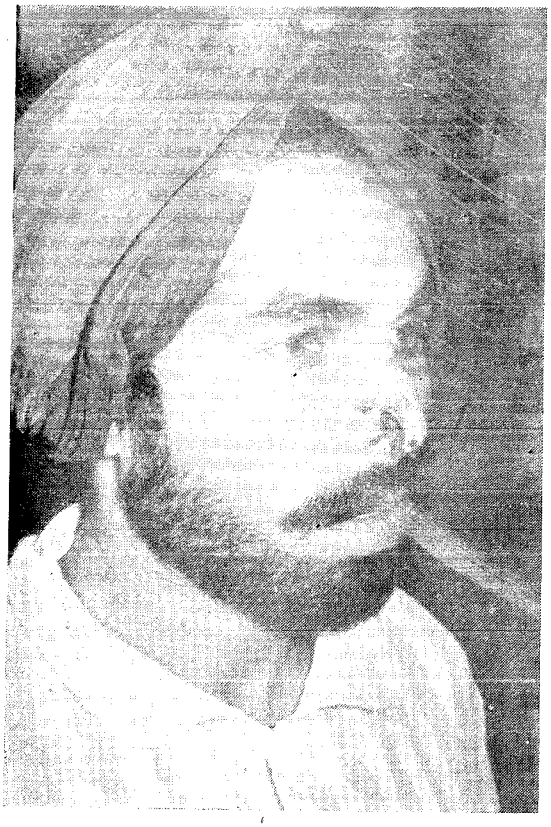

Fig. 1. The defect in the nose. Large part of ala and Columella lost.

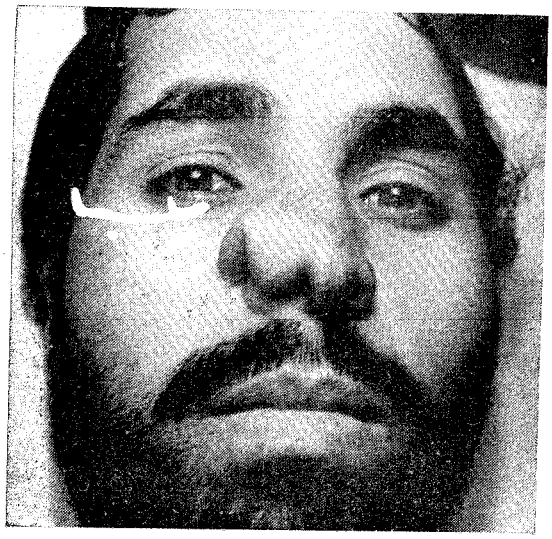

Fig. 3. The base of the flap severed from the root of the nose has been implanted in the nasolabial fold. The outer side of flap has been slided down.

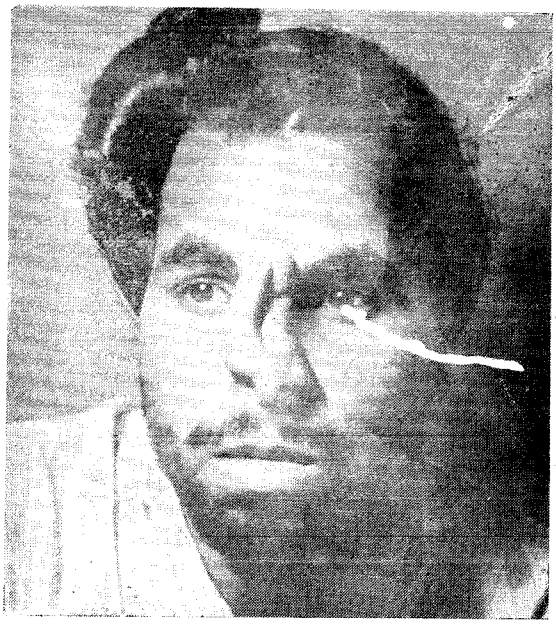

Fig. 2. Classical forehead flap raised

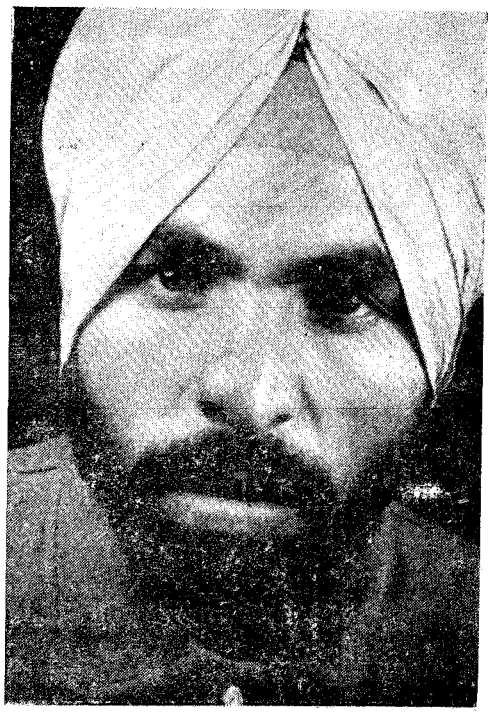

Fig. 4. Final Result.

Procedure

First Stage :—A vertical flap from the median section of forehead as described by Kazanjian (1946) is raised. The flap extends upto the hairline. The scar on the upper alar margin of the defect is excised. The median vertical flap is attached to this raw area. The contact surface area is enlarged by turning down a hinged flap from the skin at the edge of the defect.

Second Stage :—The pedicle of the flap is severed from the root of the nose and is implanted into the nasolabial fold of the same side of the defect of the nose.

Third Stage :—The seam of the flap is excised. By keeping the dissection strictly in the mid plane of the attached area of the flap and keeping the attachment of the inner part of the flap undisturbed, the outer part of the flap is slided down and the ala of the nose is reconstructed.

Fourth Stage :—The pedicle is detached and remodelling is carried out.

Summary and Conslusion

The classical midline forehead flap rhinoplasty is an ideal procedure for reconstruction of full thickness defect of the lower part of the nose. But the surgeon may be handicapped in a patient with a low hairline. A modified procedure is described in which the forehead flap is caterpillared to obviate this difficulty.

REFERENCES

1. Converse, J. M. : Reconstructive Plastic Surgery Vol II W.B. Saunders Co. 1977.
2. Richardson, G. S. et al : Midline Forehead Flap Reconstruction in Patients with Low Browlines. Plastic Reconstructive Surgery 49 : 130, 1972.