Rhinoplasly : Review of seven cases performed at the plastic surgery department of Z. H. Sikder Women’s Medical College and Hospital

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Abstract
The history of rhinoplasty dates back to 2500 years. It was first documented in the Indian subcontinent by Sushruta in 600 BC. In the west rhinoplasty is a very commonly performed operation but it has not gained popularity in Bangladesh due to lack of expertise and Knowledge. In the newly commissioned plastic surgery department of Z.H. Sikder Woman’s Medical College Hospital we have performed seven cases of rhinoplasty during the last two years, four being cosmetic and three reconstructive. Detailed history and local examinations were also discussed with the patient. Excellent results were found in four cases and satisfactory in three. The only complication encountered was a graft necrosis; (which was a composite graft taken from pinna and occurred due to accidental trauma to the recipient site by the patient herself.) The procedure for augmentation rhinoplasty consisted of reconstruction of mid dorsum of the nose by conchal cartilage graft taken from external ear. Reconstructive rhinoplasty was performed with median forehead flap (MFF). We conclude that if expertise is developed, rhinoplasty whether cosmetic or reconstructive can be performed more frequently.

Key words: Rhinoplasty, Cosmetic, Reconstructive

Introduction
The history of rhinoplasty dates back to 2500 years. Reconstructive rhinoplasty was documented first in the Indian subcontinent by Susruta in 600 BC whereas cosmetic rhinoplasty was first performed in 1887 by John Ortando Roe in New York. In the west, rhinoplasty is a very commonly performed operation. But it has not gained popularity in Bangladesh. The reason being lack of adequate number of expertise. There is also lack of knowledge about this wonderful operation on part of the general public. The practicing doctors throughout the country also seem to know very little on these regard. In view of the good results attained in our cases, we believe that rhinoplasty can easily become a common operation in our country as well. In the newly commissioned Plastic Surgery Department of Z.H.Sikder Women’s Medical College Hospital we have performed seven cases of rhinoplasty during the last two years; 4 being cosmetic rhinoplasty whereas other three were reconstructive in type. We have tried to review all these cases specially with regard to the results and hence patient satisfaction.

Materials and methods
This study was done at ZHSWMCH during December 1998 to December, 2000. Seven patients were operated, live being females and two males (Table-I), age distribution was 20 to 42 years.

<table>
<thead>
<tr>
<th>Types and Sex Distribution of Rhinoplasties</th>
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<tr>
<td>Indications</td>
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<tr>
<td>--------------</td>
</tr>
<tr>
<td>Cosmetic</td>
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<tr>
<td>Reconstructive</td>
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Among the indications four were cosmetic and three were reconstructive. Out of these
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four cosmetic indications one had depressed mid dorsum of the nose, one had prominent dorsal hump, one had hiuid tip and other had unilateral alar deformity. Of the three reconstructive rhinoplasty procedures two of them were for human bites and the other was accidental injury causing complete dissection of the nose with some tissue loss (Table-II).

Detailed history and local examination was done in each case. Frank discussions with the patients were made pre-operatively taking into account their expectations and probable results of surgery. The procedure involved and possible complications were also discussed. Pre and post operative photographs were taken (Fig 1, Fig 2) in all cases. Photographs were taken in front, profile and extended neck positions.

Results

Excellent results were found in four cases and satisfactory result in three. All the patient’s of cosmetic rhinoplasty were very happy with the outcome. The results were therefore classified as excellent.

Table-III: Complications of rhinoplasties

<table>
<thead>
<tr>
<th>Complication</th>
<th>Number</th>
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<tbody>
<tr>
<td>Haematoma</td>
<td>0</td>
</tr>
<tr>
<td>Infections</td>
<td>0</td>
</tr>
<tr>
<td>Nasal obstruction</td>
<td>0</td>
</tr>
<tr>
<td>Flap/Graft necrosis</td>
<td>1</td>
</tr>
<tr>
<td>Cartilage displacement</td>
<td>0</td>
</tr>
<tr>
<td>Cartilage resorption</td>
<td>0</td>
</tr>
</tbody>
</table>

Follow up of all these four patients did not show any complications (Table-III) and till date there is no evidence of cartilage displacement or resorption. Out of the three cases who underwent reconstructive rhinoplasty, two had excellent results whereas the other had a rather satisfactory result.

The only complication encountered in one of the patients undergoing reconstructive rhinoplasty was graft necrosis. This was a composite graft (consisting of two layers of skin along with the subcutaneous tissue and intervening wedge of cartilage) taken from the pinna to reconstruct the nasal tip.

Procedure

Four patients underwent cosmetic rhinoplasty, of them two had augmentation while the other two reduction rhinoplasties. The procedure for augmentation rhinoplasty consisted of reconstruction of the mid dorsum of the nose by conchal cartilage gratt taken from the external ear. A trap door incision placed on the back of the ear was used to excise an adequate amount of cartilage along with its covering perichondrium. This cartilage was trimmed and shaped according to the patient’s need. Then it was placed in position by open rhinoplasty approach (Fig.3).
The patient with bifid tip as also operated by open approach. Here the two lower alar cartilages (LAC) were dissected free and reshaping of the tip done by approximating the medial crurae of the LAC by fine absorbable suture. An intervening strip cartilage was also needed in the center to provide the nose with additional prominence and projection. The reduction rhinoplasty consisted of reshaping a dorsal hump in one patient and reducing a unilateral alar deformity in another.

The reconstructive rhinoplasty performed with median forehead flap under general anaesthesia. The flap was marked out ink, extending from the root of the nose upwards to 1 mm short of the hairline. The width was 3 cm and the upper end of the flap was made wavy to conform to the new nasal tip. The incision was deepened to the pericranium near the upper end, but was only skin deep as it proceeded towards the root of the nose. This as done to avoid injury to the supratrochlear vessels which run vertically upwards from the root of the nose. This formed the vascular pedicle of the flap. The frontalis bellies were not disturbed as we worked in between them. Primary closure could be done after some undermining on either side. The flap as then lined on the inside with a split skin graft (after meshing) harvested from the left arm. It was stitched in place with 6 ‘0’ vicryl. The flap was then rotated and turned downwards to reconstruct the nasal detect. The flap was sutured to the wound margin in two aver again with 6 ‘U’ vicryl. Due to rotation of the flap the grafted inner surface formed the new lining of the nasal cavity, the skin portion remaining outside. Light packing of the nasal cavities was done and small plaster of paris splint applied over a sterile dressing. After 24 hours and 48 hours the flap appeared healthy and viable. Nasal pack was then removed. The patient was happy to breathe through her nose once again (Fig 4.5,6).

Discussion
The fact that rhinoplasty is not a commonly performed operation in our country does not mean there are lack of patients who need this surgery. We believe that there are lots of patients who need rhinoplasty due to various indications. With a limited experience of 7 cases we have learned that these patients and their attendants previously believed that rhinoplasty is not possible in Bangladesh.
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Infact five of the these patents were prepared to go abroad for their treatment. We therefore believe that the general people as well as practicing doctors should be made aware about this sort of cosmetic surgery being carried out in our country. It will enhance referral of patients and alleviate patients suffering. We had the opportunity to discuss the outcome of rhinoplasty with surgeons who have tried this operation once or twice, but have not continued to practice this surgery due to unrewarding results. It is obvious that we cannot start practicing a new sort of surgery on patients without appropriate training and supervision. We think that rhinoplasty is not an extremely difficult operation, as compared to many of the other surgeries being carried out through out the country. The bottle neck is an inadequate training facility and minimal support for surgeons intending to venture into rhinoplasty procedure. We know some of our neighbouring countries have progressed significantly in most of the surgical specialties including plastic surgery. We can at least try to follow their methods of developing a center of excellence and in development of expertise. Here plastic surgeons and ENT surgeons can work together to attain this goal. Interested surgeons can be brought together in groups during intensive training programs which will include basic anatomy, cadaver dissection and live demonstration of surgical procedures.

History of reconstructive rhinoplasty back to 2500 years but in contrast cosmetic rhinoplasty has come into practice during the lastt hundred years or so. Reconstructive rhinoplasty is probably the greatest challenge for a plastic surgeon. There have various modification for the Indian Median Forehead Flap (M.F.F) such as Lisfrank, Labats, oblique modifications etc. We have used Lisfrank type in our patient where the flap from the forehead was lined internally with split skin graft (SSG). In previous days surgeons did not use skin graft. This lead to fibrosis in the inner side which ultimately caused disfigurement of the flap. Now a days plastic surgeons always use SSG on the inner side of the flap which prevents disfigurement.3

The timing of the second stage of surgery in case of reconstructive rhinoplasty cannot be over emphasized. The second stage consists of division of the pedicle and insetting of the flap. Ideally this should be done 3-4 weeks after the first stage.4 Delay behind this liming results in progressive loss of pliability of the tissues in the flap giving rise to some amount of stiffness. This gives rise to difficulty during insetting of the flap. We had to face this problem in one of our patients because the second stage of surgery had to be delayed due to her pregnancy. This delay resulted in stiffness of the flap (as expected) and therefore we had to be satisfied with the final insetting being completed with some tissue excess on one side. But this can be easily remedied by reshaping the flap in another sitting.

Regarding cosmetic rhinoplasty we have performed the augmentation by using cartilage graft from the auricle of the patient. The other options are outer table of the skull, the olecranon, rib and bovine cartilage.5 Now-a-days silicone blocks are available which can be cut to shape and implanted for nasal augmentation. There are advantages and disadvantages in closed as well as in open rhinoplasty.6

We have preferred open rhinoplasty in most of our cases. The reason being good exposure and easy handling of the cartilage graft. Of course a single marginal incision inside one of the nostril is enough to carry out simple procedures like reduction or dorsal hump. When osteotomies are required (during reduction-rhinoplasty) an additional marginal incision on the opposite site is required. In fact there are plastic surgeons who can perform most of these procedures by closed method. Uniting the marginal incisions in the midline inferiorly converts the closed to an open method, which provides the surgeon with excellent exposure.

The problem of cartilage resorption and recurrence of deformity can be frustrating for
the patient and surgeon alike. We have avoided this complication by taking the cartilage graft along with its perichondrium. This helps the cartilage to remain in shape as cartilage resorption does not occur as long as the perichondrium is included in the graft\(^1\), recurrence of deformity can thus be avoided.

**Conclusion**

We conclude that rhinoplasty whether cosmetics or reconstructive is not a difficult procedure. If proper expertise and good centers are developed this surgery can be performed on a regular basis.

**References**

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