ABSTRACT

Our results do not support rhinoplasty alone to be a rejuvenating procedure. This result was surprising to us, given that previous reviews have supported the practice. Additionally, many of the maneuvers performed in cosmetic rhinoplasty counteract the typical changes of aging, such as increased nasal tip projection, increased nasal root height, and decreased nasal valve size. Our initial power analysis was designed to recruit enough subjects and evaluators to have the ability to demonstrate a 5-year difference in perceived versus actual age. The tested inability of our 48 evaluators to accurately estimate age within 6 years both of morphed and unmorphed subjects may have led to the negative findings or our statistical analysis.

There are several factors that may have led to the results obtained in this study. The first consideration is the implied result of disproving our hypothesis—that rhinoplasty alone is not a rejuvenating procedure when performed without complimentary facial procedures. One major factor that may have influenced the results was the use of the profile view instead of the frontal view. While conducting our study, many evaluators commented on the appearance of the subjects' necks. In the profile view, the senescent neck is prominent and tends to draw the eye of the evaluator, perhaps distracting from the studied variable. Although profile analysis is an important part of facial analysis, it is perhaps not as useful as the frontal or oblique view as these are more commonly perceived in daily interactions. For these reasons, the frontal view will be a subject of our future research in age estimation.

INTRODUCTION

Rhinoplasty is considered to be an important adjunct to rhytidectomy, blepharoplasty, and browplasty amongst facial plastic and reconstructive surgeons. Although seemingly intuitive that the aforementioned procedures would yield a more rejuvenated face, there has never been objective data demonstrating rhinoplasty alone as an effective facial rejuvenation procedure.

Computer-simulated imaging in rhinoplasty has recently been validated to accurately reflect post-operative results at six months. No previous studies have been performed that assess the perceived age differences that can be achieved with the use of computer simulation.

The significance of this study was to prove or disprove that rhinoplasty alone is a rejuvenating procedure and to offer quantitative information to the patient seeking facial rejuvenation.

MATERIALS AND METHODS

Approval was obtained from Institutional Review Board from the University of Florida (IRB 0444-2007). The first forty-eight Caucasian females over the age of fifty-five who agreed to participate in the study were enrolled. After consent to photograph was obtained, digital photographs of the right profile of each of the subjects were taken in a standardized format using a Nikon D70 Digital SLR camera fitted with a 60mm Nikon macro lens and lit with Nikon Macro Speedlight SB-29. The photographs were then loaded into MarketWise (ver 7.0) software. Digital alterations of the nose were performed by the authors to conform to aesthetic canons described previously by Powell and Humphreys and elaborated by Goode, Guiter, Crumley, Simons and others.

Two randomized booklets were produced to each contain 48 high resolution 6x9" glossy photographs of each of the subjects. Either a morphed or an unmorphed photograph of each of the subjects was placed into each booklet, with one booklet containing the complement photographs of the other. For example, if a morphed picture of Subject 1 was placed into Booklet A, then the unmorphed photograph of Subject 1 was placed into Booklet B. Each booklet then contained 24 morphed and 24 unmorphed photographs of each of the subjects, assigned randomly. The evaluator, a layperson, saw only a morphed or an unmorphed photograph of each subject.

Forty-eight layperson evaluators who were recruited to fall into two cohorts—twenty-four falling into a younger cohort aged 18-25, and twenty-four in an older cohort aged 45-75. Each of these evaluators were randomly assigned to be shown the photographs in Booklet A or Booklet B, and asked to estimate the age of each of the subjects they were shown to a five year age range. After all data acquisition was completed, the services of a biostatistician were utilized for statistical analysis.

RESULTS

Rhinoplasty alone does not appear to be a rejuvenating procedure in the profile view of Caucasian women over the age of 55. Age estimation was found to be more inaccurate in the participants in this study than prior studies had demonstrated. Future studies looking at oblique and frontal views are needed in order to truly assess whether rhinoplasty alone is a quantifiably rejuvenating procedure.

As imaging technology advances, three-dimensional analysis is now possible and being utilized to predict post-operative results. Application of this study design to techniques that improve facial volume would help confirm or refute current trends in volumetric restoration as a technique in facial rejuvenation. Isolating lifting and volume variables within this study design can help educate patients as to the procedures that provide the greatest impact on estimated age when viewed by a layperson evaluator.

CONCLUSIONS

Rhinoplasty alone does not appear to be a rejuvenating procedure in the profile view of Caucasian women over the age of 55. Age estimation was found to be more inaccurate in the participants in this study than prior studies had demonstrated. Future studies looking at oblique and frontal views are needed in order to truly assess whether rhinoplasty alone is a quantifiably rejuvenating procedure.

As imaging technology advances, three-dimensional analysis is now possible and being utilized to predict post-operative results. Application of this study design to techniques that improve facial volume would help confirm or refute current trends in volumetric restoration as a technique in facial rejuvenation. Isolating lifting and volume variables within this study design can help educate patients as to the procedures that provide the greatest impact on estimated age when viewed by a layperson evaluator.

REFERENCES


Contact Information: Robert.Adelson@ufl.edu (352) 392-4461