Correction of Short Nose

Dong Hak Jung, MD, PhD*, Sang Gyun Jin, MD, Sang Min Hyun, MD, PhD

KEYWORDS

• Short nose • Asians • Rhinoplasty • Augmentation rhinoplasty

KEY POINTS

• A review of surgical correction of the short nose in Asians.

INTRODUCTION

Many Asians have a short nose that characteristically has a low dorsum and short columella, with a poorly defined nose tip. Augmentation rhinoplasty has been popularized to correct these features. In the past, simple augmentation was the surgical procedure most often used to address these issues. Simple augmentation of the dorsum and radix using an implant has been used, but this procedure results in disharmony of the nasal base, which results in a short nose with visible nostrils and a longer supratip lobule and shorter columella.[1–3] Accordingly, for Asians, it is necessary to elongate and augment the nose simultaneously to achieve successful augmentation rhinoplasty. Many studies have recognized and introduced the importance of nasal tip plasty, and currently most surgeons simultaneously perform nasal elongation and augmentation during rhinoplasty.[4,5]

The nose is defined by the length from the radix to the pronasale. An ideal nose has a length that is one-third of the entire facial length, whereas the Goode ratio indicates an ideal nose length as a ratio with respect to nasal projection, which is 5:3.[5] Conversely, the diagnostic criteria for a short nose may include noses that have a shorter length than an ideal nose, meaning that the length is less than one-third of the facial length. Instead of making a diagnosis based simply on length, however, other characteristics also should be considered. Therefore, the characteristics of a true short nose may be defined as follows: from the frontal view, an increased view of the nostrils, overrotated cephalic tip, a long upper lip, and decreased nasal height are observed; from the profile view, a low radix, increased nasolabial angle, alar retraction, and decreased nasal bridge length are observed.[5,6]

When extending the nose length during rhinoplasty, the following factors must be considered: softness of the skin; presence of upper lateral, lower lateral, and septal cartilages; strength; availability of autologous cartilage for additional use; mucosal and skin conditions; and fibrotic change. In particular, extending the nose requires cartilage that is both long and strong enough; thus, it must be determined which cartilages are available and how they will be used preoperatively. If the nose becomes too long relative to the face, however, then a patient may appear less feminine and older in age, so the surgeon should be fully aware of how much should be extended from an aesthetics perspective and have the patient make the final decision on the matter.

The current practice of surgical correction of the short nose in Asians is reviewed.

ETIOLOGIES OF A SHORT NOSE

The etiologies of a short nose can be divided into congenital or acquired (**Box 1**). Congenital etiologies may be due to congenital deformities, such as Binder syndrome or a cleft nose, but their incidence is low. Most patients have short noses caused by other problems, such as developmental delay or anatomic defects and rhinoplasty in an effort to achieve westernized beauty ideals.

Disclosure Statement: The authors have nothing to disclose.
Shimmian Rhinoplasty Clinic, 375, Gangnam-daero, Seocho-gu, Seoul 06620, Republic of Korea
* Corresponding author.
E-mail address: rhinojdh@hotmail.com

Facial Plast Surg Clin N Am ■ (2018) ■–■
https://doi.org/10.1016/j.fsc.2018.03.011

Box 1
Etiologies of the short nose

Congenital
Binder syndrome
Congenital syphilis
Craniofacial malformations
Acquired
Traumatic
Neoplasm
Infection/inflammatory
Syphilis, leprosy, Wegener granulomatosis
Iatrogenic (postoperatively)
Contracted nose (host immune reaction, repeated surgeries, and infection)

Moreover, a short nose can be defined by subjective findings, meaning variation from a normal nose and aesthetic issues, which are not objective criteria.[6] The prevalence of a short nose may also change according to changes in generational, racial, and social trends and personal preferences. In particular, with westernization of Eastern cultures and the introduction of Western beauty standards, there is a relative increase in the number of Asians with a congenitally short nose, and, as a result, the need for proper correction of a short nose continues to increase.

Acquired etiologies of a short nose include trauma, infection, neoplasm, iatrogenic cause, and substance abuse. In particular, an increased number of augmentation rhinoplasty cases in which implants were used have led to a pathologically short nose, that is, a contracted nose, whereas other etiologies may be associated with rejection of the implant, resulting in host immune reaction, infection, and repeated surgeries. For such a foreshortened nose caused by contracture, surgical treatment is not easy due to many problems associated with the condition, such as structural damage from injury and absence of cartilage caused by its use in several previous surgeries and the skin or mucosa being hard and not soft. Therefore, it is important to identify the etiology of the short nose and select the treatment method accordingly.

CORRECTION OF THE SHORT NOSE

Material Selection

First, selecting the right material for nose extension is essential. Using an implant on the tip of the nose is not recommended. The tip of the nose is a free-floating structure that continuously moves when chewing food, smiling, or making facial expressions. When a foreign substance, such as an implant, is used for the tip of the nose, constant friction can lead to complications, including inflammation. Therefore, it is better to use autologous tissues, such as septal, ear, or costal cartilage.

Recently, the use of Medpor (Stryker Corp, Kalamazoo, MI, USA), a porous high-density polyethylene implant, has increased for extending the tip of the nose, owing to its thin and strong properties.[7,8] This can become the cause of postoperative protrusion and infection, however, and when the implant is removed to address this issue, tissue ingrowth into the pores of the material may require removal of nearby tissues together with the implant, thereby causing unintended damages to the tissues (**Fig. 1**).[9,10]

The use of irradiated rib cartilage has also become more common. Irradiated homologous costal cartilage provides an alternative rib cartilage from a cadaveric source, which is easily carved, readily available, and provides adequate structural support without the problem of donor site morbidity.[11,12] Previous studies have reported, however, conflicting absorption and inflammation rates; thus, these issues should be fully considered when using this material.[8,11,13,14] When irradiated rib cartilage is

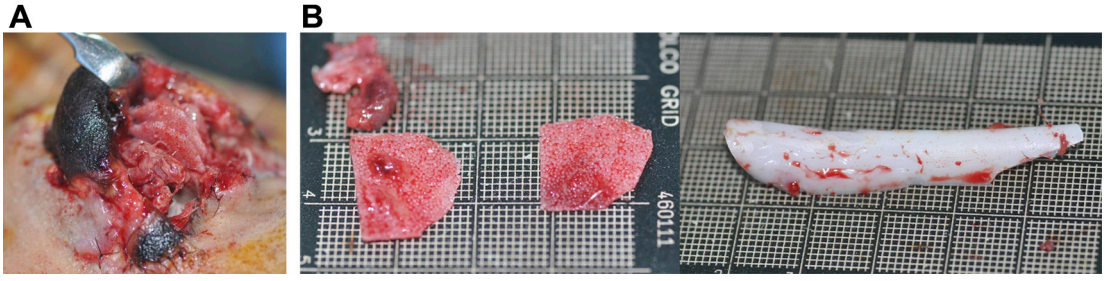

Fig. 1. (*A*) Severe inflammatory changes are shown on the cartilage and soft tissue structures. (*B*) Medpor and silicone are removed.