Asian Rhinoplasty

Dean M. Toriumi, MD[a,*], Colin D. Pero, MD[b,c]

KEYWORDS

- Asian rhinoplasty • Revision rhinoplasty
- Augmentation rhinoplasty

Cosmetic rhinoplasty in the Asian patient population differs from traditional rhinoplasty approaches in many aspects, including preoperative analysis, patient expectations, nasal anatomy, and surgical techniques used. Platyrrhine nasal characteristics are common, with low dorsum, weak lower lateral cartilages, and thick sebaceous skin often noted. Typically, patients seek augmentation of these existing structures rather than reductive procedures. Patient desires and expectations are unique to this population, with patients often seeking improvement and refinement of their Asian features, not radical changes toward more characteristic White features. Use of alloplastic or autologous materials is necessary to achieve the desired results; the use of each material carries inherent risks and benefits that should be discussed with the patient. Autologous cartilage, in particular use of costal cartilage, has shown to be a reliable, low-risk technique, which, when executed properly, produces excellent long-term results. An understanding of cultural perspectives, knowledge of the nasal anatomy unique to Asian patients, and proficiency with augmentation techniques are prerequisites in attaining the desired results for patient and surgeon.

PREOPERATIVE EVALUATION

Preoperative counseling of the Asian rhinoplasty patient demands attention to cultural concerns in addition to cosmetic concerns and functional complaints. Commonly, patients describe their desire to achieve elevation of the nasal dorsum, refinement of the nasal tip, narrowing of the nasal base and correction of their columellar or premaxillary retraction.

Characteristics of the Asian nose include: low nasal dorsum with caudally placed nasal starting point, thick, sebaceous skin overlying the nasal tip and supratip, weak lower lateral cartilages, small amount of cartilaginous septum, foreshortened nose, retracted columella, and thickened alar lobules (**Fig. 1**).

Each patient's desire to balance augmenting their Asian nasal features with maintenance of the appearance of an Asian nose is unique for each individual and should be elucidated during the initial consultation and preoperative visits. Demonstration of the proposed changes to the patient with a computer-imaging program can aid communication between patient and surgeon of the proposed changes (**Fig. 2**A, C). Fulfillment of the patient's stated wishes may produce a modification of the patient's ethnic identity, and computer imaging helps the patient to better understand the possible outcome. When available, preoperative and postoperative results of previous patients may help demonstrate the spectrum of changes possible and aid the patient in deciding on the desired postoperative result.

Discussion of incision placement (including base reduction and auricular and rib cartilage harvest), possible complications, postoperative care, and follow-up schedule are discussed at the initial consultation and preoperative visit. If rib cartilage is likely to be used, the patients are instructed to expect their nose to be stiffer initially and to soften with time. If a significant amount of nasal lengthening or premaxillary augmentation is expected, the patient is counseled that there may be an initial tightness or fullness to the upper lip. Occasionally, a crease in the lip may be seen.

[a] Division of Facial Plastic and Reconstructive Surgery, Department of Otolaryngology-Head and Neck Surgery, University of Illinois at Chicago Medical School, 1855 W. Taylor Street Rm 2.42 MC 648, Chicago, IL 60611, USA
[b] Division of Facial Plastic and Reconstructive Surgery, Department of Otolaryngology-Head and Neck Surgery, University of Texas-Southwestern Medical School, Dallas, TX, USA
[c] Private Practice, 5425 W. Spring Creek Parkway, Suite 170, Plano, TX 75024, USA
* Corresponding author.
E-mail address: dtoriumi@uic.edu (D.M. Toriumi).

Clin Plastic Surg 37 (2010) 335–352
doi:10.1016/j.cps.2009.12.008
0094-1298/10/$ – see front matter

Fig. 1. Preoperative photograph of patient seeking primary rhinoplasty. Note low dorsum, thick skin, inadequate projection of nasal tip, and suboptimal alar-columellar relationship.

The risk of this sequela must be balanced against the desire for lengthening and premaxillary augmentation.

SURGICAL PLANNING

The senior author (DMT) performs the procedure on patients under a general anesthetic on an outpatient basis. Preoperative photography includes full face and close-up frontal, both lateral, and three-quarter oblique views, and a close-up base view with and without inspiration to demonstrate dynamic collapse. Computerized imaging is performed on every preoperative rhinoplasty patient. The preoperative photographs and the computer imaging are displayed during surgery and referred to throughout the operation to help achieve the desired results. Preoperative injections of the nose and donor cartilage site(s) are made with 1% lidocaine with 1:100,000 epinephrine. Infiltration of the columella, area between the intermediate crura, the subperichondrial planes over the upper and lower lateral cartilages, and the subperiosteal plane over the nasal bones along the nasal dorsum and sidewalls is performed. The nasal septum is injected in a subperichondrial plane using hydrostatic dissection to elevate the mucoperichondrial flap from the underlying cartilage. A preliminary assessment of the relative size of the cartilaginous septum can be made by probing with the injection needle to identify the boundaries of the septal cartilage. Most Asian patients have a small cartilaginous component to their septum and frequently require additional cartilage for augmentation.

If additional cartilage is needed, the appropriate donor site(s) are also injected. If auricular cartilage is to be used, the planned incision is marked on the posterior auricular surface 3 to 4 mm lateral to the postauricular sulcus and infiltrated with local anesthetic. One or both ears may be used. The authors rarely use auricular cartilage as it is not a good option for augmenting the nasal dorsum because the ends of the cartilage can curl and deform over time.

If costal cartilage harvest is planned, a 1.1- to 1.5-cm incision is marked overlying the right sixth rib and injected with local anesthetic. The right chest is chosen because of ease of access for the right-handed surgeon and to avoid confusion with cardiac pain postoperatively. Neurosurgical pledgets saturated with 0.05% oxymetazoline are placed in the nose and a sterile preparation and drape are performed. Separate instruments for auricular or costal cartilage harvest are segregated from those for the nasal surgery. In addition to traditional rhinoplasty instrumentation, a Castro-Viejo caliper is used intraoperatively to document parameters, which aid in assessing likely outcomes (eg, graft dimensions, supratip break, middle vault, and dorsal graft width).

Surgical Technique

The procedure is initiated with a midcolumellar inverted-V incision made with a number 11 blade scalpel. A number 15 blade scalpel is used to make bilateral marginal incisions with extensions in the vestibular skin 2 to 3 mm posterior to the columellar incision and extending toward the soft-tissue facet. Sharp Converse scissors are used to carefully dissect the tissue over the medial crura and extend the medial aspect of the marginal incisions into the soft-tissue triangle area, connecting with the remaining marginal incision laterally, thereby exposing the lower lateral cartilages. Sharp dissection, with minimal spreading, limits tissue damage, aids in hemostasis, and minimizes postoperative edema. Dissection is carried over the nasal dorsum to expose the dorsal cartilaginous septum to the level of the nasal bones. A Joseph elevator is used to elevate the periosteum over the nasal bones in the midline. It is imperative that the periosteum is elevated laterally only to the extent that will allow the dorsal graft to fit snugly over the dorsum. Failure to maintain this tight pocket is a major contributor to postoperative migration of the dorsal graft. If changes to nasal