Minimally invasive technique appears helpful to reanimate facial paralysis

January 17 2011

A procedure involving only one small incision and no major modifications to bone can be used to transpose a tendon and appears helpful in reanimating the lower face after paralysis, according to a report in the January/February issue of *Archives of Facial Plastic Surgery*, one of the JAMA/Archives journals.

"The primary goal of all facial reanimation protocols is to restore facial movement that is controlled, symmetrical and spontaneous," the authors write as background information in the article. Previously, researchers reported a method of transferring the temporalis tendon-a tendon attached to the temporalis muscle, a large fan-shaped muscle on the side of the head-to reanimate the face. The procedure involved an incision at the temple and surgical dissection of the temporalis muscle.

Kofi D. Boahene, M.D., and colleagues at the Johns Hopkins University School of Medicine, Baltimore, report a case series of 17 consecutive patients with facial paralysis who underwent a minimally invasive temporalis tendon transposition procedure between 2006 and 2008. The technique now involves only one small incision, and the tendon is accessed through the skin folds on the side of the nose or through the mouth.

"All the patients tolerated the procedure well, and none developed procedure-related complications," the authors write. "All the patients achieved improved symmetry at rest and voluntary motion of the oral commissure [corners of the mouth]."

With this technique, directed physical therapy is necessary to achieve the best outcome, the authors note. "The visible movement gained from dynamic muscle transposition does not translate into a spontaneous controlled smile without intensive neuromuscular retraining," they write. The patient first learns and practices a "Mona Lisa" smile, in which the corners of the mouth are elevated but not the upper or lower lip. They then learn to smile by contracting the temporal muscle without moving the jaw.

"Dynamic reanimation after facial paralysis remains challenging but can be achieved in selected patients using the minimally invasive temporalis tendon transposition (MIT3)," the authors conclude. "Although the technique is straightforward and dynamic movement can be demonstrated with intraoperative muscle stimulation, acquisition of desired facial movement requires intensive physiotherapy and a motivated patient."

More information: Arch Facial Plast Surg. 2011;13[1]:8-13.

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