

A Novel Technique for Reconstruction of Bifid Nose with Medpore Implant

¹Dr Adarsh Lingesh babu Pawar, senior lecturer, Department of Oral And Maxillofacial Surgery, Sri Hasanamba Dental College And Hospital ,Vidyanagar, Hassan-573201

²Prof.Dr .Jayanth B S, Programme Director And Medical Supervisor, ABMSS/DCKH CLEFT CENTRE INDI INDIA

³Dr Shanavas K P, Consultant Oral And Maxillofacial Surgeon, Kerala

Corresponding Author: Dr Adarsh Lingesh babu Pawar, senior lecturer, Department of Oral And Maxillofacial Surgery, Sri Hasanamba Dental College And Hospital, Vidyanagar, Hassan-573201

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Abstract

Doggennase or bifid nose is a rare congenital deformity which affects the shape of the nose. Nasal reconstruction represents a challenge for the oral and maxillofacial surgeon that has to restore the region from both esthetical and functional aspects. In this report, we present the surgical management of the case with severe bifid nose. A 14-year-old female presented with a short and bifid nose with flat nasal dorsum and a deep groove between the two alar domes. The first priority is to achieve the cartilaginous framework strong enough to support the outer skin covering and with the proper shape to achieve an esthetically pleasant nasal columella and ala with a round and symmetrical nostril. We performed surgeries in 2 stages. At first rhinoplasty with medpore implant placement to restore better function and increased nasal height. And second stage surgery was to provide better esthetics with Goldman's tip plasty.

Keyword: Bifid Nose, Nasal columella, Medpore

Introduction

Bifid nose is one of the rare congenital anomaly due to failure of fusion of the medial and lateral nasal processes at the first eight weeks of fetal life. [1,2] This case report is about our comprehensive approach to restore esthetic and function of the nose.

Case Presentation

14 years female patient reported to department of oral and maxillofacial surgery in Coorg Institute Of Dental Science, Virajpet, with the chief complaint of deformed nose (figure 1a,1b,1c,1d) On history of present illness, patient gave history of deformed nose since birth. She had undergone surgery at the age 6 months. On examination abnormality founds were bifid nose, broken roof of nose, flaring of ala, decrease in size of nostril opening, missing septal cartilage, absence of nasal tip prominence, dorsal

nasal projection decreased. The patient agreed for nasal reconstruction with med pore implant.

Treatment

Surgical Technique

Stage I : Rhinoplasty with medpore implant placement

Incision was placed on the existing scar, i.e on the mid dorsum of nose (figure 2a). Mucoperiosteum reflected. Alar cartilages identified and released & nasal septum identified (deviated towards right side). Dissection carried out to identify the bony attachments on either side of the nose. Osteotomy carried out using piezo surgery at side of the nose & also at the root of the nose & lateral walls of nose fractured to reduce the width of the nose (figure 2b).

L shaped medpore implant (Biopore) of size 48×11×24mm (trimmed & contoured) and adapted and placed above the dorsum of nose and at the columella (figure 2c). Osteotomy carried out using piezo surgery at side of the nose & also at the root of the nose & lateral walls of nose fractured to reduce the width of the nose. L shaped medpore implant (Biopore) of size 48×11×24mm (trimmed & contoured) and adapted and placed above the dorsum of nose and at the columella. Lower alar cartilages sutured to the medpore implant with 4-0 prolene to increase the height of the nasal tip and skin closed with 4-0 prolene. Hemostasis achieved. Layered closure of the muscle, fascia and skin done using 3-0 vicryl and 4-0 prolene (figure 2d).

Following stage 1 surgery, the base of the nose was wide with increased interalar distance. (figure 3)

Stage II : Rhinoplasty with goldmans tip plasty

Trans-columellar incision with alar rim incision was placed. The domes were divided in the midline, and the upper lateral cartilages were released laterally. Interdomal

soft tissue was removed. Transdomal mattress type suture was placed which decrease interdomal distance and elevates the tip. Lateral nasal osteotomy was done and nasal base narrowing done. Layered suturing was done.

Outcome and Follow-Up

In our case 2 stage surgeries were done. After the first stage nasal function was obtained but nasal tip projection was not obtained so the second stage was done and satisfactory results were obtained. (figure 4,5)

Discussion

Bifid nose is a rare congenital condition. In 1976 Tessier reported a classification of craniofacial cleft. According to this classification, bifid nose is associated with No. 0 and No. 14 clefts. It can be syndromic i.e, frontonasal dysplasia with hypertelorism (5-26%). [3-5] 2 hypothesis has been put forward 1. Due to arrest of union of the cartilaginous and bony structures forming the upper central Portion of the face. 2. Faulty development of depressed part of the medial nasal process alone, with resultant Page 3 of 14 arrest of the union of the nasal laminae and olfactory pits. [6-9] In this case we have done 2 stage procedure, 1st stage to give primary support to improve function by graft placement and increase nasal dome height. 2nd stage to improve overall esthetics by doing tip plasty to give nasal tip prominence and narrowing nasal bridge width [10-11]. We achieved considerable aesthetic improvement without significant complications. Secondary rhinoplasty is usually needed for cosmetic refinement. Nasal surgery in childhood not only corrects cosmetic and functional deficits, but also avoids the continuous worsening of the deformity, the impact on frequent sinusitis and otitis media and psychological upset. The optimum age of correction is an arguable and debatable issue. In the past, physicians were cautioned not to perform surgery on the pediatric nose because of the potential damage to the nasal growth

centers[12-13]. Many authors recommended against this surgery inferring by some animal studies[14], Fedok et al [15] advised preserving normal nasal structures and the judicious use of grafts as prerequisites for a safe surgery in properly selected cases. Trauma, tumor and congenital anomaly are the main target groups, Chmielik and Witkowska [16] conducted a study on more than 700 children in Poland and he concluded that rhinoplasty has no unfavorable influence for anatomical nasal structures and normal growth. Lawrence [17] conducted a literature review and concluded that septoplasty can be performed without affecting most aspects of nasal and facial growth, Obvious change in surgeons' trend was recognized afterwards. Recommendation for safe pediatric septoplasty and rhinoplasty was supported by a large number of publications, All cases in this series were treated before school age. We think that this is psychologically important as it exempts children from teasing and criticism while playing and dealing with their mates.

Learning Points/Take Home Messages

- Bifid nose is a rare congenital anomaly affecting the nose which is due to improper fusion of nasal prominences
- Rhinoplasty is an challenging case for the surgeons to restore aesthetics as well as function.
- Goldmans tip plasty , alar cinch suturing procedures are required to improve the aesthetics

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Legend Figures

Fig 1 Pre OP Photograph



1a Frontal



1b Lateral



1c Basal



1d Basal closeup

Figure 2-Intra Operative



2a- incision through existing scar.



2b - Osteotomy of Lateral Nasal Wall To Reduce Width Of Nasal Base With Piezo Device



2c- L Shaped Medpore Implant In Situ



2d- Closure With Prolene

Figure 3- Post OP



3a- Frontal



Fig 3 b

Fig 4: Review After 1 Week



Fig 4a



Fig 5 b



Fig 4b



Fig 5 c

Fig 5: Second Stage Review



Fig 5 a