

A New Concept of Narrowing Genioplasty: Home Plate–Shaped Sliding Osteotomy

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Background: Narrowing genioplasty is commonly performed among East Asian populations, as a broad and/or square chin can be aesthetically unappealing. This study was aimed to introduce the home plate–shaped sliding osteotomy technique for narrowing genioplasty and to evaluate the results of this technique.

Methods: A retrospective chart review of 117 patients who underwent home plate–shaped sliding osteotomy alone between 2011 and 2019 was performed. The angles of oblique osteotomy lines and measurements of caudal repositioning, which significantly affect the postoperative chin shape, were evaluated.

Results: The home plate–shaped sliding osteotomy technique was successfully accomplished for narrowing genioplasty as an isolated procedure. The mean distance of caudal repositioning was 3.9 ± 0.8 mm, and the mean angles of oblique osteotomy lines were 23.3 ± 4.8 degrees on the right and 21.8 ± 3.5 degrees on the left. This produced an aesthetically pleasing rounded and proportionately narrow chin. The incidence of minor complications was 6.0 percent. There were no major complications. In particular, the risk of inferior alveolar nerve injury was obviated, as an additional mandibular border osteotomy was not typically used with this technique.

Conclusions: This new surgical procedure for narrowing genioplasty provides improved aesthetic results by altering the chin shape, rather than reducing the transverse width of the chin. The versatility of this procedure allows the chin shape to be adjusted with respect to narrowing, vertical lengthening, anterior advancement, and asymmetric or cleft chin correction. The present study suggests that home plate–shaped sliding genioplasty may be an excellent alternative for correcting broad and/or square chins and more complex chin deformities. (*Plast. Reconstr. Surg.* 148: 00, 2021.)

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, IV.

The chin is one of the most noticeable facial structures and is thus frequently targeted for aesthetic facial bone-contouring surgery. The concept of an ideal facial shape varies among ethnic groups. In East Asia, for example, a rounded chin is considered to be the most desirable shape.^{1–3} This is in contrast to a broad and square chin, which may be aesthetically unpleasing among East Asian women. Therefore, narrowing genioplasty is widely performed as a V-line mandibular contouring procedure among East Asian populations as an aesthetic operation.

Multiple approaches for narrowing genioplasty have been described to correct broad or square chins.^{4–16} First, the T-shaped osteotomy method has been the most widely performed for

narrowing genioplasty.^{6,12,14,16,17} This procedure involves central bone segment resection with horizontal and two vertical osteotomies followed by reapproximation of the bone fragments of each side. The mean width of the central bone segment has been reported to be 9.1 mm.¹⁶ However, the procedure occasionally produced an insufficient narrowing effect for patients with broad and/or square chins.⁸ Nevertheless, further resection may cause many problematic sequelae. Second, the “oblique mandibular chin-body osteotomy” or “one-piece osteotomy” is a simple and popular procedure commonly used as well.^{5,7,15} The

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