ify our standard protocol in facial paralysis reanimation and perform techniques indicated for palsy of short duration (i.e., cross-facial nerve grafting) in women with longstanding disease (facial paralysis for >3 years), achieving good functional and aesthetic results and a high grade of patient satisfaction.

The case illustrated is a 28-year-old woman with a history of left facial paralysis secondary to resection of an acoustic neurinoma with whom we consulted for smile reanimation 4½ years later. Physical examination revealed complete facial paralysis with asymmetry at rest and on activity, lack of definition of the nasolabial fold, and no commissural excursion of the left side. A baby-sitter procedure with fibers from the right hemihypoglossal nerve with a nerve graft coapted to an ipsilateral zygomatic branch was performed together with cross-facial nerve grafting. On follow-up, the patient presented adequate excursion of the right commissure with acceptable symmetry in repose and smiling. The patient was very satisfied with the results obtained and refused to undergo connection of the cross-facial nerve graft (Fig. 1).

Apart from resisting neural insult better, we have also observed that after reanimation with nerves other than the facial nerve (i.e., muscle transfer neurotized to the masseteric nerve), women develop brain plasticity to a greater extent than men. In our experience, most of (and only) our female patients reanimated with nerves other than the facial (masseteric nerve) learn to dissociate the movement of smile from the one that the donor nerve was originally serving. Elbert et al. have stated that brain plasticity develops in response to practice of behaviorally relevant actions.[4] Furthermore, several studies have shown that women smile more than men in a wide variety of social circumstances.[5] Thus, it is likely that the higher motivational drive of women toward smiling makes them more prone to develop cortical plasticity after reanimation. Finally, based on our clinical observations and the experimental data available, we believe that gender is an important factor to consider in the treatment algorithm of facial paralysis.

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DISCLOSURE

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PATIENT CONSENT

The patient provided written consent for the use of her images.

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Open Reduction and Internal Fixation of Mandibular Angle Fractures Using Temporary Kirschner Wire Fixation

Sir:

Mandibular angle fractures secondary to automobile accidents and assaults account for most adult mandible fractures.[1,2] Indications for open reduction and internal fixation of angle fractures include unfavorable fractures and multiple facial fractures.

Unfavorable fractures exist when the masseter, the temporalis, and the medial pterygoid muscles displace the proximal fracture fragment superomedially. Intraoral exposure of these fractures requires extensive dissection of the intraoral mucosa and subperiosteal stripping, which is associated with increased rates of postoperative infection and nonunion.[3,4] Open, or percutaneous, plate fixation is challenging even for experienced surgeons. We present a technique using Kirschner wires to provide stable reduction of unfavorable mandibular angle fractures and easy plate fixation.

Nine patients with unfavorable mandibular angle fractures were treated with open reduction and internal fixation using Kirschner wire technique. Under general anesthesia, interdental fixation was used to achieve premorbid occlusion. A gingivobuccal sulcus incision was made, fractures were exposed, and a 2.0-mm locking plate was positioned along the inferior border of the mandibular angle. Kirschner wires (0.035-inch) were placed percutaneously in the outer plate holes (one on the proximal mandibular segment and one distally). By placing these Kirschner wires, proper plate position was maintained without assistance. We then percutaneously placed one bicortical screw on either side of the fracture line in the inner plate holes. The proximal wire was then removed and a screw was placed percutaneously through the outer plate hole. Finally, the distally placed wire was replaced with a screw, leaving the mandible in anatomical reduction. A tension band was

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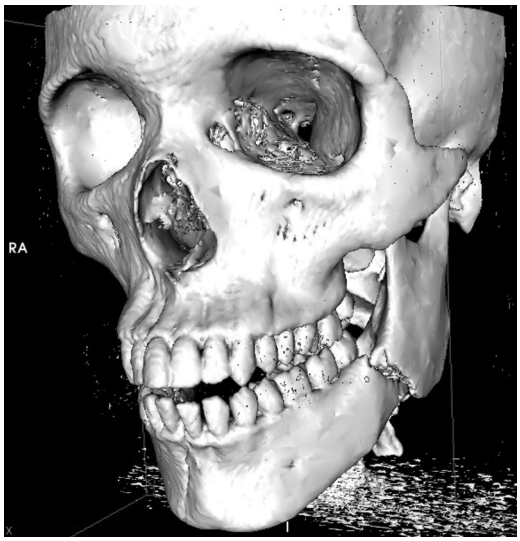

Fig. 1. Computed tomographic scan showing displaced mandibular angle fracture of a patient who subsequently underwent repair with the Kirschner wire plate stabilization technique.

Fig. 2. Placement of percutaneous Kirschner wires for plate stabilization of a left mandibular angle fracture is shown.

placed across the superior border of the fracture. No fluoroscopic visualization was needed, as all maneuvers were performed under direct visualization. The gingiva was closed to achieve a watertight seal.

During the period from 2008 to 2010, five patients underwent open reduction and internal fixation of mandibular angle fractures by University of California, Los Angeles plastic surgery residents under the supervision by the same senior surgeon. Fractures were repaired with Kirschner wire technique. There were no injuries to the facial nerve, postoperative infections, or exposed hardware. All patients were restored to their premorbid occlusion.

A 28-year-old man presented who sustained an unfavorable left mandibular angle fracture during an altercation (Fig. 1). The patient had malocclusion and was taken to the operating room for open reduction and internal fixation using Kirschner wire technique (Figs. 2 and 3). The patient did well postoperatively and

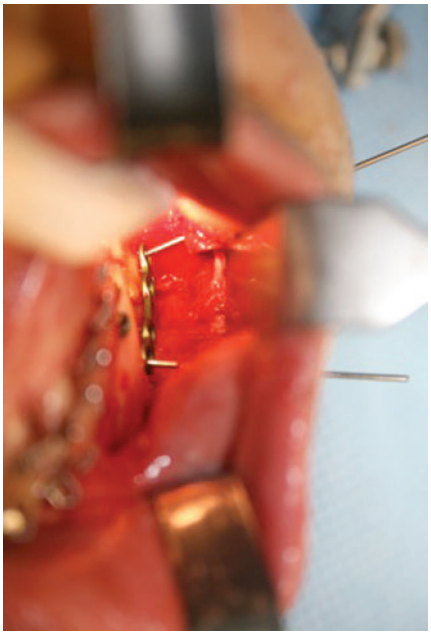

Fig. 3. Kirschner wires assist in maintaining proper plate position for percutaneous placement of screws.

was discharged to home on postoperative day 2. At follow-up, the patient had no complications.

Boutros described treating subcondylar fractures with temporary "joystick" Kirschner wire manipulation under fluoroscopic guidance.[5] Our Kirschner wire technique maintains plate position without assistance, allowing a single operating surgeon to maintain reduction while placing percutaneous screws. Unlike the technique used by Boutros, we believe fluoroscopy is unnecessary, as all steps are performed under direct visualization. Our Kirschner wire technique is easy and results in less intraoral dissection and subperiosteal stripping. We observed no facial nerve injury in our cohort. Percutaneous stabilization of fractures with Kirschner wires allows easy plate fixation, and is safe and effective.

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