Assessing Improvement of Facial Appearance and Quality of Life in Cosmetic Surgery Patients Using the FACE-Q Scales

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INTRODUCTION

The demand for cosmetic procedures is increasing and according to ASDS data in 2013 laser/light/energy-based, wrinkle-relaxing injections, and soft-tissue filler procedures increased 34%, 20%, and 8.6% compared to data from 2012. The ability to detect clinically meaningful change from the patients' perspective is critical to evaluating satisfaction in facial cosmetic dermatology patients. The FACE-Q is a new patient-reported outcome (PRO) instrument composed of numerous independently functioning scales, which measure outcomes for patients undergoing a multitude of cosmetic facial procedures. The objective of this study is to determine the impact of cosmetic procedures, including laser resurfacing, neurotoxin, and injectable fillers, on patient perceived improvement in facial appearance and quality of life.

MATERIALS & METHODS

As part of the larger FACE-Q validation study, patients presenting for facial cosmetic procedures, including ablative laser resurfacing, injectable neurotoxin, and injectable filler, performed by a single dermatologist (AMR) were asked to complete the following FACE-Q scales: Satisfaction with Facial Appearance, Satisfaction with Skin, Appraisal of Facial Lines, Social Function. Overall Rasch transformed scores (range 0-100) were compared using paired t-tests. A subgroup analysis was performed for the injectable group (neurotoxin or filler) and the laser resurfacing group to evaluate for change in FACE-Q scores within each group pre- versus post-treatment. The two groups were the compared against each other pre-procedure and post-procedure to assess for any differences in overall scores on each scale. A p-value less than 0.05 was deemed significant.

RESULTS

The FACE-Q was completed by 32 patients a total of 41 times (N=24 pre-procedure, N=17 post-procedure) 48.8% of patients received injectable treatment; 43.9% underwent skin resurfacing treatment; 2.4% underwent both, and 4.9 % underwent eyelash treatment. Overall Rasch transformed scores (range 0-100) were compared using paired t-tests. A subgroup analysis was performed for the injectable group (neurotoxin or filler) and the laser resurfacing group to evaluate for change in FACE-Q scores within each group pre- versus post-treatment. The two groups were the compared against each other pre-procedure and post-procedure to assess for any differences in overall scores on each scale. A p-value less than 0.05 was deemed significant.

Appraisal of Facial Lines

Improvement on two of the scales pre-procedure to post-procedure
Satisfaction with Facial Appearance scores improved from 48.0 to 69.3 (diff 21.3; p = 0.01)
Satisfaction with Skin scores increased from 43.7 to 66.9 (diff 23.2; p < 0.01).
Appraisal of Facial Lines scores increased from 55.2 to 66.8 (diff 11.6; p < 0.01)

Injectable Group Scores

Improve on two of the scales pre-procedure to post-procedure
Satisfaction with Facial Appearance scores improved from 48.0 to 69.3 (diff 21.3; p = 0.01)
Satisfaction with Skin scores increased from 43.7 to 66.9 (diff 23.2; p < 0.01).
Appraisal of Facial Lines scores increased from 55.2 to 66.8 (diff 11.6; p = 0.04).

Laser Resurfacing Group Scores

Improve on two of the scales pre-procedure to post-procedure
Satisfaction with Facial Appearance scores improved from 48.9 to 75.6 (diff 26.7; p < 0.01)
Satisfaction with Skin scores improved from 39.3 to 65.4 (diff 26.1; p = 0.02).
Appraisal of Facial Lines scores increased from 53.9 to 70.9 (difference 17.0; p = 0.06).

Comparison of Groups Pre and Post-procedure

There was no statistical difference between the pre and post scores when the injectable group was compared against the laser resurfacing group.

CONCLUSION

We objectively quantified clinically meaningful change among patients undergoing nonsurgical facial cosmetic procedures, including laser resurfacing, injectable neurotoxin, and injectable fillers. Our study is the first to utilize the FACE-Q scales to demonstrate significant self-reported improvement in facial appearance among patients undergoing cosmetic dermatology procedures. Assessing pre- and post-procedure patient satisfaction with facial appearance and health-related QOL studies is a dynamic method to show the impact of these procedures in a quantifiable manner.