Preliminary Report

Vertical Space Lift: Transcutaneous Lower Blepharoplasty, Subperiosteal Midface Lift, and Lower Face Lift: A Novel Technique of Buccal Fat Suspension to Medial Infraorbital Rim

Hadi Nural, MD

Abstract

Background: Despite traditional facelift and transtemporal endoscopic facelift techniques are used in treatment of mid face ptosis, they do not have a big impact on the midface area. Lower blepharoplasty techniques are effective to provide rejuvenation on nasojugal area, midface ptosis and tear trough deformity. Additionally, it is also possible to correct the lower face area and jowls with lower blepharoplasty.

Objectives: To define effect of vertical space lift in tear-trough, midcheek groove, midface, and lower face.

Methods: A retrospective study was carried out on 23 patients who had surgeries between January 2018 and January 2021. The buccal fat is suspended and anchored to the medial infra orbital rim with a superomedial vector and the midface flap anchored to the lower and lateral orbital rim with a superomedial and superolateral vector. The average follow-up period was 12 months.

Results: A high degree of satisfaction has been achieved in the feedback of questionnaires. Results showed that there is a significant improvement in nasojugal deformity, malar ptosis, mid-cheek groove, and jowls.

Conclusions: While transcutaneous lower blepharoplasty provides an opportunity for rejuvenation of the lower eyelid and midface area, vertical space lift allows the surgeon to work on the midface, lower face, and jowls area except the neck. Choosing appropriate technique according to area that needs to be corrected increases success rate.

Level of Evidence: 4

The first sign of facial aging is ptosis of palpebral soft tissue. After the age of 20, the nasojugal groove (tear trough) begins to form under the eyes, and this groove continues to grow laterally over time.1 Starting from middle age, a midcheek groove forms in the lateral midface area with ptosis (Figure 1).2 With the sagging of lower face and buccal fat, jowl begins to form.3 It is difficult to correct as much as desired in the midface area with the traditional facelift.4,5 Thus, a vertical or even a superomedial midface lift6,7 is added to the deep plane facelift. With the release of the orbicularis ligament, the tear trough deformity is released from below. The depression is filled by the transposition of orbital fats. With the elevation of the orbicularis...
oculi muscle, sagging in the prezygomatic region (edema, festoon, and mound)\(^8\) is corrected.

The lower face area is accessed by releasing the zygomatic and masseteric ligaments.\(^9\) By removing the buccal fat and even suspending it to the infraorbital rim, the lower face and jowl area can be elevated. This technique was described by Turkish plastic surgeon Serdar Eren. To our knowledge, this is the first study on the correction of the lower face and jowl area with transcutaneous blepharoplasty. In this study, we evaluated the improvement in the midface, lower face, and jowl areas with the novel buccal fat suspension surgical technique.

**METHODS**

Patients who have tear trough depression, midcheek groove and jowls sagging, and deep nasolabial folds are suitable candidates for the Vertical Space Lift (VSL) surgery. This surgical technique was tested on 28 patients with the above-mentioned complaints between January 2018 and January 2021. Seven patients were excluded due to missing data. Nineteen of patients are female (90.48%), and 2 of them are male (9.52%). Patients’ ages ranged from 37 to 61 (49.83). Nineteen of them had only VSL (90.48%); 1 of them had VSL and rhinoplasty (4.76%); 1 of them had VSL, double chin liposuction, and neck lift (4.76%).

Only the patients whose tear trough deformity and midface ptosis were corrected by releasing of the orbicularis retaining ligament and midface was lifted with orbicularis flap and whose lower face and jowls were corrected with buccal fat resection and/or suspension by releasing zygomatic and masseteric ligaments were included in this study. However, only the patients whose tear trough deformity was corrected by releasing of the orbicularis retaining ligament and who underwent midface lift with orbicularis flap were excluded. Additionally, patients who underwent lipofilling and had blepharoplasty before were not included in the study, either. Furthermore, patients with incomplete data were excluded. The principles of the 1975 Declaration of Helsinki were followed. Written consent was provided by which the patients agreed to the use and analysis of their data.

**Subjective Evaluations**

A patient-oriented questionnaire was conducted. It was done on 3rd, 6th, 9th, 12th, or 18th months after their surgery. The period of conducting this questionnaire differs
from patient to patient. The questionnaire was made both face to face and online. It is made on the paper with 8 patients (38.095%) in the office; 13 of the patients (61.905%) were questioned through online channels. Questionary was sent to them through e-mail and a video call was made. Patients were represented in the study by numbers.

The subjective questionnaire consists of 3 main scales to evaluate the outcomes. The scales used in the study are appearance with 7 subscales, psychological well-being with 4 subscales, and adverse effects with 4 subscales. Patients were asked to evaluate the questions about preoperative and postoperative appearance on scores ranging from 0 to 10 (Table 1), and adverse effects were asked whether any of them is present or not. If any of them presences, its duration was asked to patients. Preoperative and postoperative evaluation was compared by using Wilcoxon signed-rank test. Grades between 0 and 3 refer to unsatisfied appearances, grades between 4 and 7 refer to moderate satisfied appearances, and grades between 8 and 10 refer to satisfied appearances for preoperative evaluation. However, grades between 0 and 3 refer to minor improvement, grades between 4 and 7 refer to moderate improvement, and grades between 8 and 10 refer to major improvement for postoperative evaluation. Grade 0 refers the worst, and 10 refers the best for psychological well-being. Patients were asked yes/no questions, and if the answer was yes, its duration was asked, too.

### Technique

A solution containing 0.5% lidocaine and 1/200,000 epinephrine (adrenalin) is injected on the upper eyelid, lower eyelid, and midface area under general anesthesia. A regular upper blepharoplasty is performed on all patients. A subciliary incision is performed approximately

---

**Table 1. Patient Questionnaire**

| Questionnaire                  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|----|
| **Appearance**                |   |   |   |   |   |   |   |   |   |   |     |
| Facial appearance overall    |   |   |   |   |   |   |   |   |   |   |     |
| Naso jugal groove (tear trough) lateral |   |   |   |   |   |   |   |   |   |   |     |
| Naso jugal groove (tear trough) medial |   |   |   |   |   |   |   |   |   |   |     |
| Malar eminence               |   |   |   |   |   |   |   |   |   |   |     |
| Midcheek groove             |   |   |   |   |   |   |   |   |   |   |     |
| Nasolabial fold              |   |   |   |   |   |   |   |   |   |   |     |
| Jowl                         |   |   |   |   |   |   |   |   |   |   |     |
| **Psychological well-being** |   |   |   |   |   |   |   |   |   |   |     |
| Level of satisfaction        |   |   |   |   |   |   |   |   |   |   |     |
| Postoperative age appraisal  |   |   |   |   |   |   |   |   |   |   |     |
| Recovery of initial "artificial" appearance |   |   |   |   |   |   |   |   |   |   |     |
| Post recovery social life    |   |   |   |   |   |   |   |   |   |   |     |
| **Adverse effects**          | YES | NO | DURATION |
| Change of paresthesia in the midface |   |   |   |
| Transient ocular disorders*  |   |   |   |
| Recovery swelling and bruising |   |   |   |
| Sensation of tension and stiffness |   |   |   |

*Burning of eyes, excessive lacrimation, chemosis, difficulty in closing the eyes, asymmetry of the blinking, lid retraction*
1 to 2 mm inferior to the margin of the lower eyelid from the medial canthus to 5 to 10 mm inferior lateral to the lateral canthus. Care is taken to ensure that there is 1 cm distance between the upper and lower eyelid incisions (Video). The upper eyelid surgical dissection is joined with the lower eyelid surgical dissection area. The orbicularis oculi is released from the skin by making approximately 1 cm subcutaneous dissection from the lower eyelid incision. The lower eyelid is suspended from the tarsus with 4/0 PDS (Ethicon, Inc., Somerville, NJ). The orbicularis oculi muscle is entered 6 mm below the lower eyelid incision and the orbicularis oculi is dissected from the orbicular septum. The incision in the orbicularis oculi is extended from the level of the punctum medially to the level of the canthus laterally. The infraorbital rim is exposed. An incision is made 3 mm under the infraorbital rim with the Colorado tip. Soft tissue at the level of the infraorbital rim is preserved for later use for suturing. Premaxillary space is entered by cutting the palpebral part of orbicularis oculi, tear trough ligament, and orbital part of orbicularis oculi in the medial part of the infraorbital rim. An incision is made 3 mm under the infraorbital rim on the periosteum. The prezygotic area is dissected subperiosteally. The upper and lower eyelid dissection areas are joined with the paracanthal tunnel above the periosteum at the level of the lateral canthus. The dissection area in the upper eyelid is extended to the lateral orbital rim and the temporal facia for suture. The dissection is extended subperiosteally inferiorly and laterally. The zygomaticofacial nerve is cut on the side and the dissection is extended downward. This dissection is extended medially toward the canine fossa. Subperiosteal dissection made from the medial infraorbital rim is extended to the medial side of infraorbital nerve and joined with the lateral dissection area. Care is taken to protect the buccal nerve, during the subperiosteal dissection. The levator labii superioris muscle and surrounding ligaments are dissected, and the area around the infraorbital nerve is mobilized. The dissection is extended down to the oral vestibular fornix. In the inferolateral area, the masseteric cutaneous ligaments are released over the masseter muscle and dissected 1 to 2 cm inferiorly. The midface flap is completely released by cutting the periosteum from the lower borderline and from the side of the dissection with the Colorado tip or scissors. The soft tissue is dissected a little further down from the medial side of the zygomatic bone tip. The buccal fat capsule is accentuated by palpating the jowl area from below (Figure 2). The buccal capsule is cut with scissors, and the buccal fat is elevated and sutured to the medial part of the infraorbital rim with 4/0 PDS (Figure 3). If buccal fat is not suitable for elevation and is fragile, buccal fat resection is performed. That way, the volume in the jowl area is reduced. The buccal fat capsule is sutured on the masseteric fascia, and the soft tissues of the jowl and lower face area are elevated. Hence, the lower line of the middle face is determined.

The lower border of middle and medial part of the periosteum is sutured with 4/0 PDS to the medial side of the infraorbital rim. To eliminate the cheese wiring effect, the suture passes twice through the periosteum. Four 4/0 PDS sutures are used to elevate the lower border of the periosteum to the inferior orbital rim from the medial to the lateral side (Figure 4).

Thus, the midface flap is sutured by elevating on the superomedial vector. Laterally, the suborbicularis oculi fat (SOOF) and periosteum are sutured to the inferior and lateral orbital rim on the superolateral vector, so that the lateral part
of the midface flap is elevated. The upper-medial part of the midface flap is elevated by suturing *levator labii superioris* to the infraorbital medial rim. Medial fat and middle fat are not resected. Depending on filling the gap between elevated midface flap and the lower lid, medial and middle fat pads are released inferiorly. If necessary, the lateral fat pack is released inferiorly, and the gap between the elevated flap and the lower lid is filled with it. If protruding remains, it is flattened with cautery. A routine canthopexy is performed with a 4/0 nonabsorbable, braided polyester suture. According to the *orbicularis oculi* flap, it is sutured under the lateral canthus, or an Adamson-type flap was created by dissecting the *orbicularis oculi* from the skin. This flap is passed under the paracanthal skin and suspended to the lateral orbital rim and temporal aponeurosis.

Excess skin is resected without any tension and the skin was sutured using 6/0 prolene. Plaster is applied under the eyes and midface area for a week. A week later, all sutures are removed and again new plasters are applied for another week (Video).

**Statistical Analysis**

A total number of the patients who underwent operation were 28: 3 of them are (10.7%) male and 25 of them are (89.3%) female. Twenty-one patients (75% response rate) were included in the analysis who returned the questionnaire. Patients were asked to rank their preoperative appearance and postoperative appearance.

Data analysis has been performed between July 1, 2021, and July 30, 2021. The statistical analysis was carried out with IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp. To define the sample, continuous variables were expressed as median (Q1-Q3) and categorical variables as number and percentage. The normal distribution of the data was tested with the Shapiro-Wilk normality test. Wilcoxon signed-rank test was used to compare the preoperative and postoperative data. A value of *P* < 0.05 was used to assess the significance for all statistical analyses.

**RESULTS**

Surgery was performed under general anesthesia by one surgeon. Filler and fat injections were not injected during or after the surgery. Photographs of the patients were taken from the anterior, right oblique, left oblique, right lateral, and left lateral angles periodically (preoperation and on the 2nd, 6th, 12th, and 24th month postoperation). The postures, camera angles, and light balance were stabilized for all patients and evaluated accordingly. A total number of patients who have undergone operation were 21. Patients’

![Image](https://example.com/image.png)
Aesthetic Surgery Journal Open Forum

Ages ranged from 37 to 61 (49.83). The average follow-up period is 12 months with the range of 2 to 24 months.

Appearances parameters are evaluated as follows. The mean score of preoperative facial appearance is 2 (2-3), and the mean score of its postoperative appearance is 9 (9-10). The increase is statistically significant (P < 0.001). While the mean score of preoperative appearance of nasolabial fold is 3 (2-4), the mean score of its postoperative appearance is 9 (9-10). The mean score of preoperative nasojugal groove lateral is 2 (2-3), mean score of preoperative nasojugal groove medial is 2 (1-3), mean score of preoperative malar eminence is 3 (2-4), mean score of preoperative midcheek groove is 3 (2-4), and the mean score of preoperative jowls is 3 (2-5). Individual score of all is 10 (9-10) in the postoperative evaluation. The increase in preoperative and postoperative comparison is significant (P < 0.001). There is a notable improvement in appearance (Table 2).

Psychological well-being parameters are evaluated as follows. The mean satisfaction score as rated by patients was 9 (8-10). There was a significant improvement in the apparent age in the preoperative and postoperative age evaluation scored as 9 (8-10). Patients who participated in active social life 2 weeks after surgery ranked as 9 (8-9). Swelling in the midface recovered approximately in 2 months. The recovery of initial “artificial” appearance took 2 weeks, and its score being 8 (7-9). There is a remarkable improvement in the areas of tear trough, nasojugal groove, malar eminence, midcheek groove, and jowls (Table 3).

Postoperative complications represented as adverse effects which are listed as change of paresthesia in the midface, transient ocular disorders (burning of eyes, excessive lacrimation, chemosis, difficulty in closing the eyes, asymmetry of the blinking, lid retraction), swelling and bruising in the long term, and sensation of tension and stiffness in the long term (Table 4). There were no bruising and acute edema longer than 2 weeks. One of the patients (4.76%) had change of paranesthesia in the midface longer than expected time. Eight patients had transient ocular disorders (38.1%). Sensation of tension and stiffness were resolved in 4 months generally, but it took 6 months for 2 patients (9.52%). Sensation and stiffness were not observed longer than 6 months.

One patient (4.76%) had both chemosis and mild lid retraction. Three patients (14.21%) had only chemosis. Four patients (19.05%) had only mild lid retraction (Table 5).

**DISCUSSION**

Aging causes changes in soft tissue and bones. Soft tissue ptosis and tear trough deformity in the lower eye area are signs of aging on the human face. The soft tissue under the nasojugal groove decreases from medial to lateral, and ptosis occurs over time. Malar edema, mounds, and festoons (Figure 1, class 3 deformity) occur with bordering of orbicularis oculi and fat tissue on prezygomatic space with malar septum and ligaments extending along the lower border of zygomatic bone to the levator labii superioris. Premasseteric space ptosis occurs as masseteric ligaments loosen. Jowls occurs with ptosis of tissue on the premassateric space and buccal fat pad. Jowl is bordered anteriorly by mandibula cutaneous ligaments. Although

**Table 2. Patient Satisfaction Outcomes**

| Appearances parameters          | Mean of preoperative value | Mean of postoperative value | P-value* |
|---------------------------------|-----------------------------|-----------------------------|----------|
| Facial appearance overall       | 2 (2-3)                     | 9 (9-10)                    | <0.001   |
| Naso jugal groove (tear trough) lateral | 2 (2-3)                  | 10 (9-10)                   | <0.001   |
| Naso jugal groove (tear trough) medial | 2 (1-3)                  | 10 (8-10)                   | <0.001   |
| Malar eminence                  | 3 (2-4)                     | 10 (9-10)                   | <0.001   |
| Midcheek groove                 | 3 (2-4)                     | 10 (9-10)                   | <0.001   |
| Nasolabial fold                 | 3 (2-4)                     | 9 (9-10)                    | <0.001   |
| Jowl                            | 3 (2-5)                     | 10 (9-10)                   | <0.001   |

Data presented as median (Q1-Q3). *Wilcoxon signed-rank test.

**Table 3. Postoperative Psychological Well-being Scores**

| Psychological well-being parameters | Mean of postop score |
|-------------------------------------|----------------------|
| Level of satisfaction               | 9 (8-10)             |
| Postoperative age appraisal         | 9 (8-10)             |
| Post recovery social life           | 9 (8-9)              |
| Recovery of initial “artificial” appearance | 8 (7-9)             |
loose ligaments along the lower border of the mandibula do not create a sharp border, tight and thick mandibula cutaneous ligaments do. Tear trough deformity treatment has gained a new dimension with the Loeb’s technique of ligament release and the transposition of fats. Midface deformities were tried to be corrected with facelift techniques, but the desired correction was not achieved. Hamra was the first to draw attention to this issue and pointed out that, in addition to deep plane facelift, there needs to be another intervention for midface sagging. He pointed out that the midface lift should be superomedial with the transcutaneous septal reset and zygorbicular lift techniques for midface lift. High superfisiyal musculo aponeurotik system (SMAS) techniques have been described for the correction of the midface and nasolabial area with facelift, but the desired success has not been achieved. Midface lift is more successful with the superficialis muscle on the lateral orbital rim, sagging up to the levator labii superioris muscle on the lateral orbital rim, sagging up to the levator labii superioris muscle. This suture is more medial than the previously described fixation types and provides elevation of the orbicularis retaining ligament and spreading of the orbital fat compartments over the infraorbital rim. By suspending the orbicularis oculi muscle on the lateral orbital rim, sagging up to the zygomatic ligaments was corrected. That way, malar mound and festoons were successfully treated. In the same manner, the midface area was corrected with the transtemporal endoscopic midface lift. Such superolateral elevations cannot fully correct the tear trough area, and transconjunctival or transcutaneous interventions are required for the tear trough area. Midface is more successfully elevated with transcutaneous or transconjunctival interventions. Supra or subperichondrial dissection is performed, but the dissection area is more limited in subperichondrial dissection. The possibility of damaging of the facial nerves is high especially in deep dissection. Postoperative edema is slightly higher in subperichondrial dissections, but deep dissection and the entire midface can be elevated harmonically.

Turkish plastic surgeon Serdar Eren described vertical space lift technique to overcome the limitation that the midface area was not fully recovered with the classical superolateral facelift technique. It can be performed with facelift or alone.

In this technique, the nasojugal deformity is corrected by releasing the orbicularis retaining ligament with a transcutaneous incision, and the midface is completely dissected by the release of the zygomatic and masseteric ligaments, providing access to the premasseteric space and masticator space. According to our knowledge, the VSL method is the first method that allows the elevation or removal of the buccal fat pad and the correction of the lower face and jowl area with lower blepharoplasty. The depression that exactly corresponds to the midcheek groove and tear trough is filled with the elevation of the buccal fat pad from the lateral tip to the infraorbital rim. Having a pedicle flap allows the fat tissue to live for a long time. The attachment site of the levator labii superioris is released and the infraorbital rim is sutured to the medial side of the inferior orbital rim with the soft tissue on the levator labii superioris. This suture is more medial than the previously described fixation types and provides elevation of the medial midface and upper part of the nasolabial fold. The elevated flap fills the area of tear trough deformity from below. Since the medial and middle orbital adipose tissue is not transposed from above, it fills the tear trough depression in volume. The lateral midface flap sutured to the inferior and lateral orbital rim and it fills lateral nasojugal area in the same way and the flap supports the nasojugal depression inferiorly. If the lateral fat protrudes depending on the situation, its volume is reduced with cautery, and if it continues to protrude, it is removed or the gap between the elevated flap and the lower lid is filled by releasing it from below. With aging, the loosening of the masseteric ligaments causes labiomandibular fold and jowl formation.

### Table 4. Postoperative Adverse Effects Rate

| Adverse effects                                      | Yes   | No    |
|------------------------------------------------------|-------|-------|
| Change of paresthesia in the midface                 | 4.76% | 95.24%|
| Transient ocular disorders*                          | 38.1% | 61.9% |
| Swelling and bruising                                | 9.52% | 90.48%|
| Sensation of tension and stiffness longer than 6 months | 0.00% | 100.00%|

*Burning of eyes, excessive lacrimation, chemosis, difficulty in closing the eyes, asymmetry of the blinking, and lid retraction.

### Table 5. Transient Ocular Disorder Rate

| Transient ocular disorders | N  | %  |
|----------------------------|----|----|
| Burning of eyes             | 0  | 0  |
| Excessive lacrimation       | 0  | 0  |
| Chemosis                   | 3  | 14.21%|
| Difficulty in closing the eyes | 0  | 0  |
| Lid retraction              | 4  | 19.05%|
| Lid retraction and chemosis | 1  | 4.76%|
by descending in the premasseteric space\textsuperscript{13} and buccal fat in the masticator space.\textsuperscript{9} Access to the buccal fat capsule is provided by entering the premasseteric area and the masticator space. Elevating the buccal fat and suturing its capsule to the masseteric fascia allow the jowl\textsuperscript{9} and lower face area to be significantly improved as well as the

\textbf{Figure 5.} (A) Preoperative photograph of a 60-year-old female with tear trough deformity, under-eye dark coloration, and midface and lower face ptosis; (B) postoperative photograph 6 months after vertical space lift operation. Subperiostal midface lift buccal fat suspended to the inferior orbital rim. Buccal fat capsule sutured to the masseteric fascia; (C) postoperative photograph 12 months after vertical space lift operation; (D) postoperative photograph 18 months after vertical space lift operation. Mild lower lid retraction was occurred. Fat injection was performed under the eye. Lid retraction was completely resolved in 2 months. The result after 6 months of it is shown in (E); (E) Postoperative photograph 24 months after vertical space lift operation.
fixation of the elevated tissue borders the midface inferiorly. Suturing the buccal capsule to the masseteric fascia allows the elevated tissue to be sutured to a closer distance, allowing less force and longer duration of action to fix the elevated tissue, just like the flap suture in a deep plane facelift. Suturing the elevated flap to masseteric fascia reduces the weight of the midface flap. It borders the midface flap from below and it prevents the possibility of the midface flap sagging. In other words, suturing the long flap from the lateral orbital rim to the mandible line in three places, the masseteric fascia, the infraorbital rim, and the lateral orbital rim, divides the flap load into three separate locations and prevents flap sagging over time (Figures 5, 6). With subperiosteal dissection, damage to the facial nerves is prevented. Even though the postoperative swelling is slightly higher, tissue adhesion is better and the elevation effect is longer.

Stitches were removed 1 week later. A plaster was put onto the middle face of the patients for 10 to 14 days. Acute swelling and ecchymoses resolved within 2 weeks. Moderate swelling and stiffness returned to normal in approximately 1 to 2 months but recovered completely in 4 months. It took 6 months for only 2 patients. After around 2 weeks, they returned to their routine work and social life. Four patients developed varying degrees of chemosis. Patients were routinely given steroid drops. One patient recovered with snip conjunctivoplasty who had a corneal laser operation before. Chemosis resolved in all of them within approximately 2 months. Lower lid retraction was tried to be prevented by routinely performing canthopexy, surgery in patients with transcutaneous lower blepharoplasty. A routine massage on the temporal region from the midface to prevent lower lid retraction was recommended. Mild retraction developed in 2 patients and it resolved in 2 months with massage. Additionally, mild retraction developed in other 2 patients 1 month later. Retraction was considered as scar pulling on the incision area. Inferior and lateral orbital rim was filled with filler in one patient and fat injection in another patient, and it was fixed without the need for surgery (Figure 5D). Patient evaluations were made before injection. Routine massage was recommended for patients with lower lid retraction for 2 months, and if there was no improvement, filler was recommended to the infra orbital area. Correction surgery was not required, thanks to the massage method. Since the infraorbital nerve was visualized and dissected, no sensory loss due to nerve injury was observed in any of the patients. Paresthesia occurred in one patient and it recovered in 6 months.

This study is limited to low number of patients. Observer evaluation and comparison of preoperative and postoperative tissue changes need to be examined. Despite these, transcutaneous blepharoplasty opens up the horizon for simultaneous correction of the lower eyelid, midface, lower face, and jowl area.

CONCLUSIONS

Sagging of the under-eye area is one of the first signs of aging on the human face. It is difficult to have sagging in other parts of the face without midface sagging first. Facial sagging is often in the medial part. In order to provide rejuvenation of the entire face with classical facelift, it is necessary to add the midface into the treatment program,
but its effectiveness on the midface is less. Vertical space lift gives an opportunity to correct the midface, lower face, and jowl area. It can also be combined with superolateral classic facelift, which is an effective alternative method for facial rejuvenation, except for the neck area.

Supplemental Material
This article contains supplemental material located online at www.asjopenforum.com.

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

Funding
The author received no financial support for the research, authorship, and publication of this article.

REFERENCES
1. Fezza JP, Massry G. Lower eyelid length. Plast Reconstr Surg. 2015;136(2):152e-159e.
2. Hirmand H. Anatomy and nonsurgical correction of the tear trough deformity. Plast Reconstr Surg. 2010;125(2):699-708.
3. Mendelson BC, Freeman ME, Wu W, Huggins RJ. Surgical anatomy of the lower face: the premasseter space, the jowl, and the labiomandibular fold. Aesth Plast Surg. 2008;32:185-195. doi:10.1007/s00266-007-0906-3
4. Botti G, Pelle Ceravolo M. Midface and Neck Aesthetic Plastic Surgery. Vol. I/II. Acta Medica Edizioni; 2012.
5. Adamson PA, Dahiya R, Litner J. Midface effects of the deep-plane vs the superficial musculoaponeurotic system plication face-lift. Arch Facial Plast Surg. 2007;9(1):9-11.
6. Hamra ST. The zygorbicular dissection in composite rhytidectomy: an ideal midface plane. Plast Reconstr Surg. 1998;102(5):1646-1657. doi:10.1097/00006534-199810000-00051
7. Hamra ST. Repositioning the orbicularis oculi muscle in the composite rhytidectomy. Plast Reconstr Surg. 1992;90(1):14-22.
8. Wong CH, Mendelson B. Facial soft-tissue spaces and retaining ligaments of the midcheek: defining the premaxillary space. Plast Reconstr Surg. 2013;132(1):49-56.
9. Mendelson BC, Muzaffar AR, Adams WP Jr. Surgical anatomy of the midcheek and malar mounds. Plast Reconstr Surg. 2002;110(3):885-896; discussion 897.
10. Mendelson B, Wong CH. Changes in the facial skeleton with aging: implications and clinical applications in facial rejuvenation. Aesthetic Plast Surg. 2020;44(4):1151-1158.
11. Pessa JE, Zadoo VP, Mutimer KL, et al. Relative maxillary retrusion as a natural consequence of aging: combining skeletal and soft-tissue changes into an integrated model of midfacial aging. Plast Reconstr Surg. 1998;102(1):205-202. doi:10.1097/00006534-199807000-00034
12. Wong CH, Hsieh MKH, Mendelson B. The tear trough ligament: anatomical basis for the tear trough deformity. Plast Reconstr Surg. 2012;129(6):1392-1402.
13. Mendelson BC, Wong CH. Surgical anatomy of the middle premasseter space and its application in sub-SMAS face lift surgery. Plast Reconstr Surg. 2013;132(1):57-64.
14. Wong CH, Mendelson B. Midcheek lift using facial soft-tissue spaces of the midcheek. Plast Reconstr Surg. 2015;136(6):1155-1165.
15. Loeb R. Fat pad sliding and fat grafting for leveling lid depressions. Clin Plast Surg. 1981;8(4):757-776.
16. Goldberg RA, Edelstein C, Balch K, Shorr N. Fat repositioning in lower eyelid blepharoplasty. Semin Ophthalmol. 1998;13(3):103-106.
17. Pascali M, Botti C, Cervelli V, Botti G. Midface rejuvenation: a critical evaluation of a 7-year experience. Plast Reconstr Surg. 2015;115:1305-1316. doi:10.1097/PRS.0000000000001189
18. Botti G, Botti C, Cella A, Guidali A. Correction of the naso-jugal groove. Orbit. 2007;26(3):193-202. doi:10.1080/01676830701539430
19. Codner MA, WolflJN, Anzarut A. Primary transcutaneous lower blepharoplasty with routine lateral canthal support: a comprehensive 10-year review. Plast Reconstr Surg. 2008;121(1):241-250.
20. Pascali M, Botti C, Cervelli V, Botti G. Vertical midface lifting with periorbital anchoring in the management of lower eyelid retraction: a 10-year clinical retrospective study. Plast Reconstr Surg. 2017;140(1):33-45.
21. Ghavami A, Pessa JE, Janis J, Khosla R, Reece EM, Rohrich RJ. The orbicularis retaining ligament of the medial orbit: closing the circle. Plast Reconstr Surg. 2008;121(3):994-1001.
22. McCord CD Jr, Codner MA, Hester TR. Redraping the inferior orbicularis arc. Plast Reconstr Surg. 1998;102(7):2471-2479.
23. Kpodzo DS, Nahai F, McCord CD. Malar mounds and fes-
toons: review of current management. Aesthet Surg J. 2014;34(2):235–248. doi:10.1177/1090820X13517897
24. Pessa JE, Garza JR. The malar septom: the anatomic basis of malar mounds and malar edema. Aesthet Surg J. 1997;17(1):11-17.
25. Hoenig JF, Knutti D, de la Fuente A. Vertical subperiosteal mid-face-lift for treatment of malar festoons. Aesthetic Plast Surg. 2011;35:522-529. doi:10.1007/s00266-010-9650-3
26. Massry GG. Comprehensive lower eyelid rejuvenation. Facial Plast Surg. 2010;26(3):209-221.
27. Pascali M, Botti C, Cervelli V, Botti G. Vertical midface lifting with periorbital anchoring in the management of lower eyelid retraction: a 10-year clinical retrospective study. Plast Reconstr Surg. 2017;140(1):33-45.
28. Le Louarn C. Concentric malar lift in the management of lower eyelid rejuvenation or retraction: a clinical retrospective study on 342 cases, 13 years after the first public-
ation. Aesthetic Plast Surg. 2018;42(3):725-742.
29. Freeman MS. Transconjunctival sub-orbicularis oculli fat (SOOF) pad lift blepharoplasty: a new technique for the effacement of nasojugal deformity. Arch Facial Plast Surg. 2000;2(1):16-21.
30. DiFrancesco LM, Anjema CM, Codner MA, McCord CD, English J. Evaluation of conventional subciliary incision used in blepharoplasty: preoperative and postoperative videography and electromyography findings. Plast Reconstr Surg. 2005;116(2):632-639.
31. Hwang K. Surgical anatomy of the lower eyelid relating to lower blepharoplasty. *Anat Cell Biol.* 2010;43(1):15-24.
32. McCord CD, Walrath JD, Nahai F. Concepts in eyelid biomechanics with clinical implications. *Aesthet Surg J.* 2013;33(2):209–202. doi:10.1177/1090820X12472692
33. Carraway JH. Volume correction for nasojugal groove with blepharoplasty. *Aesth Surg J* 2010;30(1):101–109. doi:10.1177/1090820X10363996
34. Hwang S, Hwang K, Jin S, et al. Location and nature of retro-orbicularis oculis fat and suborbicularis oculi fat. *J Craniofacial Surg.* 2007;18(2):389 doi:10.1097/scs.0b013e31802e2a70
35. McCord CD, Kreymerman P, Nahai F, Walrath JD. Management of postblepharoplasty chemosis. *Aesthet Surg J.* 2013;33(5):654-661.
36. Knize DM. The superficial lateral canthal tendon: anatomic study and clinical application to lateral canthopexy. *Plast Reconstr Surg.* 2002;109(3):1149-57; discussion 1158.
37. Griffin G, Azizzadeh B, Massry GG. New insights into physical findings associated with postblepharoplasty lower eyelid retraction. *Aesthet Surg J.* 2014;34(7):995-1004.
38. Xi W, Han S, Feng S, et al. The injection for the lower eyelid retraction: a mechanical analysis of the lifting effect of the hyaluronic acid. *Aesthetic Plast Surg.* 2019;43(5):1310-1317.
39. Barone M, Cogliandro A, Salzillo R, et al. Midface lift plus lipofilling preferential in patients with negative lower eyelid vectors: a randomized controlled trial. *Aesthetic Plast Surg.* 2021;45(3):1012–1019. doi:10.1007/s00266-020-01971-0