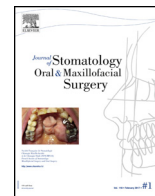




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Technical Note

Chin wing: Technical note

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ABSTRACT

The chin may be concerned by morphological abnormalities in its various dimensions. Classical genioplasty techniques can be used to correct these but have some disadvantages. The “chin wing”, described by Triaca, is a technique of genioplasty extended to the mandibular angles, considering the mandibular basilar border as an anatomical unit, thus achieving a better harmonious functional and aesthetic result. The preoperative assessment included a mandibular Cone Beam to evaluate the position of the inferior alveolar nerve. The procedure was performed under general anesthesia. The periosteal dissection was limited to the osteotomy area and mental nerves were protected. The osteotomy observed a modification of its orientation in front of the mental foramen to become parallel to the basilar border, which was interrupted at the level of the mandibular angle. The spaces created were filled with bone grafts and maintained by a symphysary plate. Chin wing genioplasty both improves the function and aesthetic of the face because it considers the mandibular basilar border as an entire anatomical unit. It can be performed independently of any procedure to modify the bone bases. Nowadays, chin wing remains a challenging technique hardly performed.

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1. Introduction

The chin is an important part of the facial profile, as the nose and the forehead. It is one of the criteria for assessing human character.

Several chin morphological abnormalities are encountered in different dimensions of the space:

- sagittal (pro or retrogenia);
- vertical (insufficiency or excessive height);
- transversal (laterogenia).

The classical genioplasty techniques can be used alone, or to complete a maxillomandibular osteotomy in order to modify chin position and/or dimension. Classical genioplasty is performed both for aesthetic and functional indications (restoration of a lip skill, treatment of sleep apnea ...). However, classical genioplasty causes several issues, such as irregularities of the mandibular basilar border, insufficiency of sagittal advancement of the chin,

and soft tissues ptosis due to lack in muscular post-operative readjustment.

Chin wing is a modified genioplasty technique described for the first time in 2010 by Triaca [1,2]. It considers the basilar border as a whole anatomical unit, allowing to obtain a better functional result and harmonious aesthetic result (Fig. 1).

However, this recent and complex technique lacks scientific evaluation and backwardness regarding the long-term results. The technique is described in this article.

2. Technical note

2.1. Preoperative assessment

The usual clinical examination is supplemented by a complete radiological assessment including a panoramic radiography, frontal and profile skull telereadiographies and a mandibular Cone Beam to estimate the position of the inferior alveolar nerve (IAN) (Fig. 1).

2.2. Installation

This technique is performed under general anesthesia. The patient, placed in dorsal decubitus, is intubated with a nasotracheal tube.

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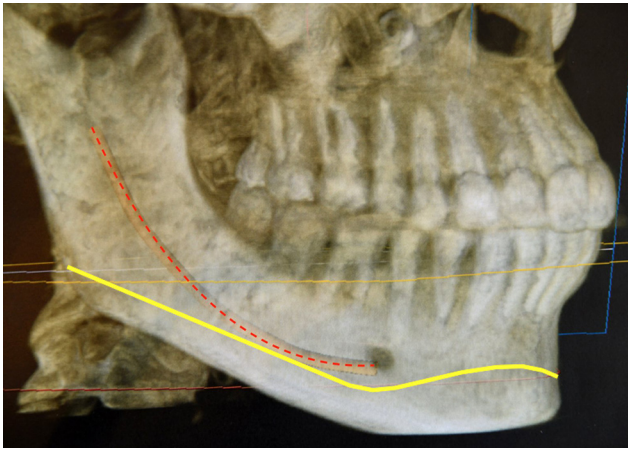


Fig. 1. 3D reconstruction of a mandibular cone beam, IAN (–) and osteotomy tracking.

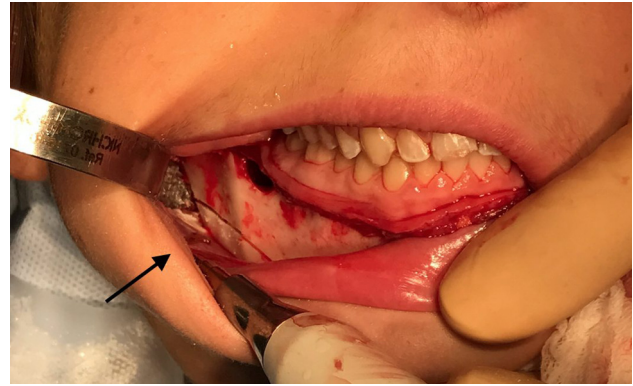


Fig. 3. Piezotome tilting of the piezotome (75°) to avoid the IAN.

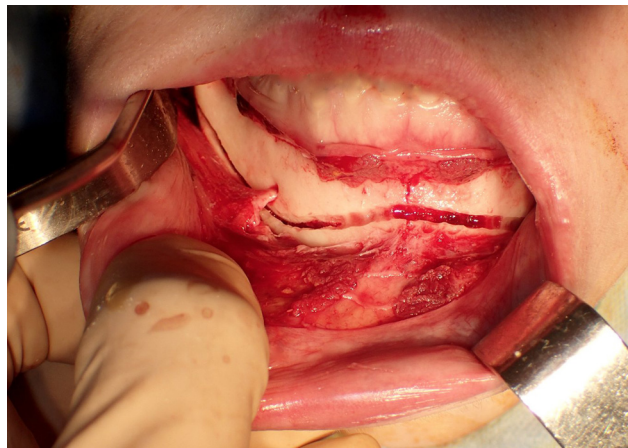


Fig. 2. Changing of the orientation of the osteotomy course in front of the mental foramen to become parallel to the basilar edge.

2.3. Incision and detachment

Mucosal infiltration is performed with a mixture of a local anesthetic and adrenaline. The mucosal incision is made by an electric scalpel in the vestibule, preserving few millimeters of free mucosa, extending from one mandibular ramus to the opposite one.

Subperiosteal dissection is proceeded basally up to the expected line of osteotomy, which exposed without periosteal detachment from the basilar border. Mental nerves are identified and the dissection is performed about 5 to 6 mm below the foramen, facilitated by the use of a syndesmotome.

The detachment is extended backwards to the mandibular angles, but remain above the basilar border.

2.4. Osteotomy

Osteotomy begins with the symphysis, performed with a round bur for the anterior cortical and with a piezotome oriented obliquely downwards and towards the lingual side for the posterior cortical. The bur orientation is modified about 1 cm anteriorly to the mental foramen by describing a curve to move backwards (Fig. 2).

The lateral osteotomies are performed with a piezotome through the entire thickness, extending the route from the mental

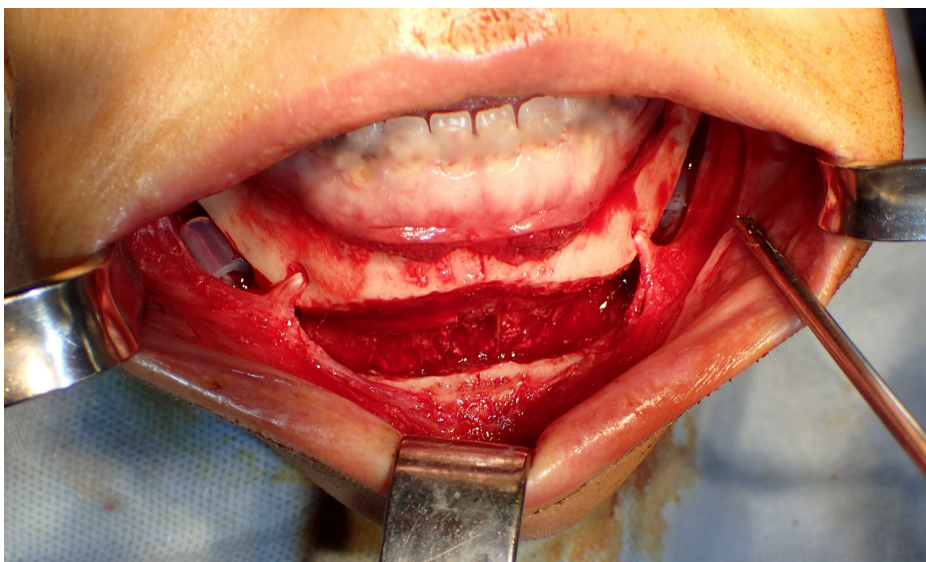


Fig. 4. The new position of the basilar edge is maintained by the transient interposition of posterior silicone wedges.

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