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Minimal Invasive Scarless Advance Cosmetic Surgery of Lower Face and Neck Lifting

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Abstract

Introduction/Background: The open facelift is the single most widely described method of cervical and lower face lifting for patients older than age 40 years. It carries the risk of overdefatting resulting in unsightly adhesions between the skin and platysma and also damage to the surrounding vital structures. Overskeletonization of the neck is one stigma of open face lift and cervical defatting.

This study is to assess the effectiveness of lower face and neck lift with the combined technique of VASER Liposelection and semielastic antimicrobial absorbable polycaproamide Serdev suture "polycorn" which is slowly absorbable (2-3 Years).

Study Design: Cohort Prospective observational study

Setting

1. Dundrum Medical Cosmetic Clinic, Dundrum, Dublin 16, Ireland.
2. Faisal Hospital, Peoples Colony, Faisalabad, Pakistan.

Period: Two years from March 2009 to February 2011 & one and half year from July 2015 to June 2016.

Material and Methods

Total number of patients 37

Male 3

Female 34

Age from 37 years to 68 years for all patients except one who was less than thirty years of age.

This study is my personal experience of combined technique with VASER (Vibration Amplification of Sound Energy at Resonance) Liposelection and "Serdev Suture lifting technique" for neck and lower face performed under tumescent technique with oral or IV sedation in patients older than age 40 years.

Results : The Satisfaction level were assessed by using visual analogue scoring system from 1 to 10. One (10%) is the lowest level and 10 (100%) is the highest level of satisfaction. The results showed with this innovative, minimally invasive, scarless advanced technique, approximately 90 - 100%, rapid recovery and minimal complications.

Only one patient had some mild complication of suture knot extrusion from the reteroauricular region.

Conclusion: With the advancement in cosmetic surgical techniques of facial rejuvenation with combined VASER liposelection and Serdev Suture, the treatment of lower face skin laxity and neck excess fat have achieved excellent results.

Recommendation: I recommend this technique for all age groups especially older than 40 years.

Key Words: Face Lift, Suture, VASER, Liposuction, Rhytidectomy

Introduction

Facelift or rhytidectomy is a cosmetic surgery procedure mostly done adults beyond forty years who still want to have a youthful appearance. It removes the excess facial skin and tighten the hanging ones around the jaw line. Surgical facelift usually persists for almost ten years. General anesthesia is used in general, however, in less extensive procedure use of local anesthesia is not uncommon. Patient preparation includes lab testing, adjusting the current medication taking some others if needed, application of certain products on skin and avoiding aspirin products which may increase bleeding. The surgery is generally not painful and the patient recovers within weeks. During the last several years a number of advancement have been made in face lift techniques. These are: soft-tissue techniques, implants and tissue sealants. These are in addition to adjunctive therapies (1).

The process of facial ageing represents a combination of gravitational effects and aging of the skin itself, resulting in a complex synergy of skin textural changes and loss of facial volume(2).The gravity affects all tissue layers, resulting in brow ptosis, hollow infraorbital regions, nasolabial folds, jowls and submental skin/fat excess resulting in double chin deformity. Ageing of the skin also manifested by fine wrinkles and irregular pigmentation(3).

It is important to emphasize that face lift is not a treatment for fine wrinkles, ageing pigmantory spots, frontal facial features modification such as forehead and frown dynamic wrinkles, nasolabial fold and marionette lines with mid and lower face lift may or may not improve these wrinkles(3), folds and lines (3,6). However, it may softened or improved to some extent these wrinkles, folds and lines with the face lifting technique and the remaining deformity may only be improved with adjuvant anti-ageing medicines e.g; botulin toxin, dermal filler, chemical peel, photoepilation (LASER & IPL) etc. (2,6,7).

In general,, both patients and surgeons focused solely on the laxity that occurs with facial aging, attempting to tighten that was loose rather than to shape the skin, hence the term face lift (as opposed to faciaplasty), a mechanical term implying a procedure whose goal is to lift what is sagging. Unfortunately, this mechanical approach to facial rejuvenation often produced a tight appearing, operated-on look, the stigma of the “wind tunnel appearance” so often associated with surgical rejuvenation of the aging face. In a traditional facelift, an incision is made in front of the ear, extending up into the hair or hairline as well as behind the ear into the hair-bearing scalp resulting in a unsightly hypertrophic long scar.

I describe my personal experience of close face lift technique through a minimally invasive, scarless technique under tumescent anaesthesia with a combination of VASER Liposelection (Picture 1) and Serdev suture technique for lower face and neck lifting.

The VASERing is performed with a small stab skin incision either one incision under the chin or two incisions each side behind the angle of mandible with No 11 blade. Lower face SMAS layer is lifted and fixed to mastoid periostium and a second Serdev (Picture 2)

suture with the help of Serdev suture needle is looped around the neck platysma muscle and again fixed to the mastoid periosteum.

Picture 1: VASER Liposelection Machine

Material and Methods

The author have performed thirty seven cases of lower face and neck lift in this prospective cross sectional observation study of total three and half years from March 2009 to Feb 2011 (two years) and from July 2015 to December 2016 (1.5 Years).

A detail history obtained, specifically about medications, allergies, medical problems, previous surgeries, smoking and drinking habits.

There were three males and thirty four female patients in this study totalling 37.

In this study, age distribution ranges from 37 years to 68 years and I have noted only one (3%) complication of infection/suture knot extrusion from the retroauricular region

Results

There was only one patient below thirty years and almost half of the patients were between the age of forty and fifty years, while almost thirty percent were between the age of 51 to 60 years.

As high as 97% of the patients were satisfied by the procedure. Doctor's level of satisfaction was also the same. Only one patient had some mild complication of suture knot extrusion.

Table 1: Age

Age	Frequency	Percent	Valid Percent	Cumulative Percent
20 - 30 YEARS	1	2.7	2.7	2.7
31 - 40 YEARS	4	10.8	10.8	13.5
41 - 50 YEARS	18	48.6	48.6	62.2
51 - 60 YEARS	11	29.7	29.7	91.9
61 - 70 YEARS	3	8.1	8.1	100.0
Total	37	100.0	100.0	100.0

Table 2: Age * 'Patients' level of Satisfaction Cross Tabulation

Age	'Patients' level of Satisfaction		Total
	Less Than 50%	More Than 90%	
20 - 30 YEARS	1	0	1
31 - 40 YEARS	0	4	4
41 - 50 YEARS	0	18	18
51 - 60 YEARS	0	11	11
61 - 70 YEARS	0	3	3
Total	1	36	37

Table 3: Age * Doctor's Level of Satisfaction Cross Tabulation Count

Age	Doctor's Satisfaction Level		Total
	Less Than 50%	More Than 90%	
20 - 30 YEARS	0	1	1
31 - 40 YEARS	0	4	4
41 - 50 YEARS	1	17	18
51 - 60 YEARS	0	11	11
61 - 70 YEARS	0	3	3
Total	1	36	37

Table 4: Complication

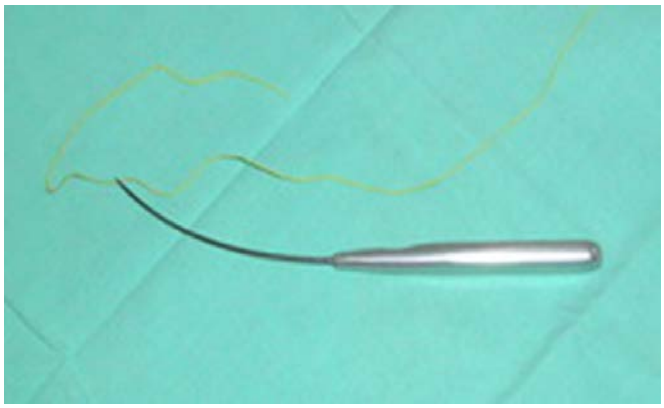
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
No Complication	36	97.3	97.3	97.3
Slight Complication	1	2.7	2.7	100.0
Total	37	100.0	100.0	

Discussion

There are five layers of critical face lift anatomy: skin, subcutaneous fat, the superficial musculoponeurotic system (SMAS)/ muscle layer, a thin layer of fascia, and the facial nerve. The third layer (SMAS) is the most heterogenous (7).

In the lower face at the jaw line and in the neck, the platysma muscle is a component of the SMAS/muscle layer. The medial borders of the platysma muscle tend to become redundant with age and contribute to the appearance of bands in the submental region. The medial borders of the two platysma muscles decussate to a variable degree in the midline of neck (2,7). In the face there are two important retaining ligaments. In the middle face, the zygomatic ligament, previously known as McGregor's patch, and in the lower face is the mandibular ligament (7). The mandibular ligament anchor the lower face skin of the cheek to underlying bone and is important for two reasons: First, it restrain the facial skin against gravitational changes at the mandibular margin, delineating structures such as the anterior border of the jowl. Secondly, in open face lift, this ligament must be surgically released during face lift (8, 9, and 10), however, with closed scarless technique of face lifting by serdev suture technique, this ligament is anchored to the mastoid periosteum.

The SMAS-Platysma lifting is performed through small skin stab incisions, with No 11 blade and is fixed to the mastoid periosteum reteroauricularly. One stab incision reteruauricular region over the mastoid and two incisions lower face and neck for lifting the SMAS layer from the lower face and platysma from neck. The serdev suture is semielasticantimicrobial, braided absorbable polycaproamide thread "Polycorn" which is slowly absorbed over the period of 2-3 years, available in size 2, 4 ,6 and 8. The Serdev Suture needles are stainless steel, curved, elastic, semiblunt tipneedle(Pic 1). http://medicaldevices-bg.com/



Picture 2: Curved, Elastic, Semiblunt, mini Serdev R needle (Courtesy of Prof N P Serdev)

VASER (Vibration amplification of sound energy at source) is a fourth generation of ultrasonic technology. It was originated in Italy and France in 1980s (4) and was further modified in united states in 1998 into VASER technology and popularized all over the world (5). It is known as Liposelection because vibration energy selectively interacts with adipocytes. The vibration energy of the sound waves interacts with the fat cells selectively, hence known as liposelection (5) (Picture 2). It is a fat removal technology without damaging the surrounding structures like blood vessels, nerves and collagen bundles. It initiate collagen remodelling and helps to contract/shrinkage the skin (5).

Picture 3A: Pre Op Picture 3B: 3 Months post Op

Picture 4A: Pre Op Picture 4B: 3 Months Post Op

Picture 5A: Pre Op Picture 5B: 3 Months Post Op

Picture 5C: Pre Op Picture 5D: 3 Months Post Op

Picture 5 E: Pre Op Picture 5 F: 3 Months Post Op

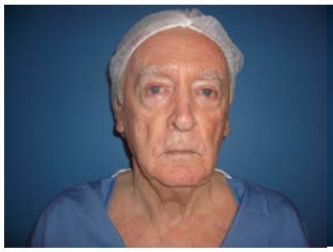
Picture 6A: Pre Op Picture 6B: 3 Months Post Op

Picture 7C: Pre Op Picture 7D: 3 Months Post Op

Picture 8A: Pre Op Picture 8B: 3 Months Post Op

Picture 8C: Pre Op Picture 8D: 3 Months Post Op

Picture 8E: Pre Op Picture 8F: 3 Months Post Op


Picture 9A: Pre Op


Picture 9B: 3 Months Post Op

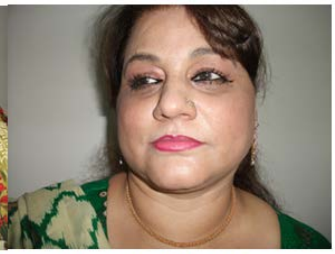

Picture 9 C: Pre Op


Picture 9 D: 3 Months Post Op

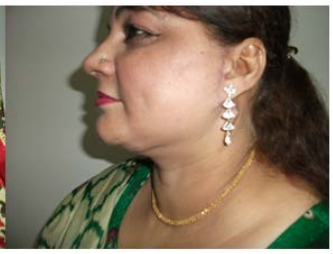

Picture 9 E: Pre Op


Picture 9 F: 3 Months Post Op


Picture 10 A: Pre Op


Picture 10 B: 3 Months Post Op


Picture 10 C: Pre Op


Picture 10 D: 3 Months Post Op


Picture 10 E: Pre Op


Picture 10 F: 3 Months Post Op

During the last 20 years, a plethora of procedures has evolved that use a variety of technical approaches, having as a common goal the reconstruction of aging-related anatomic changes (3,4,5,8,9). The subcutaneous fat of the face is partitioned into discrete anatomic compartments. Facial aging is characterized by how these compartments change with age (11).

With open surgical face lift post operative complications reported upto 6.2% , the most common complications include hematoma, skin slough, facial nerve injury, auricular deformity/displacement, hypertrophic scarring etc (12,13). The incidence of post operative haematoma after open surgical face lift have been reported 4.5 %. The various causes attributed to post op haematoma after open surgical face lifting are fluctuation in post operative blood pressure, general anaesthetic, medications etc.(13).

Although facial nerve (cranial nerve VII) branches travel deep to the SMAS layer, these branches turn superficially to innervate the overlying muscles at some point (14). Injury to the facial nerve branches occurs in less than 1% of patients with subcutaneous face lift (15) , however nerve injury is more common with dissection of the SMAS layer. The incidence of cervical branch of facial nerve injury with open surgical face lift have been reported upto 1.7 % (16).

The most dreadful nerve damage during open surgical face lift is the great auricular nerve (a branch of the cervical plexus). Transaction of the great auricular nerve result in permanent numbness of the lower half of the ear and may result in troublesome neuroma.

The combined technique of VASER Liposelection and Serdev suture is innovative, minimal invasive, scarless advance technique with the dual effect of skin shrinkage/tightening effect provide near complete

elimination of adverse events and better overall results with rapid recovery and minimal complications**.**

VASER Liposelection takes approximately two to three months post operatively for skin shrinkage and may not yield satisfactory results in elderly patients. The serdev suture technique provide immediate skin tightening of the lower face and neck in the interim period. After face lift men experience changes in perceived attractiveness including masculity and a number of other personality traits (17). Kosowskiet al (18) are of the opinion that more modern instruments should be designed to meet the patients' expected outcome in facial cosmetic surgery. These instruments should be reliable, valid and responsive.

Conclusion

The success of an aesthetic surgical operation depends on the diagnostic and technical skill of the operation. One of the most difficult decision for a cosmetic surgeon is deciding which patients are not candidates for elective, aesthetic surgery on an emotional or psychological basis.

Considering these traits of minimal invasive, scarless, negligible complication, local anaesthetic advance cosmetic surgical techniques of Serdev Suture + VASER liposelection for the face lifting with excess fat, the author recommends this technique for all age group of patients especially above 40 years of age.

Compliance with ethical standards

Conflict of Interest: None

Funding: None

Ethical Approval: Obtained

Informed Consent: Informed consent including photographs was obtained from all individual participants included .

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