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LETTER TO THE EDITOR

Commentary: Beware of Optical Illusion of the Alar Base in Unilateral Cleft Lip Nasal Deformity

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Sir:

We would like to congratulate the authors on an important study that clarifies dogma regarding the unilateral cleft lip nasal deformity.[1] A common misperception is that the cleft-side alar base is displaced lateral, and that correction requires medial advancement (Fig. 1A). Just as we have, the authors provide objective evidence of the reverse[2]: relative to facial midline, the non-cleft alar base is displaced laterally and needs to be centralized (Fig. 1B). Mulliken has proposed that surrounding regional contours may lead to optical illusions of alar base position.[3] We feel that the misperception may be due to human cognitive tendencies to reference the more natural appearing non-cleft side when explaining the less-familiar cleft-side contours. Regardless, a clear understanding of the deformity is critical to improving treatment and avoiding iatrogenic anomalies.

Sakamoto et al analyzed a large sample of photographs and suggested that the cleft alar base is displaced medial relative to age-matched controls.[1] Their findings differed from ours in that we found the cleft alar base to be retruded, but normal in medial-lateral position.[2] Although they attributed the discrepancy to their larger sample size,[1] there are several other explanations to consider. First, whereas our study examined standardized 3D images, they used 2D photographs that involve considerable error from lens distortions, parallax, and uncontrolled head rotation. The appearance of depth from a retruded cleft alar base on 2D images could be extrapolated as variation in medial-lateral position, and error from parallax may be magnified when images are tilted to normalize head position. Second, whereas we measured alar base position using calibrated images with accuracy to within 1 mm, they normalized dimensions on non-standardized photographs using inter-endocantion distance expressed as ratios. These ratios don't account for the fact that the inter-endocanthion distance widens with increasing cleft severity.[2] The findings that Sakamoto et al report may therefore simply be a changing denominator rather than true alteration of cleft alar base position. Although further analysis of well-controlled 3D images would be helpful, the medial position of cleft alar base relative to controls that they report is minimal and may not be of clinical relevance.

Most figures depicting unilateral cleft lip nasal deformity crop out facial features beyond the nasolabial region and some research studies advocate that doing so reduces bias when rating esthetic outcomes.[4] We are glad to see that Figure 4 in Sakamoto's article[1] is identical to Figure 1 in ours.[2] The midline and the endocanthion verticals illustrate the medial-lateral displacements, whereas the alar base horizontals illustrate the relative vertical disparities. Visualization of the whole face allows balance to be judged, and the reference lines guide us to correct perceptions (Fig. 1). We propose that those references should be standard and caution against future research that crops out non-nasolabial regions without providing a mechanism to judge balance. Finally, based on Sakamoto's,[1] Fisher's,[5] and our[2] studies, we propose that centralizing the columella and rebalancing the nasal base elements should be the fundamental principle in the correction of the unilateral cleft lip nasal deformity.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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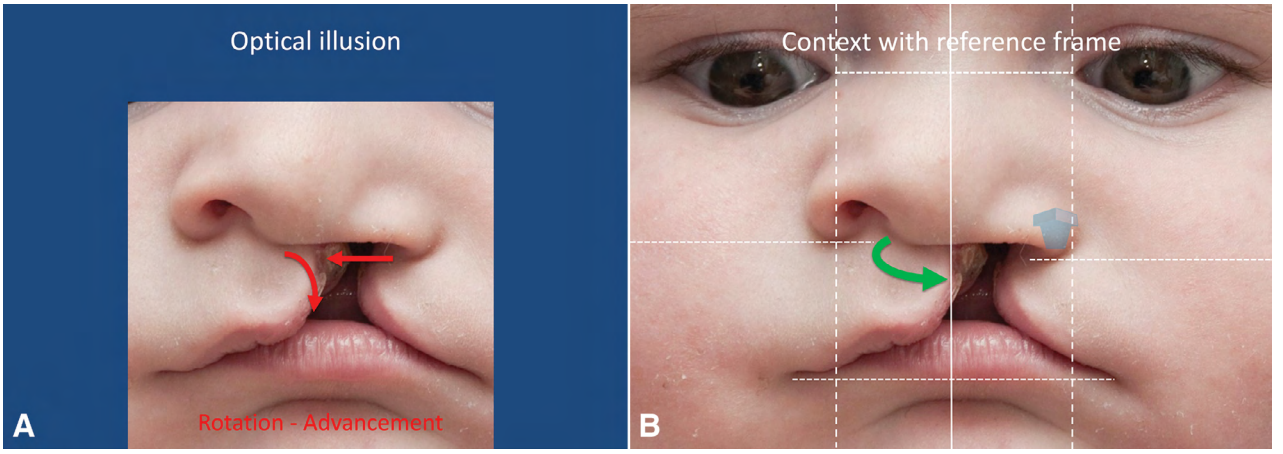

Fig. 1. A, Optical illusion. In the absence of facial regions outside the nasolabial region it may seem that correction of the deformity involves downward rotation of the medial lip philtrum and medial advancement of the lateral lip and alar base. B, Context. Facial features and reference lines make the actual displacements readily perceived. The non-cleft alar base and columella need to be centralized, and the cleft alar base needs to be advanced anteriorly. If the lateral lip and alar base were advanced medially, it would produce further imbalance, aggravate the nasal twist, and introduce iatrogenic deformity. Modified with permission from *Plast Reconstr Surg* 2020:145;185–199.