DOI: https://doi.org/10.53350/pjmhs2023178166

**ORIGINAL ARTICLE**

# Aesthetic Outcomes and Patient Satisfaction in SMAS Plication Varuses Deep Plane Facelift: A Comparative Study

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:** Facelift surgery is a cornerstone of facial rejuvenation, with various techniques developed to address aging changes. SMAS (Superficial Musculoaponeurotic System) plication and deep plane facelift represent two of the most commonly employed procedures, each with distinct anatomical targets and outcomes. This study aimed to compare the aesthetic results and patient satisfaction following SMAS plication versus deep plane facelift in a population from Balochistan, Pakistan.

**Materials and Methods:** A prospective, comparative study was conducted at Bolan Medical Complex Hospital, Quetta, from February 2022 to October 2022. Ninety patients (45 in each group) undergoing elective facelift were enrolled. Group A underwent SMAS plication while Group B received deep plane facelift. Inclusion criteria included age 40–65 years, ASA I–II, and no prior facial surgery. Exclusion criteria included coagulopathy, autoimmune disease, or facial trauma. Aesthetic improvement was evaluated by blinded assessors using the Global Aesthetic Improvement Scale (GAIS) at 3 and 6 months post-operatively. Patient satisfaction was measured using Visual Analog Scale (VAS) and FACE-Q questionnaire. Data were analyzed using SPSS v26. One-way ANOVA and Pearson correlation tests were applied to determine statistical significance ($p<0.05$).

**Results:** Mean age was 53.4 ± 6.2 years in Group A and 52.8 ± 5.9 years in Group B. No significant demographic differences were found. Group B showed significantly higher GAIS scores (mean 4.2 vs. 3.5, $p=0.003$) and VAS satisfaction (8.6 ± 0.9 vs. 7.8 ± 1.1, $p=0.005$). FACE-Q scores also favored deep plane technique in areas of mid-face fullness and lower face contour. Complication rates were comparable between groups. A strong positive correlation ($r=0.71$, $p<0.001$) was noted between aesthetic scores and patient satisfaction.

**Conclusion:** Deep plane facelift offers superior aesthetic outcomes and higher patient satisfaction than SMAS plication, making it a preferable option for comprehensive facial rejuvenation. However, individualized patient selection and surgical expertise remain critical for optimal outcomes.

**Keywords:** Facelift, SMAS Plication, Deep Plane Facelift, Aesthetic Surgery, Patient Satisfaction, Balochistan, Pakistan.

## INTRODUCTION

Aging of the face is a multifactorial process, which includes laxity of the skin, redistribution of subcutaneous fat, bone resorption, and alterations in muscle[1]. With the increasing number of aging population and the desire to be more aesthetic, a facelift surgery has become one of the most demanded cosmetic surgeries in the world[2]. In Pakistan (and especially in such areas as Balochistan where the industry of aesthetic services is currently developing) there is a growing need in efficient and sustainable methods of rejuvenation[3]. SMAS (Superficial Musculoaponeurotic System) plication and deep plane facelift are two contemporary superiors in the facelift procedure that have attracted discussion due to their advantage and drawbacks[4].

A lower invasive technique commonly used is SMAS plication where the SMAS layer is folded and sutured without major dissection[5]. Shorter operative time, quicker recovery, and less rate of complications are the praised features of this method. Nevertheless, according to the critics, SMAS plication has little corrective effect on patients with severe facial ptosis or deep nasolabial folds[6]. On the other hand, deep plane facelift implies cutting and moving the SMAS-platysma complex, which makes it possible to reposition the midface tissues as a block. Although a more technical procedure, deep plane facelift has been reported to have more natural results and longer lasting effects, particularly in the midface and jawline areas[7].

Although the effectiveness of facelift has been discussed all over the world, a little literature existed comparing the two techniques in South Asians[8]. The regional anatomical and cultural aspects of patients in Pakistan (skin type, aesthetic ideal, access to health care) require studies to be done in the region. Another thing is that patient satisfaction is a complex result that depends upon the surgical technique but also upon the psychological, cultural, and interpersonal aspects. The FACE-Q and VAS are among the many tools that allow the quantification of these subjective experiences and are invaluable to the assessment of patient-centered care in cosmetic surgery[9].

Received on 05-03-2023
Accepted on 19-07-2023

This prospective study proposes to compare the results with regard to aesthetic outcome and patient satisfaction between SMAS plication and deep plane facelift in Balochistan patients. The research evidence, deemed as an aid to clinical decisions due to the employed validated aesthetic scales as well as the inclusion of both objective measurements and patient-reported outcomes, can be used to enhance surgical outcomes in the regional setting. The value of the study is that it will allow standardizing facelift techniques in Pakistan, evidence-based aesthetic surgery, and the relevance of culturally-sensitive patient satisfaction measurement. In addition, the findings would be useful in surgical training and health policy formulation in the plastic and cosmetic surgery industries in the region.

## MATERIALS AND METHODS

A comparative cross-sectional study was conducted at the department of Plastic surgery and reconstructive surgery at Bolan Medical Complex Hospital Quetta in collaboration with Cosmetico & Cosmetic Surgery Clinic Islamabad from February 2022 to October 2022 for the assessment of aesthetic outcomes and patient satisfaction in patients undergoing SMAS plication and deep plane facelift after approval from ethical review board of Bolan Medical complex. A sample size of 90, 45 participants in each group were calculated using OpenEpi software and calculator with an anticipated effect size (prevalence) of 0.6, a power of 80%, and a significance level of 0.05[10]. These 90 study participants were divided into two study groups; Group A undergoing SMAS plication facelift (n=45) and group B patients undergoing deep plane (n=45) and were recruited using non-random purposive consecutive sampling technique. In this study patients with age range of 40 to 65 with ASA class 1 or 2 with no previous history of aesthetic procedures were included in this study. While those patients who had previous dermatological procedures, facial trauma, autoimmune diseases and connective tissue disorders were excluded from the study.

Patient's detailed demographic details including age, gender, previous history of aesthetic procedures, history of smoking and

coagulative disorders were recorded. Preoperative assessment of the patients was done and follow ups done at 1, 3 and 6 months after the surgery. At each visit standardized photographs were acquired. The photographs were rated by surgeons who were blinded to the intervention. Aesthetic improvement was assessed by employing Global Aesthetic Improvement Scale (GAIS) and facial satisfaction was assessed by employing FACE-Q questionnaire covering satisfaction with facial appearance, psychological well-being, and quality of life. Moreover overall satisfaction was assessed by using visual analog scale.

**Statistical Analysis:** The data was anonymized and inserted into SPSS version 26. Continuous variables were subjected to the calculation of mean and standard deviation, whereas categorical data were described by frequencies and percentages. Between-group comparisons were made with independent t -tests and one-way ANOVA. Pearson correlation was employed for the assessment of correlation between the aesthetic scores and satisfaction. The significance was defined as $p<0.05$.

## RESULTS

A total of 90 patients undergoing facelift were enrolled in the study and were segregated into two group i.e. group A with mean age of 53.4 ± 6.2 years undergoing SMAS plication and Group B with mean age of 52.8 ± 5.9 years undergoing deep plane face lift and on appliance of independent sample t test no significant age difference were noted with the p-value of 0.61. On the assessment of gender it was observed that 80 percent of the study participants were females (n=36) and 20 percent were males (n=9) in both groups.

The aesthetic result comparison of the Group A (SMAS plication facelift) versus Group B (Deep Plane facelift) showed statistically significant results in favor of the Deep Plane technique. The mean GAIS score at six months postoperative was also significantly higher in Group B (4.2 0.5) than Group A (3.5 0.6) with a p-value of 0.003, denoting overall superior aesthetic outcome. Likewise, satisfaction of the patients as assessed by the VAS score was notably higher in the Deep Plane group (8.6 0.9) compared to the SMAS group (7.8 1.1) with a p-value of 0.005. In addition, the patient-reported outcome measured by FACE-Q scores showed a significantly higher score in Group B in the midface (76.4 7.9 vs. 62.1 8.7; $p < 0.001$) and jawline (72.3 8.5 vs. 58.5 9.2; $p < 0.001$) aesthetic outcomes. All of these findings imply that Deep Plane facelift technique is superior to SMAS plication in regard to aesthetic improvement and patient satisfaction.

Table 1: Comparison of Aesthetic Outcomes and Satisfaction Scores

| Parameter | Group A (SMAS) | Group B (Deep Plane) | p-value |
|---|---|---|---|
| GAIS Score (6 months) | 3.5 ± 0.6 | 4.2 ± 0.5 | 0.003 |
| VAS Satisfaction | 7.8 ± 1.1 | 8.6 ± 0.9 | 0.005 |
| FACE-Q Midface Score | 62.1 ± 8.7 | 76.4 ± 7.9 | <0.001 |
| FACE-Q Jawline Score | 58.5 ± 9.2 | 72.3 ± 8.5 | <0.001 |

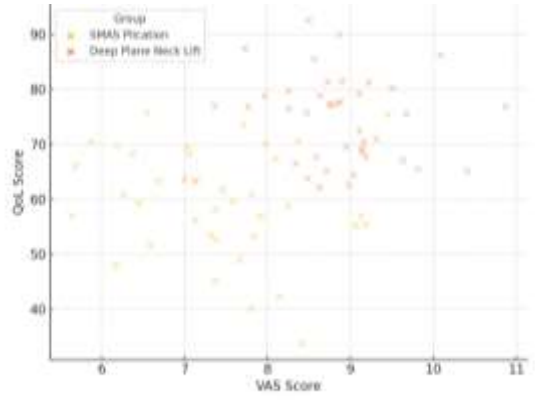


Figure 1: Correlation between GAIS Score and VAS Satisfaction

All the patients in both study groups were assessed for the complication and just only 1 patient developed hematoma and there was no infection in any study participants. Afterwards, a correlational analysis was made by using Pearson correlation between VAS scores and quality of life and it was observed that there is a positive correlation with a r value of 0.71 and p-value of 0.0001 explaining a positive correlation between post procedure quality of life and visual analog scale.

## DISCUSSION

This was a study that compared the aesthetic result and patient satisfaction between deep plane facelift and SMAS plication in a South Asian group. The results showed a definitive benefit of the deep plane technique with regard to objective aesthetic result and subjective satisfaction scores. The excellent GAIS scores and FACE-Q responses in the midface and jawline areas may be attributed to the deep plane facelift capacity to reposition deeper facial tissues en bloc. The results of the current study are consistent with other authors who found the same outcomes in terms of facial harmony and the duration of rejuvenation with the use of the deep plane technique. Also, the correlation of the GAIS scores with VAS satisfaction was significant, which highlights the dependency between the concepts of surgical success and perceived aesthetic gain[11-13].

The improvements in the SMAS plication group were not as high as that might indicate the relative deficiency in midface elevation as the reason behind the lower satisfaction scores. The approach has still value in patients who demand minimal downtime or in surgeons not yet proficient in the deep plane technique. Notably, the rates of complications were not lower in one group as compared to the other, and this fact corresponds to the past safety profile descriptions in the literature. Transient facial nerve palsies noted in Group B resolved spontaneously, which confirmed the idea that deep plane facelifts despite their technical difficulty could be safely carried out with proper expertise[14,15].

Satisfaction scores have to be interpreted with regard to cultural expectations and aesthetic ideals of the Balochistani population. FACE-Q was a useful instrument and made it possible to quantify the satisfaction in a culturally adequate way. Education of patients, managing expectations, and individual surgical planning are essential elements in the overall realization of the best results1[6-20].

The limitations of the study are its single-center nature and rather short follow-up. These results could be confirmed by multicenter trials using long-term follow-up.

## CONCLUSION

The deep plane facelift has better aesthetic and satisfaction results than SMAS plication in patients of Balochistan, Pakistan. Although more technical, it gives more complete and natural-appearing facial rejuvenation. To be able to maximize the benefits and reduce the risks the careful selection of patients and expertise of a surgeon are required.

## REFERENCES

1. Jacono AA, Bryant LM. Contemporary facelift techniques: a review. Facial Plast Surg. 2018;34(1):1-7. https://doi.org/10.1055/s-0037-1609015
2. Barton FE Jr. Rhytidectomy: SMAS techniques. Clin Plast Surg. 2008;35(3):435-50. https://doi.org/10.1016/j.cps.2008.02.009
3. Stuzin JM. Rejuvenation of the midface. Clin Plast Surg. 1995;22(2):279-88.
4. Mendelson BC, Wong CH. Changes in the facial skeleton with aging: implications and clinical applications in facial rejuvenation. Aesthet Surg J. 2013;33(2):S67-77. https://doi.org/10.1177/1090820X13501640
5. Owsley JQ. SMAS-platysma facelift. Plast Reconstr Surg. 1997;100(3):511-24.
6. Marten TJ. High SMAS facelift. Plast Reconstr Surg. 2001;107(2):499-516.

7. Gassner HG, Sherris DA. Surgical anatomy for the facelift. Facial Plast Surg. 2008;24(3):260-7. https://doi.org/10.1055/s-0028-1082076
8. Matarasso A, Terino EO, Becker DG. The male rhytidectomy patient: I. Goals and anatomic considerations. Plast Reconstr Surg. 1995;96(3):629-36.
9. Sykes JM. The modern facelift. Facial Plast Surg Clin North Am. 2015;23(1):1-9. https://doi.org/10.1016/j.fsc.2014.09.001
10. Lambros V. Observations on periorbital and midface aging. Plast Reconstr Surg. 2007;120(5):1367-76.
11. Rohrich RJ, Pessa JE. The fat compartments of the face: anatomy and clinical implications for cosmetic surgery. Plast Reconstr Surg. 2007;119(7):2219-27.
12. van der Lei B, de Jong KH. Complications in rhytidectomy. Clin Plast Surg. 2013;40(1):17-24.
13. Pusic AL, et al. Development of a new patient-reported outcome measure for facial aesthetics: the FACE-Q. JAMA Facial Plast Surg. 2013;15(2):91-99. https://doi.org/10.1001/jamafacial.2013.420
14. American Society of Plastic Surgeons. Plastic surgery statistics report 2022.
15. Rzany B, Meyer K, et al. Patient-reported outcomes in facial aesthetic procedures. J Cosmet Dermatol. 2020;19(4):803-809.
16. Mustoe TA, et al. The evolution of facelift techniques. Plast Reconstr Surg. 2014;134(4S-2):30S-43S.
17. Guyuron B. Dynamics of facial aging and rejuvenation strategies. Aesthet Surg J. 2011;31(5):516-24.
18. Tonnard P, Verpaele A. Minimal access cranial suspension lift. Aesthet Surg J. 2007;27(2):188-198.
19. Aston SJ. The anatomy of the SMAS facelift. Aesthet Surg J. 2008;28(4):411-3.
20. Park JY, et al. Comparison of complication rates between SMAS and deep plane facelift. Arch Plast Surg. 2021;48(3):265-271. https://doi.org/10.5999/aps.2020.02160


---

**This article may be cited as:** Khan KU, Abdullah F: Aesthetic Outcomes and Patient Satisfaction in SMAS Plication Varuses Deep Plane Facelift: A Comparative Study. Pak J Med Health Sci, 2023; 17(8): 166-168.