Surgical technique helps to reanimate paralyzed faces

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A surgical technique known as temporalis tendon transfer, in conjunction with intense physical therapy before and after surgery, may help reanimate the features of those with facial paralysis, according to a report in the July/August issue of Archives of Facial Plastic Surgery, one of the JAMA/Archives journals.

“The rehabilitation of facial paralysis is one of the greatest challenges faced by reconstructive surgeons today,” the authors write as background information in the article. “It is an unfortunate fact that there is no ideal procedure that leads to the return of fully normal facial function. Furthermore, every case of facial paralysis is different in the cause of the paralysis, the degree and location of the paralysis and the resulting condition of the facial musculature and surrounding soft tissue envelope.” Many patients have excessive movement in some areas of the face and no movement in others; as a result, surgeons treating this condition must be able to perform multiple types of procedures and understand the underlying neurologic dysfunction.

Patrick J. Byrne, M.D., and colleagues at The Johns Hopkins University School of Medicine, Baltimore, report the results of seven facial paralysis patients treated with temporalis tendon transfer. This technique typically involves an incision beginning at the ear and ending 3 to 4 centimeters into the hairline at the temple. The temporalis muscle, a fan-shaped muscle on the side of the head, is cut at the point that it connects to the jawbone and released from the tissue surrounding it. Then, it is stretched to the point where the muscles of the mouth join together. The

tendon that previously connected the temporalis muscle to the jawbone is cut free and then stretched horizontally for 3 to 4 centimeters; it is sutured to the surrounding muscles and deep skin tissue. Physical therapy to retrain facial muscles begins before the surgery and continues beginning seven days after the procedure.

At a minimum of four months after the surgery, “patient satisfaction was very high,” the authors write. “Of a possible 10 points, patients reported mean [average] satisfaction with appearance of 8.4, with feeding of 8.1, with speech of 8.7 and with smile function of 7.1.” Photographs taken of the patients were graded by 21 physicians in the Johns Hopkins Department of Otolaryngology–Head and Neck Surgery. “Four patients were physician-graded as excellent to superb. The other three patients were rated as having good postoperative results.”

Movement in each patient’s mouth muscles was assessed by measuring the position of the muscles at rest and again when the patient contracted just the temporalis muscle. Movement was identified in all patients following the procedure, with measurements ranging from 1.6 millimeters to 8.5 millimeters and an average of 4.2 millimeters.

“Temporalis tendon transfer is a relatively easy procedure to perform that has distinct advantages compared with other forms of facial reanimation and provides very good results,” the authors conclude. These advantages include its immediate effect, the ease with which the tendon is harvested and transferred and the predictability of the outcomes. “This procedure results in improved form and function, may often be performed in a minimally invasive manner and eliminates the facial asymmetry typically produced by temporalis transfer,” a similar procedure in which only the temporalis muscle is moved.

Source: JAMA and Archives Journals