Commentary on: Safety of Cosmetic Procedures in Elderly and Octogenarian Patients

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The elderly population in the United States is increasing. According to the US Census Bureau, in the year 2000 there were 35 million people over 65 years of age in the United States and 4.2 million over 85 years of age out of a total population of 282,160,000.1 There was an increase to 40,200,000 over 65 and 6,100,000 over 85 in 2010 with a total population of 309,330,000. It is estimated that the US population over 65 years of age will be 71,500,000 in the year 2030 with 20,900,000 over 85 and a total population of 359,402,000.

The largest consumer group to have plastic surgery is still 35–50 year olds, but the fastest-growing group to undergo cosmetic procedures is older patients. The data from the American Society of Aesthetic Plastic Surgery (ASAPS) shows that older patients, as well as other age groups, tend to opt to have more non-surgical cosmetic procedures than surgical procedures, but both the non-surgical and the surgical segments are increasing. According to the 1997 statistics, there were a total of 115,709 cosmetic procedures, both surgical and non-surgical, performed on patients older than 65, which was 5.5% of the total cosmetic procedures performed for all age groups.2 That increased in 2004 to 78,672 surgical (3.7%) and 670,935 non-surgical (6.9%) for a total of 749,607 (6.3%) of overall cosmetic procedures for all age groups.3 The progressive increase continued, as documented in the 2014 statistics: 138,612 surgical procedures (7.9%) and 967,814 non-surgical cosmetic for a total of 10.4% of all cosmetic procedures.4

For the purpose of this paper, 65 years old and older is considered elderly.5 But, in today’s world of good nutrition and an emphasis on physical activity, many individuals over 65 are far from the stereotype of what we consider elderly. There are multiple reasons why elderly patients pursue cosmetic surgery. They are living longer and healthier lives. Many want to match their outward appearances to how they physically feel and want to look as young as they feel. Some pursue procedures because they feel it will allow them to compete in their job with younger employees. Many older adults, especially baby boomers, are working longer and feel that they are better received in the workplace if they look younger and fresher. Others are seeking jobs in an era where ageism is prevalent, and they feel the need to look younger in order to be competitive with younger applicants. A growing number are seeking new potential mates and want to appear fresher and more sexually appealing.

There is also a societal change where cosmetic procedures are not viewed negatively as a sign of vanity. Society is more open today about self-improvement and multiple media sources, including the internet, provide a wealth of information about what is possible and available. An increased number of patients desire having a younger image on social media. In addition, there are improvements in techniques that have led to shorter recoveries and more options of treatments. Anesthesia is safer, and surgical techniques have been refined. In a time of age-discrimination, maintaining self-confidence is important.

One would assume that there would be a greater number of complications in the elderly population since there are more comorbidities as patients age, such as increased cardiovascular problems, diminished pulmonary elastic recoil as the chest wall stiffens, and neurologic deterioration.6,7 To test those assumptions, the authors developed a large-scale prospective study evaluating 129,007 patients of all age groups who underwent 183,914 cosmetic surgical procedures in multiple institutions, including accredited office-based facilities, free standing ambulatory surgical centers, and hospitals. The 6786 patients 65 years and older underwent the gamut of cosmetic surgical procedures. There was

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a subgroup of 180 patients ranging from 80 to 93 years old. Previously, surgical outcomes for aesthetic procedures, especially in the elderly, had not been evaluated on this scale in a prospective multi-institutional manner.

The data came from the CosmetAssure program, which covers the cost of unexpected major complications from 24 approved cosmetic surgical procedures that may not be reimbursted by the patient’s primary insurance. A major complication was defined as one occurring within 30 days of the operation that required hospital admission, an emergency room visit, or a re-operation. It did not include minor complications. The data is unique not only because it is multi-institutional, but also because of its validity, since the reimbursement of costs ensures that all of the complications were reported. All of the surgeons in the CosmetAssure program were plastic surgeons who were either board certified by the American Board of Plastic Surgery or board eligible, and all of the cosmetic surgical patients of those surgeons were enrolled in the program rather than selecting just higher-risk patients to be included in the insurance coverage.

A total of 2506 patients (1.9%) across all age groups who underwent surgical procedures developed major complications. Among the elderly group, 125 patients (1.8%) developed complications, which was similar to the incidence that occurred in the younger patients. Of the patients who underwent single cosmetic procedures, postoperative complications developed in 55 (1.3%) of elderly and 1198 patients of younger age (1.4%). Of interest, both groups demonstrated a significant increase in the incidence of complications when additional cosmetic procedures were performed at the same time. The overall complication rate in combined procedures was 3%, compared to 1.3% in single procedures. The incidence of postoperative complications in elderly patients almost doubled with the combined procedures, 2.8% vs 1.4%, although there was no significant statistical difference in the complication rates between elderly and younger patients. Careful discussion of increased risks of postoperative complications when combining multiple cosmetic surgery procedures needs to be discussed with all patients, no matter their age. There were some differences in the younger and older groups besides age. The elderly group included more men (11.3% vs 6.2%), a higher mean body mass index (BMI; 25.4 vs 24.2), a higher prevalence of diabetes mellitus (5.7% vs 1.6%), and, interestingly, fewer smokers (3.4% vs 8.5%) compared to the younger group.

In other reported articles, there was a similar low rate of overall postoperative complications, the majority also being hematomas and infections. The rate of hematomas in the elderly group in this study was 0.4%. The most extensive reported data is from the American Association for Accreditation for Ambulatory Surgery Facilities’ (AAASAF) Internet-based Quality Assurance and Peer Review database of unanticipated sequela from procedures performed in AAASAF-certified surgery centers from 2001 to 2012. Of the total of 7,629,686 procedures in 5,416,071 cases, there were 5,525,255 plastic surgical procedures in 3,922,202 patients. Untoward sequela occurred in 1/348 (0.26%) procedures or in 1/247 (0.41%) cases, documenting the excellent safety rates for plastic surgical procedures that were performed in accredited outpatient surgical facilities by board-certified plastic surgeons. In that report, hematomas occurred in 0.02% of cases and 0.014% of procedures.

The low incidence of infections in cosmetic surgical procedures that occurred in this series of elderly patients, 0.1%, was confirmed in other series of cosmetic procedures. In the Morello et al series, there was the same incidence of infections (0.09%) as occurred in the Keyes et al article. Byrd et al reported 0.11% infections in 5316 consecutive cases. These other articles included patients of all ages, as did the Nazarian Mobin et al publication, also from the AAASAF Internet-based Quality Assurance and Peer Review database of unanticipated sequela from 2001 to 2012. Infection occurred in 1/1281 (0.078%) cases and in 1/1804 procedures (0.055%).

The significant and potentially devastating development of a deep venous thrombosis (DVT) occurred in 0.06% of overall procedures and in 0.01% of the elderly group. This corresponded to the low rate reported by Iverson and Gomez of 0.012%, or 1/8188 cases, in the 3,922,202 patients from the AAASAF Internet-based Quality Assurance and Peer Review database.

Martín et al published one of the few prior articles that specifically addressed safety of cosmetic surgical procedures in the elderly. They reported on 216 consecutive facelifts with a low complication rate in the elderly patients, which compared favorably to younger patients, and there were no mortalities. The series from CosmetAssure included 11,300 facelifts, 3083 of which were in the elderly group, with similar findings of low complications in all age groups: 1.6% in patients less than 65 and 1.4% in those 65 and older.

The current article reported that one death occurred in patients less than 65 and none in the elderly patients. In the Morello et al article, which covered procedures performed in accredited office surgical facilities over a 5-year period, mortality occurred in 1 in 57,000 cases (0.0017%). Keyes et al analyzed the AAASAF Internet-based Quality Assurance and Peer Review data and reported in 2008 about mortality in outpatient surgery, the incidence also being 0.0017%, or 1:58,810 procedures.

Overall, octogenarian patients demonstrated a slightly higher complication rate compared to the other patients—2.2% compared to 1.9% in the younger group, 1.8% in 65–69-year-olds, 2% in 70–74-year-olds, and 1.8% in 75–79-year-olds—but the differences between groups was not statistically significant. The highest incidence of complications among all patients was after body procedures: 2.9% vs 1.9% for breast and a lower 1.2% for face procedures. The
fact that the incidence was not higher in the elderly for breast and body cosmetic procedures may be the result of screening bias, in which surgeons select only healthier elderly patients to undergo those procedures and conduct less extensive breast and body procedures in those individuals. The only procedure in elderly patients that was associated with a significantly higher complication rate than in younger patients was in abdominoplasty (5.4% vs 3.9%). Interestingly, the incidence of DVT in the elderly group was lower than in the younger patients, but again may be attributed to a more stringent patient selection process or more aggressive DVT prophylaxis. Surprisingly, the overall postoperative complication rate in octogenarians of 2.2% was not statistically significantly different from the younger population.

The conclusions of the overall study were that cosmetic surgical procedures in the elderly are safe, with a low complication rate both in patients 65–79 as well as in the octogenarian group of patients 80 and over.

There are limits to this study. Minor complications, which are usually far more frequent than major complications and still may be significant for the patient, were not included or reported. The incidence of them needs further evaluation. The database included demographic and comorbidity data for age, gender, BMI, smoking, diabetes mellitus, and the type of surgical facility (all accredited ambulatory surgical facilities, hospitals, and office-based surgical suites), but the database lacked comprehensive data about other possible comorbidities.

There were some interesting findings in this study. The percentage of elderly patients undergoing cosmetic surgical procedures increased yearly over the review period of time—from 3.9% in 2008 to 6.4% in 2012—which mirrors national statistics. Elderly patients were more likely to have facial surgery, while younger patients had more breast and body procedures performed, and a significantly higher percentage of combined procedures were performed in the elderly compared to younger patients (6.0% vs 4.9%). It was surprising that no octogenarian patients developed complications after combination procedures. What cannot be determined from this data is the number of patients who underwent specific combinations. It is highly probable that the octogenarians had less extensive surgical combinations. There were an increased proportion of men in the elderly group, and it was pointed out that because cosmetic procedures in men traditionally carry increased risk for postoperative complications (such as hematoma after facelift), male candidates for cosmetic surgery require thorough selection and detailed preoperative education. Hopefully that should apply to all patients: males as well as females. Ten patients over 65 had breast augmentation, and while motivation was not evaluated in this study, it demonstrates that the importance of body image and sexuality does not end at a certain age.

Safety should always be the primary concern in patients, no matter what their age. Elderly patients require greater screening, higher medical clearance, appropriate selectivity of the facility, consideration for hospitalization, and assessment of the social situation for care following the procedures. The data reflects that cosmetic surgical procedures can be performed safely on the elderly in the hands of fully-trained board-certified or board-eligible plastic surgeons, with appropriate screening and selectivity of patients who are operated on in accredited or licensed surgical facilities. In the interest of safety, in 2001 the ASAPS and the American Society of Plastic Surgeons took the step, unprecedented for a surgical specialty, of requiring all of its members to perform all surgical procedures other than those under local anesthesia or minimal oral tranquilization in licensed or accredited surgical facility. Current data from the AAAASF has documented the safety in those accredited facilities.

What doesn’t currently exist is comparative data of cosmetic procedures performed in the elderly or for all age groups by non–board-certified plastic surgeons in facilities that are not licensed and accredited. Unfortunately, currently only 27 states require any accreditation of office-based surgical facilities. It is time the public, the media, medical boards, and state legislatures all demanded that all surgical procedures (plastic surgery and all other types) other than those under just local anesthesia or minimal oral tranquilization be performed only in licensed or accredited surgical facilities.

While we know the incidence of major complications in this and the other studies cited above, we don’t know the specific potential cause or causes that may have contributed to the unanticipated sequelae. Valuable additional information of the root causes of untoward sequelae will be forthcoming from the comprehensive data program that has been developed and will be used by the Aesthetic Surgery Education and Research Foundation in coordination with ASAPS as well as AAAASF to document not only outcomes, but why the outcomes occurred. This will hopefully allow procedures to be performed in the future in an even safer manner for all age groups.

What we do know is that physiological age is far more important than chronological age when it comes to surgery. We don’t know all of the reasons that some individuals over 65 are healthier, seem much younger, and are far more robust than some aged 50, who may act and seem much older. This current article is a welcome addition to the medical literature, providing significant data and information demonstrating the relative safety of elective cosmetic procedures overall, but specifically in the elderly, which has not been previously evaluated.

Disclosures
The author declares no potential conflicts of interest with respect to the research, authorship, and publication of this article.
REFERENCES