RESEARCH ARTICLE

CASE REPORT: SILICONE IMPLANT IN AUGMENTATION OF SADDLE NOSE

Smrity Rupa Borah Dutta, Sachender Pal Singh and Aakanksha Rathor

Otorhinolaryngology Department, SMCH

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ABSTRACT

The term 'saddle nose' means abnormally concave nasal dorsum. Augmentation Rhinoplasty remains an area of challenge and controversies especially for the selection of implant material. A number of materials, both natural and synthetic, have been used for this. Although autografts are associated with lower infection rates, they are also associated with long-term resorption and donor-site morbidity. This is a case report on silicone implant in augmentation rhinoplasty highlighting the advantage of being affordable, no second surgical site, less chance of extrusion if placed with appropriate techniques, to the patient requiring mild to moderate increase in height, with good outcome.

INTRODUCTION

Almost every individual desires to have an aesthetically placed nose. But due to various unavoidable circumstances – like infections, birth defects, trauma, post operative etc, the normal architecture of the nose may be altered leading to sometimes an unsightly facial appearance. Many different implant materials can be used for reconstruction. Each implant has its own merits and demerits. Goal of nasal reconstruction is to create an aesthetically inconspicuous nose while preserving nasal function. Silicone is the first polymeric alloplast which was used widely in facial plastic surgery. A case of silicone nasal implant is presented below.

Case Report

Anwar Hussain Mazumdar, 17 ½ years of age, muslim male, hailing from Gangpardhumkar Part –III, Dist Hailakandi, Assam presented himself in ENT Deptt. of Silchar Medical College & Hospital in the month of May 2010 with saddle nose deformity. He gave history of some nasal infection while he was about 4-5 months of age, following which the saddle deformity occurred. Besides cosmetic deformity, the patient also complained of nasal obstruction which was about 4-5 months of age, following which the saddle deformity occurred. On examination it was seen that his dorsum of the nose was depressed with a bulbous tip and narrow nasal cavities. The Silicone implant was placed in place after making vertical skin incision at the columella and appropriate dorsal tunnel, under general anaesthesia. Splint and stitches were removed after six days .There were no complications in the post operative period and the follow up is uneventful.

DISCUSSION

Nasal implants are used in various cases

a) To correct nasal deficiencies in the dorsal area, tip and the sides
b) To give height to a flat nose or tip
c) To support a drooping nasal tip.

d) In revision rhinoplasty where too much cartilage was removed.

A nasal implant is either a

A) Biological material
- Autograft – (patient’s own tissue)-septal cartilage, conchal cartilage, rib, iliac crest.
- Homograft/Allograft – (tissues from same species)-processed through FDA approved methods (rib bank).
- Xenograft – (tissues from different species)-porcine or bovine collagen.

B) Synthetic biocompatible material – Silicone, Medpore, Gortex, expanded Poly Tetra Floro Ethylene (ePTFE), Hydroxyapatite.

Ideal material for augmentation should have the following criterias

- Tolerance for the material by the host
- Should be malleable & nonresorbable
- Physical properties should match the host tissue to look and feel 'natural'
- Easy to handle
- Should be stable i.e. not migrate from the implantation site
- Non carcinogenic, nontoxic and non immunogenic
- Be easily available & in adequate amounts
- Nondestructive to local tissues and so will not interfere with healing;
- Easy to sterilize
- Easy to remove if necessary
- Cost-effective

* Corresponding author: Smrity Rupa Borah Dutta
Otorhinolaryngology Department, SMCH
Fate / Disadvantages of natural grafts

- Absorb with time
- Deteriorate with time
- Sometimes warp (twist) over time; rib cartilage has higher risk of warping
- Sometimes one’s own cartilage is too soft & weak to give the needed definition
- In severe saddle or traumatic noses, cartilage may not give the needed height
- In people with thick skin, cartilage may be thin & weak to support the thick skin
- While obtaining rib cartilage, there may be pneumothorax
- With iliac crest, shape may not be appropriate
- Second surgical site scar in donor area with potential for infection & poor scarring.

But synthetic implants have certain advantages

Synthetic implants are used and have been tested not just for cosmetic or reconstructive purposes in the nose but are used for reconstructive purposes in other parts of the face, body and joints with a long record of follow up. Of the various synthetic implants available, silicone implant is most preferred. SILICONE implant or silastic implant is made of medical grade solid silicone and is non porous. It is solid yet flexible.

Silicone nasal implant

- Avoids donor site morbidity
- Resistant to resorption
- Low extrusion rate (almost nil, unlike medpore)
- Low infection rate
- Easily available and comes in different sizes & shapes.
- Easy to handle and shape (pre & intra operative)
- Is an inert material (unlike Teflon & Proplast)
- Do not warp (twist)
- Have adequate strength to provide support
- Gives superior definition to dorsum & tip
- Can be easily removed if needed in future (unlike Gortex & Medpore)

In Asian patients it is a very successful implant material because of relatively thick skin-soft tissue over the implant. Results are very good with silicone in primary rhinoplasty then secondary rhinoplasty. Larger size of implant has greater rate of extrusion & infection. No immunological reaction has been reported till now with silicone implants. Silicone implant has been universally accepted in breast augmentation. Silicone has been used successfully as a nasal implant for more than 30 years. So SILICONE implant is nearly the ideal implant material.

Infection and Extrusion / Rejection risks can be minimized by

1. Using implants on healthy, non smoking patients with thick skin
2. The dissection of the pocket for the implant, must be precise.
3. Edges of the tunnel should be tapered, creating smooth round corners.
4. Placement should be as deep as possible and not in the subcutaneous tissues
5. By avoiding excessive manipulation from outside.

Enough progress has been made in the understanding of implant physiology to find the ideal nasal implant, i.e. Silicone.

Bibliography


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