Rotation Technique of Reduction Malar Plasty

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Abstract: The 2 most common complications of reduction malarplasty are nonunion or malunion and cheek drooping. Because masseter muscle is attached from zygomatic process of the maxilla to inferior two thirds of the zygomatic arch, rigid fixation and intimate bone contact without creating a gap are crucial for reduction malarplasty.

Mesial-clockwise rotation of the zygomaticomaxillary complex can produce intimate bone contact and facilitates reduction malarplasty.

Key Words: Reduction malarplasty, rotation technique, nonunion, cheek drooping

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Prominent zygomas are perceived as stubborn and unattractive by Asians. To improve the esthetics of prominent zygoma, reduction malarplasty is the most commonly performed facial-contouring surgery in Asian countries. Various techniques of reduction malarplasty have been introduced. However, complications were accompanied with most techniques. Hereby, this report introduces an innovative surgical approach to minimize complications of the surgery.

The 2 most common complications of reduction malarplasty are nonunion or malunion and cheek drooping. Because the masseter muscle is attached from zygomatic process of the maxilla to the inferior two thirds of the zygomatic arch, rigid fixation and intimate bone contact without creating a gap are crucial for the reduction malarplasty.

SURGICAL PROCEDURES

L-shaped osteotomy was performed by intraoral approach. First, long arm of this osteotomy line started from the forefront of the superior border of the zygomatic arch, where the arch met the lateral orbital rim, and extended toward the medial and anterior areas of masseter muscle attachment. Second, short arm of the osteotomy line was made perpendicular to the long arm at the maxillary buttress of zygoma. Finally, an incision was made (1 cm long) in the sideburns, and the posterior portion of the zygomatic arch was fractured. All of the osteotomy line was made with a reciprocating saw (Fig. 1).

Freed zygomaticomaxillary complex was repositioned by medially rotating the inferior border of the zygomatic arch. The most important step is medially rotating the most prominent point

FIGURE 1. Frontal view of osteotomy line (A) and inferior view of osteotomy line (B).

FIGURE 2. The most prominent point of zygoma (red dot) and mesial clockwise rotation of the zygomaticomaxillary complex.

(red point in Fig. 2). Because osteotomy and bone removal were not carried out, freed zygomatic arch would prematurely contact with the posterior wall of the maxillary sinus. Therefore, contour of the posterior wall of the maxillary sinus was gradually adjusted to eliminate a gap in the L-shaped osteotomy line. When intimate bony contact is verified in the osteotomy line by eliminating the gap, rigid fixation is conducted with plates and screws (Fig. 2).

RESULT

Results are shown in Figures 3–6.

FIGURE 3. Preoperative and postoperative frontal views of a 27-year-old woman.

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FIGURE 4. Preoperative and postoperative lateral views of a 27-year-old woman.

DISCUSSION

The masseter muscle originates on the inferior border of zygoma. Therefore, reduction malarplasty can result in nonunion

FIGURE 6. Preoperative and postoperative lateral views of a 41-year-old woman.

after reduction malarplasty if intimate bone contact is not obtained. Mesial clockwise rotation of the zygomaticomaxillary complex can produce intimate bone contact and facilitates reduction malarplasty.

FIGURE 5. Preoperative and postoperative frontal views of a 41-year-old woman.

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