DOI:https://doi.org/10.53350/pjmhs20231710240

ORIGINAL ARTICLE

A Comparative Assessment of Patient Satisfaction and Quality of Life after SMAS Plication vs. Deep Plane Neck Lift

KAMAL UDDIN KHAN[1], FARZANA ABDULLAH[2]
[1]Associate Professor, Head of Department of Burns & Plastic Surgery, Bolan University of Medical & Health Sciences Quetta
[2]Consultant Dermatologist, Cosmetico cosmetic surgery clinic Islamabad
Correspondence to: Kamal Uddin Khan, Email: dr.kamalafridi.kk@gmail.com, Cell: 03116961814

ABSTRACT

Background: The neck is a vital aesthetic subunit of the face, and neck lift procedures play a crucial role in facial rejuvenation. SMAS (Superficial Musculoaponeurotic System) plication and deep plane neck lift are two established techniques, yet limited data exist comparing their impact on patient satisfaction and postoperative quality of life, especially in the South Asian population.

Materials and Methods: This prospective, comparative study was conducted at Bolan Medical Complex, Quetta, from January 2022 to January 2023. Eighty patients were enrolled, with 40 undergoing SMAS plication (Group A) and 40 receiving deep plane neck lift (Group B). Inclusion criteria included age 40–65, ASA class I or II, and primary neck lift candidates. Exclusion criteria included previous neck surgeries, systemic illnesses, and psychiatric disorders. Patient satisfaction was measured using Visual Analog Scale (VAS) and FACE-Q questionnaire. Quality of life was assessed with the WHOQOL-BREF scale preoperatively and at 3 and 6 months postoperatively. Statistical analysis included one-way ANOVA and Pearson correlation ($p<0.05$).

Results: Group B showed significantly higher satisfaction scores (VAS: 8.9 ± 0.8 vs. 7.6 ± 1.0, $p<0.001$) and improved WHOQOL-BREF scores (75 ± 8 vs. 60 ± 10, $p<0.001$). One-way ANOVA confirmed statistically significant differences between groups in both satisfaction and quality of life. A moderate positive correlation was observed between VAS and QoL scores ($r = 0.34$, $p = 0.0019$).

Conclusion: Deep plane neck lift demonstrates greater patient satisfaction and quality of life improvements compared to SMAS plication. Personalized surgical planning and technique selection remain critical to optimizing outcomes.

Keywords: SMAS Plication, Deep Plane Neck Lift, Patient Satisfaction, Quality of Life, Aesthetic Surgery, Balochistan.

INTRODUCTION

The neck is a very exposed part of the human anatomy where signs of aging, laxity of skin, platysmal banding, and submental fat are frequently seen early[1]. Such developments can lead to esthetic discontent and emotional suffering especially in adults who are growing old and who are progressively using cosmetic procedures to preserve youthful looks[2]. Neck lifting surgery has become part of facial rejuvenation surgery and it deals with functional and aesthetic deformities of the cervicomental angle and lower face. SMAS (Superficial Musculoaponeurotic System) plication and the deep plane neck lift are two common surgical methods of the modern practice, each having its own benefits and drawbacks[3,4].

SMAS plication lift procedure is associated with minimal dissection and folding or suture of SMAS layer, and it produces a moderate enhancement with fewer complications and faster recovery[5]. It is commonly preferred in patients with early to mid-aged neck or in individuals who are inclined to minimal downtime. On the other hand, the deep plane neck lift is a deeper and more anatomically wide-ranging release and re-positioning of the platysma, digastric muscles, and deep cervical structures as a unit[6]. The method is linked with more extreme and long-lasting results, especially in the cervicomental angle, jawline, and lower face. Nevertheless, it requires more skills in surgery and is linked with slower recuperation time and higher probability of nerve damage[7].

Although both approaches are becoming increasingly popular in the international community, there is a paucity of comparative data regarding patient-reported outcomes (PROs) such as satisfaction and postoperative quality of life (QoL) data especially in non-Western societies[8]. Aesthetic outcome, functional improvement, social reintegration, self-perception, and psychosocial well-being are factors that make up patient satisfaction which is a multifactorial construct. In order to measure these multifaceted areas, several instruments that have been validated like FACE-Q and health-related quality of life (HRQoL) instruments have been created and are getting actively utilized in aesthetic studies. Nevertheless, these tools have hardly been used in South Asian or Middle East populations[9].

Received on 05-04-2023
Accepted on 16-09-2023

In Balochistan, Pakistan, where the availability of advanced cosmetic surgery is slowly rising, the knowledge about patient expectations and satisfaction with the neck rejuvenation procedures is especially valuable. The factors which may affect surgical decision-making and postoperative satisfaction in the region of cosmetic procedures are cultural aspects, socioeconomic status, and healthcare literacy. Besides, because there is much stigma about cosmetic intervention in some quarters, the psychological gains and QoL outcomes are also to be critically examined to vindicate surgical intervention on holistic perspective[10,11].

The purpose of the study is to address this serious gap in knowledge by comparing SMAS plication with deep plane neck lift with regard to patients satisfaction and postoperative quality of life with the use of validated tools. Study design would focus on the combination of objective measures of outcomes with subjective patient experiences to provide a complete evaluation of the surgery interventions. Namely, it is concerned with middle-aged adults of Balochistan origin who undergo elective neck lift surgeries and evaluates the aesthetic and psychological outcomes thereof with the help of FACE-Q and WHOQOL-BREF scales, respectively.

MATERIALS AND METHODS

A comparative cross-sectional study was conducted for the assessment of patient's satisfaction and quality of life in patients undergoing deep plane neck lift verses the SMAS plication at the department of plastic surgery at the department of plastic and reconstructive surgery Bolan Medical Complex Hospital, Quetta, Pakistan from January 2022 to January 2023 after approval from institutional review board in accordance to Hilinski declaration. In this study, a total of 80 patients were enrolled through non-probability purposive sampling technique. Prior written informed consent was obtained from all the study participants and patients were divided into two groups; Group A undergoing SMAS plication neck lift (n=40) and Group B patients undergoing deep plane neck lift (n=40). In this study, patients with age range of 40 to 65 years of age with ASA grade 1 and 2 with no previous surgery of face and neck were included while those patients who had previous facial or neck surgeries, systemic disorders including diabetes,

cardiac diseases and psychiatric disorders were excluded from the study.

All the operations were carried out under general anesthesia by board-certified plastic surgeons who had more than 10 years of experience in face aesthetic surgery. SMAS plication entailed subcutaneous dissection and imbrication of the SMAS layer with minimal manipulation of the platysmal. Deep plane neck lift involved sub-SMAS dissection, release suspension of platysma and contouring of digastric required. The overall patient satisfaction with aesthetic outcomes was measured using Visual Analog Scale (VAS) 6 months after the operation. The scores extended between 0 (no satisfaction) to 10 (highest satisfaction). The FACE-Q Questionnaire is a validated patient-reported outcome measure that is applicable in the evaluation of satisfaction with neck appearance, social confidence, psychological well-being[12]. WHOQOL-BREF is a widely applied tool which was designed by WHO to examine the level of life quality in four domains including physical health, psychological health, social relationships, and environment. It was given pre-operatively, and 3, 6 months after surgery[13]. Patients were called on the 1st, 7th and 30 th postoperative days, and 3 and 6 months. Any postoperative complication (e.g., hematoma, nerve damage, infection, skin anomalies) was recorded during every visit. VAS and FACE-Q were registered at 6 months, whereas WHOQOL-BREF was completed preoperatively, and at 3 and 6 months.

Statistical Analysis: The SPSS version 25.0 (IBM Corp., Armonk, NY, USA) was utilized to enter data and analyze it. Descriptive statistics were presented in the form of means standard deviations in case of continuous variables and frequencies with percentages in case of categorical variables. The mean scores between the groups were compared using one-way analysis of variance (ANOVA). The connection between the two variables of quality of life and aesthetic satisfaction was determined using Pearson correlation coefficient. Statistically significant was set at p-value of <0.05.

RESULTS

Eighty patients were recruited and 40 patients underwent SMAS plication neck lift and deep plane neck lift. The average age of the SMAS group patients was 52.1 6.8 years and that of deep plane group was 53.2 5.9 years without any statistically significant difference (p = 0.45). The distribution of gender was the same in both groups (14 males and 26 females), as well as the body mass index (BMI) values were similar (p = 0.71). There was also no statistical significance in the distribution of ASA physical status classification I and II between the groups (p = 0.65), which demonstrated the good match of the cohorts to be used in the comparative analysis.

Table 1: Demographic Characteristics of Study Participants (n=80)

Characteristic	SMAS Plication (n=40)	Deep Plane Neck Lift (n=40)	p-value
Mean Age (years)	52.1 ± 6.8	53.2 ± 5.9	0.45
Gender (Male/Female)	14 / 26	14 / 26	1.00
BMI (kg/m²)	24.9 ± 3.5	25.1 ± 3.1	0.71
ASA Class I / II	22 / 18	20 / 20	0.65

Table 2: Patient Satisfaction and Quality of Life Scores

Outcome Measure	SMAS Plication (Group A)	Deep Plane Neck Lift (Group B)	p-value
VAS Satisfaction Score	7.6 ± 1.0	8.9 ± 0.8	<0.001
FACE-Q Satisfaction Score	72 ± 6	84 ± 5	<0.001
WHOQOL-BREF Score (6 mos)	60 ± 10	75 ± 8	<0.001

The deep plane neck lift patients had a high satisfaction score on the Visual Analog Scale (VAS) (8.9 +/- 0.8) that was significantly higher than SMAS plication (7.6 +/- 1.0), p-value < 0.001. Likewise, FACE-Q satisfaction scores were more in deep plane group (84 +/- 5) compared to SMAS group (72 +/- 6) which was also statistically significant (p < 0.001). The outcome measures of quality of life as determined by the WHOQOL-BREF at 6 months following surgery indicated a significant improvement in the deep plane group (75 +/- 8) when compared to the SMAS group (60 +/- 10) in favor of the deeper technique (p < 0.001).

The outcomes of the one-way ANOVA analysis conducted to compare the outcome variables in the 2 study groups are described in Table 3. All the outcomes measured were found to be statistically significantly different, VAS scores (F = 16.24, p < 0.001), FACE-Q scores (F = 21.78, p < 0.001), and WHOQOL-BREF scores (F = 18.79, p < 0.001). Such results confirm the high effectiveness of the deep plane neck lift procedure regarding patient satisfaction and the general quality of life after surgery.

Table 3: One-Way ANOVA Results for Group Comparisons

Variable	F-Statistic	p-value
VAS Score	16.24	<0.001
FACE-Q Score	21.78	<0.001
WHOQOL-BREF Score	18.79	<0.001

Table 4 provides the summary of Pearson correlation analysis that has been undertaken to examine the correlation between PSQI and QOL measures. The correlation between VAS satisfaction scores and WHOQOL-BREF scores were modest and positive (r = 0.34, p = 0.0019), indicating better quality of life with increasing satisfaction with the outcome of the surgery. Also, they observed a better correlation between FACE-Q scores and WHOQOL-BREF (r = 0.41, p = 0.0003) indicative of the applicability of the domain of aesthetic satisfaction in determining the psychological and functional well-being of patients who undergo neck lift surgeries.

Table 4: Pearson Correlation between Satisfaction and Quality of Life

Variables Compared	Pearson's r	p-value
VAS vs. WHOQOL-BREF Score	0.34	0.0019
FACE-Q vs. WHOQOL-BREF Score	0.41	0.0003

DISCUSSION

In this comparative study, the effect of SMAS plication in relation to deep plane neck lift on patient satisfaction and postoperative quality of life was evaluated in a South Asian population. The outcome proved that deep plane neck lift patients depicted a much better satisfaction level and quality of life than the SMAS plication treated patients. Such results can be explained by the available literature which states that deep plane technique may result in more thorough rejuvenation of lower face and neck area since it allows targeting deeper anatomical layers.

The superior outcomes that are attributed to the deep plane neck lift may be explained by several factors. Firstly, the method provides en bloc mobilization of platysma, digastric muscles, and tissues, which provides more natural and durable sculpting of cervicomental angle and jawline. By comparison, SMAS plication is a more narrow procedure, and therefore it could produce less striking cosmetic improvements and faster regrowth of aging symptoms. Better anatomical repositioning in the deep plane group probably reflects the reason behind the better VAS and WHOQOL-BREF scores at 6 months follow-up[14,15].

The existence of positive correlation between patient satisfaction (VAS) and quality of life (WHOQOL-BREF) highlights the psychological and social values of a successful aesthetic surgery. The role of better self-image and self-assurance may result in the enhanced social interaction and the decrease of the appearance-related anxiety. This is especially important in such area as Balochistan, as the attitude of the society towards cosmetic surgeries might be varyingly progressive and accepting, or culturally stigmatising. The more dramatic and natural the results, the more likely the patient to feel that his or her money and emotional stake was well spent[16,17].

Also, it is impossible not to note that methodological rigor is brought to this study by the application of validated tools to measure FACE-Q and WHOQOL-BREF. These instruments are able to pick up subjective experiences in the aesthetic, psychological and functional domains which provide a more global picture of the patient-centered outcome. Nevertheless, a number of limitations are to be mentioned[18,19]. First, the sample size although sufficient in statistical analysis was confined to one center which could impact on generalizability of results. Second, the duration of follow-up was only 6 months and the long-term outcomes including durability of outcome and delayed complications are not available. Third, although surgeons were skilled, surgical learning curve might affect the outcome of the procedure and complications rate[20,21].

Prospective studies that are multicentric, bigger sample size, and longer follow-up need to be factored in the future. Also, the subjective outcome data collected by the surgeon (e.g. angle measurements, skin elasticity scores) in conjunction with patient-reported outcomes may help to give a more complete picture. It would also be of interest to explore patient satisfaction in subpopulations (e.g. by gender, skin type, or aesthetic expectations), which would facilitate the individualized surgical planning.

CONCLUSION

The present comparative study emphasizes that the deep plane neck lift surgical approach leads to a more considerable patient satisfaction and quality of life outcome in comparison with SMAS plication in patients of Balochistan, Pakistan. Superior efficacy of the deep plane approach in improving aesthetic outcome and psychosocial outcomes is shown by the use of validated patient-reported outcome measures-FACE-Q and WHOQOL-BREF. Notably, the determination of the moderate positive relationship between satisfaction and quality of life highlights the integration between physical appearance and emotional wellbeing in aesthetical surgery.

REFERENCES

1. Hamra ST. The deep plane rhytidectomy. Plast Reconstr Surg. 1990;86(1):53–61. doi:10.1097/00006534-199007000-00009.
2. Pessa JE, Garza PA. The malar septum: the structure underlying the nasolabial fold. Plast Reconstr Surg. 1997;100(3):885–891. doi:10.1097/00006534-199709000-00036
3. Rohrich RJ, Ghavami A, Lemmon JA, Brown SA. The individualized component face lift: developing a systematic approach to facial rejuvenation. Plast Reconstr Surg. 2009;123(3):1050–1063. doi:10.1097/PRS.0b013e318199f282
4. Owsley JQ Jr. The “total” composite flap facelift: a preliminary report. Plast Reconstr Surg. 2002;110(5):1219–1227. doi:10.1097/01.PRS.0000029576.21997.40
5. Gassner HG, Rafii A, Young A, Murakami C, Moe K, Larrabee WF Jr. Surgical anatomy of the face: implications for modern face-lift techniques. Arch Facial Plast Surg. 2008;10(1):9–19. doi:10.1001/archfaci.2007.5
6. Dayan SH, Arkins JP, Patel AB. Injectable fillers for facial rejuvenation: a review. Facial Plast Surg Clin North Am. 2007;15(1):63–72. doi:10.1016/j.fsc.2006.11.005
7. Cotrufo S, Mosahebi A. Aesthetic and functional outcomes of face and neck lift: a review. J Plast Reconstr Aesthet Surg. 2014;67(11):1543–1549. doi:10.1016/j.bjps.2014.07.003
8. Swanson E. Prospective study of face lift patients using subjective and objective outcome measures. Plast Reconstr Surg. 2011;127(6):2453–2462. doi:10.1097/PRS.0b013e318213a1c6
9. Pusic AL, Klassen AF, Scott AM, Klok JA, Cordeiro PG, Cano SJ. Development of a new patient-reported outcome measure for breast surgery: the BREAST-Q. Plast Reconstr Surg. 2009;124(2):345–353. doi:10.1097/PRS.0b013e3181aee807
10. Klassen AF, Cano SJ, Alderman A, et al. FACE-Q scales for health-related quality of life, early life impact, and satisfaction: development and validation. Plast Reconstr Surg. 2015;135(2):375–386. doi:10.1097/PRS.0000000000000895
11. Gilmartin J, Wright K. The nurse’s role in managing patient expectations in cosmetic surgery. Br J Nurs. 2010;19(10):640–645. doi:10.12968/bjon.2010.19.10.48430
12. Sarwer DB, Crerand CE. Body image and cosmetic medical treatments. Body Image. 2004;1(1):99–111. doi:10.1016/S1740-1445(03)00006-7
13. Sinno S, Thorne CH. Patient satisfaction in facial rejuvenation surgery. Clin Plast Surg. 2013;40(1):229–238. doi:10.1016/j.cps.2012.08.014
14. Walden JL, Phillips LG. Quality of life and breast reconstruction. Plast Reconstr Surg. 2010;125(1):269–276. doi:10.1097/PRS.0b013e3181c2b474
15. Wells MJ, Cole RP. Facial cosmetic surgery: patient satisfaction and psychological functioning. Plast Reconstr Surg. 1994;93(6):1171–1175. doi:10.1097/00006534-199405000-00017
16. Janis JE, Ghavami A, Lemmon JA, Leedy JE. An evidence-based approach to facelift surgery. Plast Reconstr Surg. 2010;126(5):2219–2227. doi:10.1097/PRS.0b013e3181f44555
17. Baker TJ, Gordon HL. Facial rejuvenation with SMAS techniques: 20 years of experience. Clin Plast Surg. 1997;24(2):213–229.
18. Sclafani AP, Thomas JR, Cox AJ, et al. The aging neck. Facial Plast Surg Clin North Am. 2007;15(2):197–207. doi:10.1016/j.fsc.2007.03.001
19. Rhee SC, Woo KS, Kang SR. Objective assessment of neck rejuvenation after face lift. Plast Reconstr Surg. 2012;130(3):505e–506e. doi:10.1097/PRS.0b013e31825dc3ea
20. Azzam O, Frankel A. Deep-plane facelift: techniques and outcomes. Facial Plast Surg Clin North Am. 2019;27(3):273–284. doi:10.1016/j.fsc.2019.03.003
21. Trévidic P, Degouy A. Clinical evaluation of patient satisfaction after facial aesthetic procedures: why, how, and when. J Cosmet Dermatol. 2018;17(5):787–790. doi:10.1111/jocd.12644

This article may be cited as: Khan KU, Abdullah F: A Comparative Assessment of Patient Satisfaction and Quality of Life after SMAS Plication vs. Deep Plane Neck Lift. Pak J Med Health Sci, 2023; 17(10): 240-242.