RHINOPLASTY : A REVIEW OF 67 CASES

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ABSTRACT:
Objective: *In 600 B.C. Sushruta first documented rhinoplasty in the Indian subcontinent. In western centers rhinoplasty is a very commonly performed operation but it has not gained popularity in Bangladesh due to lack of expertise and knowledge of availability of the procedure.This study was carried out to assess the outcome of our cases of Rhinoplasty.*
Design & Duration: *Retrospective, descriptive study carried out from April 2000 to April 2004.*
Setting: *Cosmetic Surgery Center, Dhaka, Bangladesh.*
Patients: *Sixty seven patients who underwent Rhinoplasty.*
Methodology: *Detailed history and examination, especially local examination, was carried out. The procedures involved and the possible complications were discussed with the patient. The procedure for augmentation rhinoplasty consisted of reconstruction of the dorsum of the nose by silicone implant, conchal cartilage and bone graft. Reconstructive rhinoplasty was performed with the median forehead flap.*
Results: *Excellent results were found in 55 cases, satisfactory in 10 and unsatisfactory in two cases. Complications were encountered in two patients; in one case there was graft necrosis (which was a composite graft taken from pinna and occurred due to accidental trauma to the recipient site by the patient herself), while in the other displacement of an implant occurred (that was corrected later on by a minor procedure).*
Conclusion: *We conclude that if expertise is developed rhinoplasty, whether cosmetic or reconstructive, can be performed more frequently and with satisfactory results.*

KEY WORDS: *Rhinoplasty, Cosmetic, Reconstructive*

INTRODUCTION

The history of rhinoplasty dates as far back as to 2500 years; Sushruta documented the first case of reconstructive rhinoplasty in the Indian subcontinent in 600 BC[1], whereas John Orlando Roe performed the first cosmetic rhinoplasty in 1887 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 plastic surgery centers in our country and more importantly the lack of expertise. There is also lack of knowledge about this wonderful operation on the part of the general public. The practicing doctors throughout the country also seem to know very little in this regard[2]. This study was carried out to assess the outcome in our cases of rhinoplasty, especially with regard to the results and patient satisfaction.

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PATIENTS & METHODS

This study was done at the Cosmetic Surgery Center Ltd., Dhaka from April 2000 to April 2004 on 67 patients, 47 being females and 20 males (Table I). The age distribution was between 20 and 65 years. Sixty three cases underwent cosmetic and four reconstructive rhinoplasty. Amongst the cosmetic cases, the indications in 22 were depressed dorsum of the nose, 16 had prominent dorsal hump, 12 had bifid tip, eight had alar deformities and

Table I. Types and sex distribution

Indication	Male	Female	Total
Cosmetic	19	44	63
Reconstructive	1	3	4
Total	20	47	67

Indication	No.	%
Cosmetic Rhinoplasty		
Depressed Nose	22	32.8
Dorsal Hump	16	23.9
Bifid Tip	12	18.0
Alar Deformities	8	11.9
Combination	5	7.4
Reconstructive Rhinoplasty		
Human Bites	2	3.0
Accident	1	1.5
Basal Cell Carcinoma	1	1.5

Table II. Indications for Rhinoplasty

in nine cases a combination of these. Amongst the four reconstructive rhinoplasty procedures, two had human bites, one was involved in an accident, while the remaining one had a basal cell carcinoma (Table II).

Detailed history and examination (especially local) was done in each case. Frank discussions were held with the patients pre-operatively, taking into account their expectations and probable results of surgery, the procedure involved and the possible complications. Only two cases were done under local and the remaining 65 under general anaesthesia. Pre and postoperative photographs were taken in all the cases, in the front, profile and extended neck positions.

Surgical Procedures

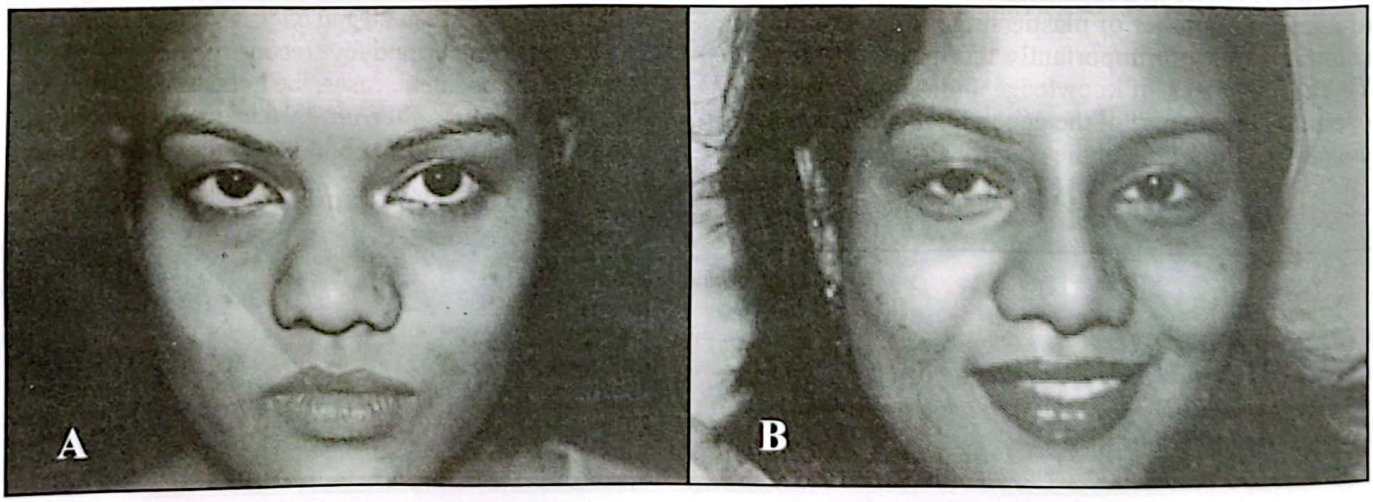
Sixty three patients underwent cosmetic rhinoplasty (Table III). The procedure for augmentation rhinoplasty

Procedure	No.	%
Cosmetic Rhinoplasty		
Augmentation Rhinoplasty	22	32.8
Reduction Rhinoplasty	16	23.9
Tip-plasty	12	18.0
Alar-base	8	11.9
Combination	5	7.4
Reconstructive Rhinoplasty	4	6.0
Total	67	100.0

Table III. Types of procedure done

consisted of reconstruction of the dorsum of the nose by silicone implants (Fig.1) in the majority of the cases. Conchal cartilage graft taken from the external ear, was also used in some cases. 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 patients need. Then it was placed in position by the open rhinoplasty approach. In one case augmentation was done by bone graft harvested from left ulna. The patient with bifid tip was also operated by the 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 sutures. An intervening strip of cartilage or silicone implant was also required in some cases to provide additional prominence and projection[3]. Reduction rhinoplasty consisted of reshaping the dorsal hump (Fig.2) and reducing the prominent ala. A few cases needed combination of procedures like tip-plasty and alar reduction, or augmentation of the dorsum and tip-plasty

Fig. 1. Augmentation Rhinoplasty, A - Preoperative, B - Postoperative



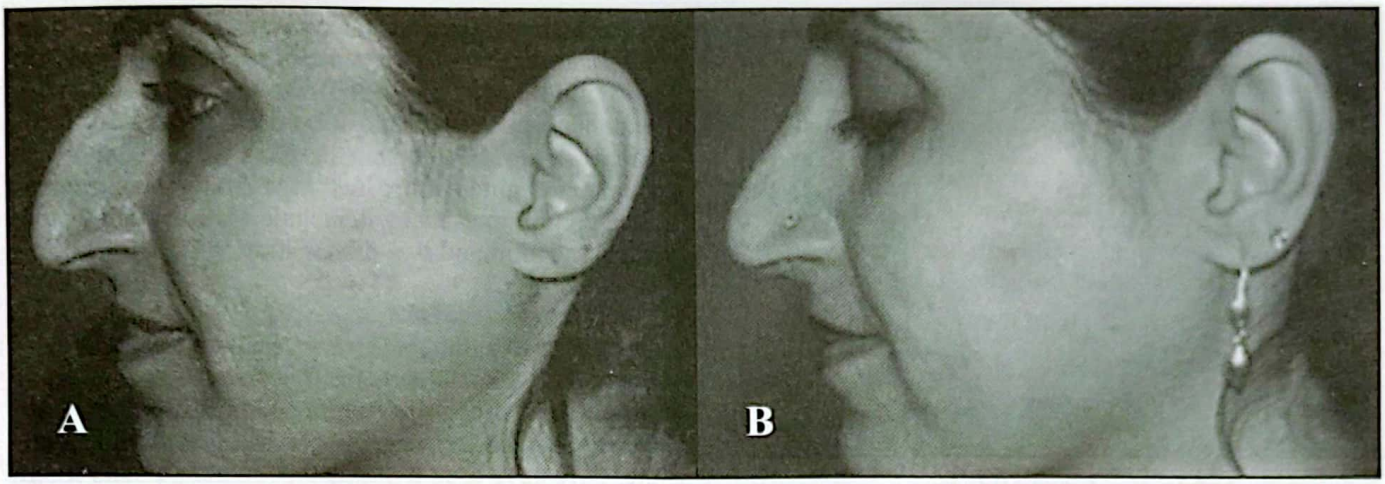


Fig. 2. Reduction Rhinoplasty, A - Preoperative, B - Postoperative

in the same operation.

The reconstructive rhinoplasties were performed with the median forehead flap under general anesthesia (Fig. 3). The flap was marked out with ink, extending from the root of the nose upwards to one mm short of the hairline. The width was three 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 was done to avoid injury to the supratrochlear vessels that run vertically upwards from the root of the nose. This formed the vascular pedicle of the flap. The frontalis bellies were not disturbed as work was done in between them. Primary closure could be done after some undermining on either side. The flap was 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 defect. The flap was sutured to the wound margin in two layers again with 6/0 vicryt. 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.

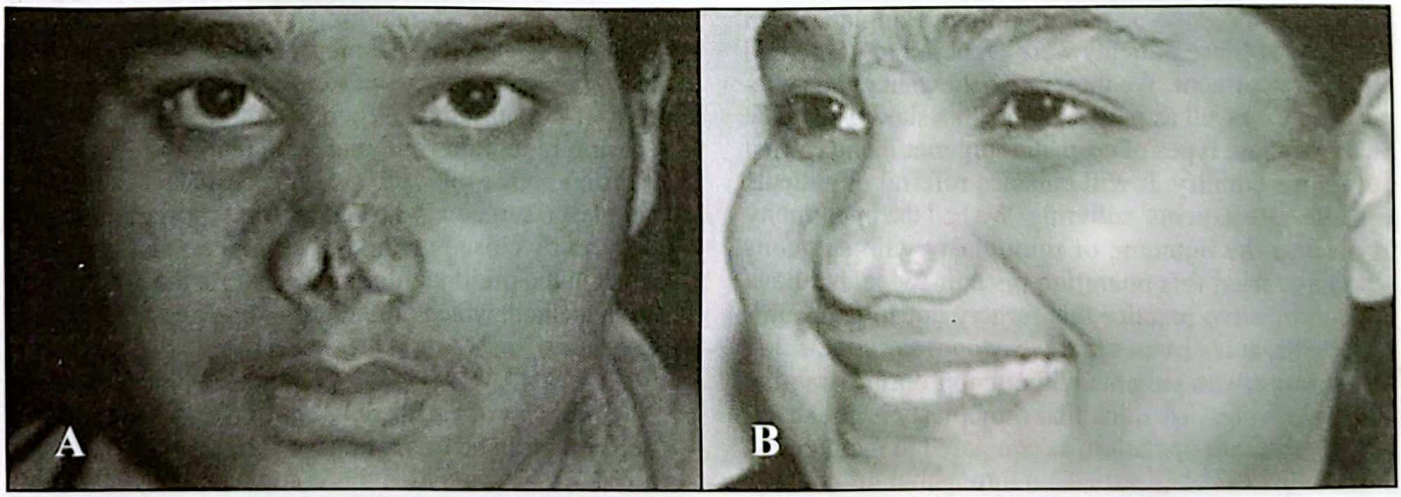
RESULTS

Excellent results were found in fifty five cases, satisfactory result in ten cases and unsatisfactory in two cases (Table IV). All the 55 patients (classified as excel-

Table IV. Results

Outcome	Number	%
Excellent	55	82.1
Satisfactory	10	14.9
Unsatisfactory	2	3.0

Fig. 3. Reconstructive Rhinoplasty, A - Preoperative, B - Postoperative



Complication	No.
Bleeding/Hematoma	--
Infection	--
Nasal Obstruction	--
Flap/Graft Necrosis	1
Cartilage/Implant Displacement	1
Cartilage Resorption	--
Total	2

Table V. Complications

lent) were very happy with the outcome. Follow-up of all these patients did not show any complications. Out of the 67 cases we encountered only two complications (Table V). Out of the 26 silicone implants, one got displaced, which was corrected by minor surgery. Out of the four cases that underwent reconstructive rhinoplasty, three had excellent results whereas one 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.

DISCUSSION

The fact that rhinoplasty is not a commonly performed operation in our country does not mean there is lack of patients who need this surgery. We believe that there are lots of patients who need rhinoplasty due to various indications. With an experience of 67 cases we have learned that these patients and their attendants believed that rhinoplasty is not possible in Bangladesh. In fact five of these patients were prepared to go abroad for their treatment. We therefore believe that the general people as well as practicing doctors should be made aware of these types of cosmetic surgeries 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 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 throughout the country. The bottleneck is an inadequate training facility and minimal supervision for surgeons intending to venture into rhinoplasty procedure. We can develop a centre of excellence where plastic surgeons and ENT surgeons can work together to attain this goal. Interested surgeons can be brought together in groups during intensive training programmes that will include basic anatomy, cadaver dissection and live demonstration of surgical procedures.

Reconstructive rhinoplasty is probably the greatest challenge for a plastic surgeon. There have been various modifications for the Indian Median Forehead Flap (MFF) such as Lisfrank, Labats, Oblique modifications etc.[4]. We have used Lisfrank type in our patients 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 on the inner side that ultimately caused disfigurement of the flap. Nowadays plastic surgeons always use SSG on the inner side of the flap that prevents disfigurement[4]. The timing of the second stage of surgery in case of reconstructive rhinoplasty cannot be overemphasized. 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[5]. Delay beyond this duration results in progressive loss of piability of the tissues in the flap giving rise to some amount of stiffness. This gives rise to difficulty during insetting of the flap.

Regarding cosmetic rhinoplasty we have started performing augmentation by using conchal cartilage graft. We also used silicone implants that are available as nasal implants or blocks. Bone graft was also used in one case. The other options are outer table of the skull the olecranon, rib and bovine cartilage[6].

There are advantages and disadvantages in the closed as well as open rhinoplasty[7]. We have preferred open rhinoplasty in most of our cases. The reason being good exposure and easy handling of the graft/implant. Of course a single marginal incision inside one of the nostrils is enough to carry out simple procedures like reduction of dorsal hump. When osteotomies are required (during reduction rhinoplasty) an additional marginal incision on the opposite side 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[8]. This problem can also be overcome by using silicone implants that is not resorbed or cause any adverse effect in the body[9]. The use of implants also obviates the need to perform another surgery on the patient to harvest cartilage or bone.

CONCLUSION

We conclude that rhinoplasty whether cosmetic or reconstructive is not a very difficult procedure. If proper expertise and good centers are developed this surgery can be performed on a regular basis. With the availability of artificial nasal implants, the procedure of rhinoplasty has become even simpler.

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