

THE COMPLICATIONS OF AUGMENTATION RHINOPLASTY IN ORIENTALS

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AUGMENTATION rhinoplasty is one of the most popular plastic operations in Japan. Most plastic surgeons use a prosthesis for this purpose instead of autogenous material such as cartilage or bone. In my experience, bone and cartilage have been safely used, but frequently we have seen absorption with loss of weight. In addition, the procedures required to obtain the grafts transform a minor into a major operation.

MATERIAL

In Japan, for nasal augmentation, the most popular implant used to be ivory; I used it until approximately 15 years ago. Fixation was quite difficult in spite of drilling multiple holes or grooves and it had a tendency to move upward and produce a step deformity in the upper tip region. In addition, carving the ivory was difficult.

After ivory, I used a carved silicone rubber implant; one which was black in colour was discarded after many patients complained of a bluish discoloration over the dorsum of the nose. An acrylic implant which was reddish in colour transmitted a pinkish blue hue to the dorsum; a clear silicone rubber prosthesis also caused a pinkish discoloration to appear, especially in light complexioned individuals, when the nose was exposed to the rays of the sun or even an electric light (Fig. 1). After such experiences, silicon rubber prostheses which are milky white in colour are now mostly used.



FIG. 1. Translucency imparted to the nose by a clear silicone prosthesis. Opaque white material is preferred.

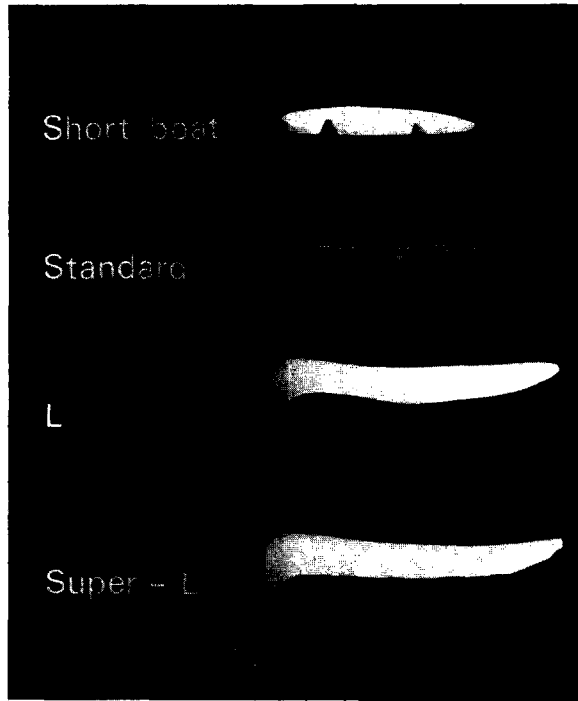


FIG. 2. Evolution of the L-shaped prosthesis. Both the boat-shaped and standard types tend to drift upwards.



FIG. 3. Protrusion through the columella.



FIG. 4. Protrusion through the side of the incision.



FIG. 5. Protrusion on the dorsum.

FIG. 6. Step deformity due to boat-shaped prosthesis moving upward.



FIG. 7. Deformity resulting from upward drift of the standard shaped prosthesis.

FIG. 8. Lateral displacement from asymmetrical undermining or fixation.

SHAPE OF THE PROSTHESIS

The old ivory and the early silicone prosthesis were carved to a short boat shape and fixation depended on perforations or serrations. Because of the tendency to upward drift a short columellar hook was added. Some of these too drifted upward and an L-shaped prosthesis was developed. This provides full stabilisation of the prosthesis at the tip, as well as over the dorsum. The base of the L is approximately 1 or 2 mm in thickness and in width and is inserted into a pocket dissected into the junction of the septum and columella. The "super L-shaped" prosthesis, adds a slight increase in the width of the terminal portion of the L to increase the columellar-labial angle as well as elevating the nasal tip (Fig. 2).

COMPLICATIONS

In the past 17 years, I have performed over 1,000 augmentation rhinoplasties; many complications have been experienced due to various single or combined factors.

Perforation. Nasal tip perforations result from erosion by a nasal implant that is too long and too large (Fig. 3). The undue tension at the tip leads to skin necrosis and extrusion. This happens all too frequently in patients with thick, taut skin.

A perforation at the site of the operative incision occurs frequently as a result of the prosthesis tip being too wide and bulky (Fig. 4). This is clearly a failure in design of the implant.

A perforation may occur at the upper end of the implant over the nasal dorsum, due, in the case shown, to an initial perforation at the operative site in the nasal vestibule with secondary infection extending over the dorsum (Fig. 5).

Malposition. The step-like deformity due to upward displacement of a short boat type ivory prosthesis occurs because of failure of fixation (Fig. 6). A lesser degree of upward drift may occur with a standard shaped silicone prosthesis. The prosthesis tip causes an elevation of the upper tip region instead of a step (Fig. 7). Each of these cases was corrected by removal of the implants and insertion of an L-shaped prosthesis.

When the undermining over the nasal dorsum has been asymmetrical or incomplete, the prosthesis may be displaced laterally (Fig. 8). Possibly the post-operative fixation had also been inaccurately applied. Correction of this complication involved removal and replacement after adequate symmetrical undermining.

Infection. Post-operative infections following augmentation rhinoplasty have not been a major source of complications. When they occur they are probably related to a failure in adequate sterilisation of the implant. They usually occur 3-4 days post-operatively and are associated with swelling and redness and persistence of pain. This has occurred in spite of adequate post-operative antibiotic coverage. Treatment is to remove the prosthesis. Replacement can be carried out in approximately 1 month.

CONCLUSION

All the complications mentioned have resulted from the use of alloplastic materials which act as a foreign body when inserted into human tissue. In order to minimise them care must be taken in the choice of material and the size and shape of the implant. Adequate and meticulous undermining of the skin is required so that skin tension over the prosthesis is minimal.