Nuances in component dorsal hump reduction - a cadaveric study focussing on the relationship of the upper lateral cartilages to the rhinion

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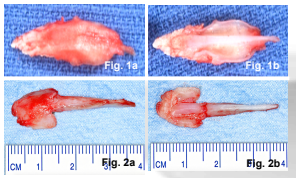
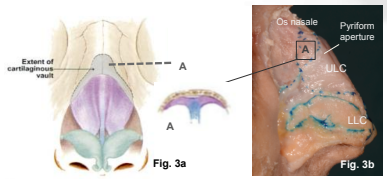
Introduction

Traditional hump reduction has been based on “en bloc resection“ of the dorsal hump as an osseo-cartilaginous unit (Fig. 1a, 1b). This included resection of the keystone area with the risk of an inverted-V deformity, narrowing of the middle vault and dorsal irregularities. With the introduction of spreader grafts, Sheen outlined the importance of preserving and reconstructing the middle-third of the nose. This crucial concept determined the technique of component hump reduction, a step-wise approach in reducing the nasal dorsum with enhanced preservation of the keystone area (Fig. 2a, 2b).



The authors considered the fact that the upper lateral cartilages(ULCs) reach far beneath the nasal bone to be a crucial factor which asked for a more detailed consideration (Fig. 3a, 3b).

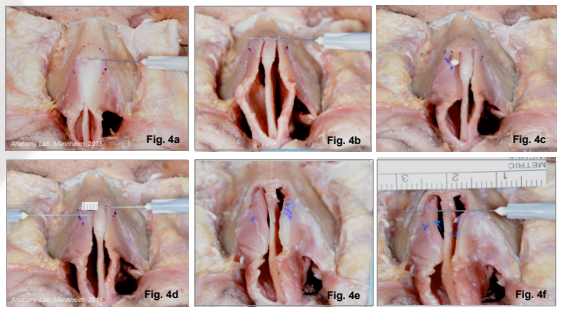


Aim

The aim of this study was to analyse the transition from the ULCs to the bony dorsum during component hump reduction by modifying the cephalic extension of the ULCs beneath the nasal bones.

Material and Method

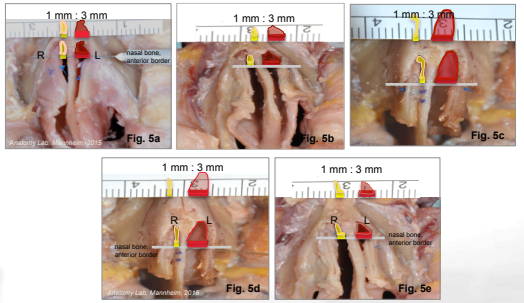
Five fresh cadaveric heads were dissected. The skin and soft tissue envelope were resected off the nose (Fig. 4a). IC incisions helped to separate the ULCs from the LLCs and expose the inferior border of the ULCs. The ULCs were then released form the septum in a subperichondrial plane (Fig. 4b).
On each side of the rhinion, the ULCs were dissected differently. On the right side, the ULC was detached from the nasal bone and dissected far beneath the bony vault. On the left side, the ULC was left attached to the bony dorsum (Fig. 4c). After hump resection, both sides of the rhinion were compared to each other.



Results

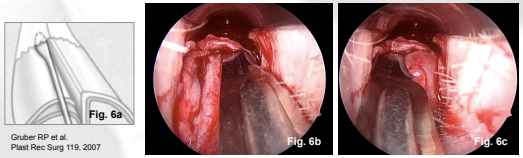
The detached cephalic part of the ULC rotated infero-medially against the septum and generated a horizontal segment of up to 4 mm (Fig. 4d). Both ULCs displayed a height difference of up to 2 mm at the keystone area.
After hump reduction, the horizontal segment of the detached ULC remained intact whereas the opposite side suffered a substantial loss of cartilage not only at the keystone area but also far cranially (Fig. 4e, 4f).

Measurements of the gap between the ULCs and the remaining septum in the midline after component hump reduction were made. The average gap between the right and left side revealed a ratio of 1:3 mm (Fig. 5a-e).



Discussion

When the ULCs are released anteriorly from their attachments to the nasal bones at the keystone area and dissected from under the bony vault, they can be maintained in their integrity during hump reduction (Fig. 6a-c).



This manoeuver can allow preservation of the cartilaginous components of the ULCs beyond the keystone area with the potential for a smoother transition line in the keystone area and a straighter aesthetic dorsal profile.

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