Modification of Square Face in Men

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**Background:** Women with elliptical faces are considered to be aesthetically appealing in Asia. Some men prefer this shape for themselves and choose to have their square-shaped face altered to an elliptical shape. To accomplish this, we perform an ostectomy that includes resection of the mandibular angle, splitting of the lateral cortex, and reduction in the width of the chin.

**Methods:** Nineteen men with a square face (aged 22-30 years) underwent ostectomy, including resection of the mandibular angle, splitting of the lateral cortex around the mandibular angle, and reduction of the width of the chin by an intraoral approach.

**Results:** The results of the ostectomy were satisfactory 3 to 6 months postoperatively. The bigonial distance was effectively reduced and stable chin contours were achieved. The overall shape of the face was elliptical. There was no microgenia, facial asymmetry, hematoma, infection, or permanent mental nerve injury.

**Conclusion:** Ostectomy that includes resection of the mandibular angle, splitting of the lateral cortex, and reduction in the width of the chin is a safe and effective method to modify a man’s square-shaped face into a more elliptical appearance.

Arch Facial Plast Surg. 2011;13(4):244-246

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IN ASIA, A WOMAN WITH AN ELLIPTICAL face is thought to be beautiful and a man with a square face is thought to appear masculine. However, some men prefer the elliptical shape for themselves and choose to have their square face altered. We describe the use of ostectomy to achieve this goal, including resection of the mandibular angle, splitting of the lateral cortex around the mandibular angle, and reduction of the width of the chin.

**METHODS**

Nineteen men with square-shaped faces were selected; their ages ranged from 22 to 30 years. Their desired outcome was an elliptical-shaped face. We performed an ostectomy on all of these patients, including resection of the mandibular angle, splitting of the lateral cortex around the mandibular angle, and reduction in the width of the chin by an intraoral approach.

All patients underwent general anesthesia through nasotracheal intubation. The approach to the symphysis area was accomplished with a conventional intraoral vestibular incision and subperiosteal dissection. A straight-line ostectomy on the mandibular angle and the mandibular body was made with an electric reciprocating saw, and this portion of the mandibular angle was removed. A row of small holes that descended to the cancellous bone along the external mandible oblique line was made with a round burr. These small holes were connected with a fissure burr, and the lateral cortex of the mandible was carefully split (Figure 1).

A horizontal T-shaped osteotomy and 2 vertical osteotomies for the reduction of the chin were planned, as shown in Figure 2. The horizontal osteotomy line was approximately 5 mm below the root of the incisor and approximately 3 to 4 mm below the mental foramen. The amount of resection that was necessary in the central segment was determined preoperatively and varied depending on the width of the chin and the shape chosen by the patient. When the osteotomy was completed, the muscular attachments were stripped and the central segment was removed. The soft-tissue attachment was left intact to maintain blood flow to the lateral bony segments. Two segments were approximated centrally and fixed with titanium plates and screws. Finally, to obtain a more natural contour of the lower border of the mandible, the bony edge of the mandible was trimmed to the desired size, using an oscillating saw. Contouring of the bony edge was extended to the mandible angle because narrowing genioplasty was usually performed in combination with the mandible reduction procedure. If the patient had chosen to increase the length of his chin, we inserted the bone segment obtained through osteotomy into the space that had been prepared. It sometimes was necessary to resect part of a hypertrophic masseter muscle. In addition, partial buccal fat pad

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removal was performed in patients with prominent cheeks. When the operation was completed, the wound was irrigated; a suction tube to allow drainage was then placed and maintained for 48 to 72 hours. The patient’s lower face was lightly compressed with a dressing. Antibiotics were administered for 3 to 5 days, and the sutures were removed 7 days postoperatively.

**RESULTS**

The postoperative results in all patients were satisfactory at 3 and 6 months. The final facial shape was elliptical; the bimaxillary distance was effectively reduced and the chin contours were stable. The patient's lower face was narrowed, and the remolded mandible shapes were stable and appeared to be natural (Figure 3 and Figure 4). There were no complications, such as microgenia, facial asymmetry, hematoma, infection, or permanent mental nerve injury. In addition, there was no insufficient or excessive osteotomy, fracture of the mandible, or facial nerve injury. All patients developed edema in their lower face, which was alleviated with corticosteroid therapy, 10 mg/d for 3 days. Patients had variable difficulties in opening their mouth for 1 to 2 weeks.

**COMMENT**

Facial contour preferences have a strong relationship with gender in Asia. Culturally, Asian people believe the ideal female facial contour to be elliptical, which is thought to be feminine and gentle, and the square-shaped face is thought to be masculine. The majority of patients who request alteration of a square-shaped face are women. However, with the increasingly tolerant attitude toward freedom of sexual orientation and development of the transsexual operation, the number of men seeking to modify their faces into an elliptical shape is increasing.

It has long been thought that the square-shaped face is the result of hypertrophy of the masseter muscle. The operation commonly performed to alter this shape is osteotomy of the mandibular angle and partial excision of the masseter muscle by an intraoral approach. Although there is no appreciable difference between methods used to modify a male vs female square face, there are some variations. The mandibular angle in men is usually more prominent than that in women, which may be why simple osteotomy is sometimes not sufficient in men. Therefore, a combination of a mandibular angle resection with splitting of the lateral cortex around the mandibular angle was routinely used in our study to improve postoperative outcomes. The mandibular bone in men is more thick and solid than in women, which increases the risk of insufficient osteotomy as well as accidental fractures and injury of nerves and vessels. Because of these risks, resection of the mandibular bone in men requires special attention. The outcome of mandibular angle osteotomy and splitting the lateral cortex around the mandibular angle is most often satisfactory in women. Partial excision of the masseter muscle is usually not necessary, which significantly decreases the risk of injury to the marginal mandibular nerve and deep middle masseteric artery, thus avoiding a massive hemorrhage. In addition, trauma to the temporomandibular joint is greatly decreased. However, in most of our male patients, we found that the masseter was quite hy-
pertrophic and the inner layer of that muscle usually needed to be resected. Men with square-shaped faces usually have square-shaped chins, which are wide and prominent. When only resection of the mandibular angle and splitting of the lateral cortex is performed, most men are not satisfied with the results because their chin is still square. The wide chin affects the outcome of the lower facial contouring; reducing the width of the chin could improve the contour of the lower face. Therefore, it is necessary to reduce both the mandibular space and the width of the chin in men with a square face to achieve an elliptical shape.

Men with a square face usually have a prominent and hypertrophic mandibular angle as well as a strong mandibular body. They may also have mandibular ramus and mentum defects. The anatomic elements affecting the postoperative result include the mandibular ramus, mandibular angle, mandibular body, and chin. In addition to the hypertrophic degree of the mandibular angle and the shape of the mandible ramus and body, the square formation of the face is affected by the chin shape. Therefore, osteotomy for modification of a man's square face should not be limited to the mandibular angle area; alteration of the entire mandible should be considered. The range of osteotomy has been expanded to modification of the mandibular ramus, mandibular angle, and mandibular body, as well as narrowing of the square chin. For the square face with a short chin, we usually insert suitably thick bone segments obtained through osteotomy into the space prepared with horizontal osteotomy. This procedure increases the chin height and improves the effect of the chin reduction.

Men requesting alteration of a square face are seeking a more feminine appearance and have high expectations of the operation. The results of typical mandibular osteotomies do not meet these expectations, because the patients prefer a much smaller lower face than this technique can provide. Therefore, before the operation, the patients should be well informed of probable postoperative effects to avoid possible disputes. If men are considered to have poor motives or a body dysmorphic disorder, no operation should be performed.

In conclusion, ostectomy is a safe and effective procedure to modify a square-shaped face into a more elliptical one. The successful results in these patients were achieved via reduction of the lateral and central mandible as well as the chin. The procedure in men vs women usually requires extra care to achieve the subtle contours necessary to produce an elliptical-shaped face.

Accepted for Publication: June 22, 2009.
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Author Contributions: Study concept and design: Chen. Acquisition of data: Chen and Xu. Analysis and interpretation of data: Chen, Jinde Lin, Jie Lin, Shen, Zhou, and Wu. Drafting of the manuscript: Chen, Jinde Lin, Jie Lin, Shen, Zhou, Wu, and Xu. Critical revision of the manuscript for important intellectual content: Chen. Administrative, technical, and material support: Chen.

Financial Disclosure: None reported.

REFERENCES


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