



ELSEVIER



# Anchor-shaped nasal framework designed for total nasal reconstruction

Qingfeng Li<sup>\*,1</sup>, Rui Weng<sup>1</sup>, Bin Gu, Kai Liu, Guoxiong Shen, Feng Xie, Danning Zheng

Department of Plastic and Reconstructive Surgery, Shanghai Ninth People's Hospital, affiliated to Shanghai Jiao Tong University, School of Medicine, 639 Zhizaoju Road, Shanghai 200011, PR China

Received 16 December 2008; accepted 3 May 2009

## KEYWORDS

Nasal reconstruction;  
Rhinoplasty;  
Cartilage  
transplantation

**Summary** *Background:* Nasal frame grafting has been widely used in nasal reconstruction; however, a stable nasal frame with satisfactory functional and aesthetic results is hard to achieve in total nasal reconstruction. In this study, we devised a technique to create an individually designed anchor-shaped nasal frame composed of an L-strut and two C-battens, and applied it in the total nasal reconstruction procedure to achieve satisfactory functional and aesthetic results.

*Method:* In a 9-year period, 17 patients with total nasal defect were treated with autogenous costal grafting utilising forehead flap as the covering. The techniques of the individualised design of the anchor-shaped nasal frame were applied to fit the facial features. All cases were followed for at least 18 months, and outcomes were evaluated separately by the patients and plastic surgeons in terms of aesthetics, stability and function.

*Results:* Satisfactory results were achieved in most of the cases after the operation. More than 82.4% of the patients in this series were assessed as satisfactory by both groups in the aesthetics survey; more than 76.5% in the stability survey; and more than 64.7% in the function survey. Complications included flap hyperpigmentation (one case), flap-skin paleness (one case), L-strut distortion (three cases) and stiffness of the nostrils (one case) as well as minor brow elevation of the donor side (five cases).

*Conclusions:* The procedure of applying individually designed anchor-shaped nasal frame with forehead flap technique has obvious advantages for restoration of distinct and delicate subunits, stable nasal structure and good nasal function.

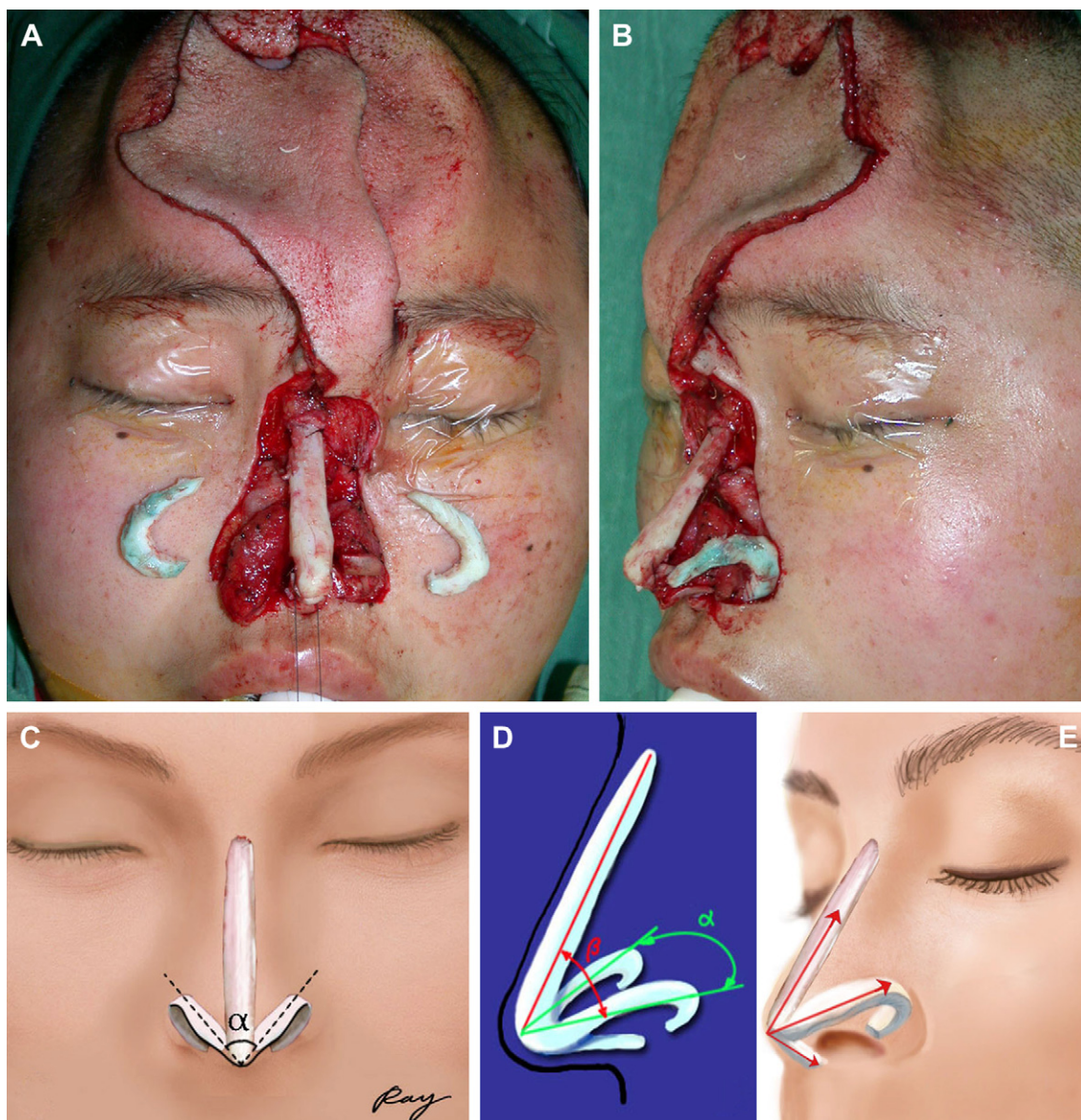
© 2009 British Association of Plastic, Reconstructive and Aesthetic Surgeons. Published by Elsevier Ltd. All rights reserved.

\* Corresponding author. Fax: +86 21 63089567.

E-mail address: liqfliqf@yahoo.com.cn (Q. Li).

<sup>1</sup> These authors contributed equally to this work.

Total nasal reconstruction consists of restoring the external covering and internal lining and re-establishing a framework; the restoration of the frame is of paramount importance for maintaining both form and function.<sup>1</sup> Proper



**Figure 1** The anchor-shaped nasal frame. A. The design of the L-strut and the C-battens. B. The anchoring of the L-strut and the C-battens. C–D. Illustration of the anchor-shaped nasal frame. E. Illustration of the soft tissue retraction forces, the red arrows indicates the direction of retraction forces.

design of the nasal framework helps to restore ventilation and to form distinct and delicate subunits by resisting postoperative soft tissue retraction and maintaining nasal projection.

The design of the 'L'-shaped dorsal-columellar strut and its costal cartilage grafting have been well discussed in literature, especially in the reconstruction of saddle-nose deformity<sup>2–4</sup>; there are also many articles about the alar cartilage grafting in alar reconstructions and heminasal reconstructions.<sup>5–7</sup> However, detailed information is very limited about the design and anchoring of costal nasal grafting, and the relation between the individualised design of nasal frameworks and outlooks in total nasal reconstruction.<sup>8</sup>

In this article, we introduced an anchor-shaped nasal framework technique for total nasal reconstruction. The anchor-shaped nasal frame made of autogenous rib cartilage is composed of two C-battens ('C'-shaped alar grafts) and an

L-strut (L-shaped dorsal-columellar grafts). By adjusting the position of the two parts, we changed the shape of nose and the contour of the nasal tip to better suit different facial features, and to achieve the individualised aesthetic results. We utilised this method with the forehead flap technique in 17 cases of total nasal defects, and achieved satisfactory results in aesthetics, stability and function.

## Methods

### Patients

A total of 17 patients with total nasal defect were treated in our institution between March 1999 and August 2008. There were 12 males and five females ranging in age from 6 to 48 years (average age of 28 years). The most common

Download English Version:

<https://daneshyari.com/en/article/4121210>

Download Persian Version:

<https://daneshyari.com/article/4121210>

[Daneshyari.com](https://daneshyari.com)