Psychosocial improvement of patients undergoing facial reanimation

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Background
Facial paralysis (FP) patients suffer from significant impairment in quality of life (QOL) due to increased social avoidance and fear of negative evaluation. Previous studies have reported an improvement in facial function with specific interventions (e.g., Botulinum toxin) using a validated instrument to assess global facial disability in terms of communication, comfort, and function (Facial Clinimetric Evaluation: FaCE). No study has evaluated this patient population for changes in QOL after reanimation procedures using validated psychometric tools in combination with a validated instrument of facial impairment.

Methods
• Patients who had undergone a facial reanimation procedure for facial paralysis
• Retrospective questionnaire which consisted of multiple validated instruments:
  - Facial Clinimetric Evaluation (FaCE) *
    - Assesses degree of facial impairment
    - Considers domains of facial, lacrimal, and eye comfort, facial movement, oral function and social function
  - Social Avoidance and Distress (SAD) **
    - Assesses social avoidance & anxiety
    - Captures degree of worry about others’ perceptions of them
  - Descriptive statistics, paired t-test, and linear regression models were created using SigmaPlot 8.0.
  * Lower scores suggest more impairment
  ** Higher scores suggest higher dysfunction

Results
Study population
• 145 patients identified as having undergone facial reanimation procedure.
• Study population of 36 patients who responded with completed questionnaires (25%).
• Mean age 59.8 years, majority were male (55.6%, N= 20), Caucasian (97.2%, N=35)
• Mean duration of their paralysis was 13.3 months.
• Etiologies of facial paralysis were mostly vestibular schwannoma (N=16, 47.1%) and parotidectomy (N=12, 33.3%).
• 24 patients (66.7%) underwent dynamic reanimation and 12 patients (33.3%) underwent static procedures.

Overall study population – pre- vs. post-facial reanimation
• Mean FaCE scores improved by 5.1 points (p=0.23).
• Improvement in both SAD (p=0.02) and FNE (p=0.03) scores. Distribution of scores also improves pre- vs. post-surgery.

Conclusions
• Overall, facial reanimation significantly improved social evaluative factors (SAD and FNE), although no statistical difference was seen in facial disability (FaCE).
• Patients in dynamic and static reanimation groups on average, had similar SAD and FNE scores pre- and post-facial reanimation. However, the dynamic group did have significant improvement in SAD and FNE, pre- vs. post-procedure.
• Facial reanimation procedures improve QOL of patients with facial paralysis
• SAD and FNE items should be used to prospectively evaluate patients with facial paralysis undergoing reanimation procedures to elucidate predictive factors of psychosocial improvement, as well as differences that static and dynamic procedures offer.

Selected References
[References are listed here.]

Figure 1. Histogram comparing the percentage of answers demonstrating anxiety before (blue) and after (maroon) surgery as assessed by SAD scale.