Surgical procedure appears to enhance smiles in children with facial paralysis

May 16 2011

Transferring a segment of muscle from the thigh appears to help restore the ability to smile in children with facial paralysis just as it does in adults, according to a report in the May issue of *Archives of Facial Plastic Surgery*. The article is part of a theme issue focusing on facial plastic surgery in the pediatric population.

Facial paralysis often disrupts the ability to smile. In pediatric patients, this can be especially problematic, according to background information in the article. Surgery to repair the affected area may generate failure rates as high as 30 percent. But not acting can also harm children, the authors write: "The inability to express oneself via facial movement can have serious social consequences because it is the dominant nonverbal expression of happiness and contentment. The additional functional and esthetic issues associated with facial paralysis can be devastating to a child's development, or to their recovery following treatment for a central nervous system (CNS) tumor resulting in facial paralysis."

Tessa A. Hadlock, M.D., and colleagues from the Massachusetts Eye and Ear Infirmary, Boston , evaluated pediatric patients undergoing free gracilis transfer (an operation in which part of the gracilis muscle in the thigh is transplanted into facial muscles). They compared 17 children with facial paralysis who had a total of 19 surgeries to 17 adults who also had 19 of the same surgeries. The authors explain that they wanted to determine failure rates in children, discover how much smiles and quality of life (QOL) improved after the operation, and examine whether these patients' experiences differed from those of adults. "These

data were sought under the hypothesis that establishing a QOL benefit would help clinicians and families make more insightful decisions regarding surgery."

The main measure of smile improvement was the extent of commissure excursion (movement of the corners of the mouth). The average change in pediatric patients was 8.8 mm, which is similar to the change that adults experienced. The researchers determined that the surgery failed in two of the pediatric patients (11%) versus in four of the adults (21 percent). Thirteen children completed both a pre-operative and a post-operative QOL measure, the Facial Clinimetric Evaluation (FaCE); the results show a statistically significant QOL improvement after the free gracilis transfer.

"In conclusion," the authors write, "free gracilis for smile reanimation in children carries an acceptable failure rate, significantly improves smiling, and seems to improve QOL with respect to facial function." They add, "Early facial reanimation provides the advantage of permitting children to express themselves nonverbally through smiling and may in fact lead to fewer negative social consequences as they interact with peers."

More information: Arch Facial Plast Surg. 2011;13[3]:190-194.

Provided by JAMA and Archives Journals