SIMPLIFIED MINI- INVASIVE TRANSCUTANEOUS FACE LIFT (SMITCFL)

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Introduction:

The trend towards minimally invasive face-lift techniques is continuing. The lower and upper face-lift (SMAS-Platysma) techniques of Serdev, APTOS face-lift, a per-cutaneous approach to eyebrow lift, malar fat pad lift, and Transcutaneous face-lift technique developed by the senior author (HAK) are examples of simpler face-lifts.[1-5] The transcutaneous face-lift technique has been modified further by the authors, in order to achieve maximum aesthetic results without a pre-auricular scar. Age is not a limiting factor for this face-lift.

Simplified Mini-Invasive Transcutaneous Face Lift

Temporal Technique:

Using a 3cm incision in the temporal hairline, a KH needle (Khawaja-Hernandez needle 9 cm long , 1mm broad at the eye, tapering towards the end) or a Keith needle with similar dimensions and prolene 2/0 attached to the eye of the needle; the needle is passed very superficially at and above the zygomatic arch. Below the arch, the needle takes a slightly wavy pathway, and taking bites of SMAS exits at a marked facial point. The needle is re-introduced from the same point, and taking bites of SMAS, and following a similar course as while coming down , exits at the same point on temporal line. The thread is pulled up and knot is tied taking 4/5 whorls of the knot. The knot is tied in the thick temporal fascia or periostium of the temporal bone. Closure is performed with prolene 3/0 interrupted stitches.

Retro-auricular Technique:

A 3cm line is marked on the mastoid bone at the level of the tragal point. A point 3 cm away from the lobule is also marked. Using the same KH or Keith needle, and prolene 2/0 attached to the eye of the needle; needle is passed taking bite of mastoid periostium , and takes bites of SMAS and Platysma , and exits at the marked facial point. The needle is re-introduced from the same point , and exits in the retro-auricular incision. Finally, the needle takes another bite of the mastoid periostium. The thread is pulled up and knot is tied taking 4/5 turns. Closure is performed with prolene 5/0 interrupted stitches.

Submental Liposuction:

Liposuction of submental area is performed using 1% anesthesia for the incision site and 0.5% anesthesia using a lamis syringe. For larger chins, we also use Klein Solution. About 50-100 cc of anesthesia is infiltrated until true tumescence is felt. Liposuction is carried out using 3mm Keel Cobra tip cannula and suction machine.

Marking:

Two lines 3 cm long are marked , one in the temporal hairline, and other one in the retro-auricular area on the mastoid process at the level of the tragal point transversely. 2 symmetrical points are marked on the face on both sides taking measurements from the mid-point of the lower border of mandible (mid-point of the line from the angle of the mandible to the middle of the chin) vertically, and from the angle of the mandible transversely. The corresponding distances on both sides of face from these points to the temporal line should be the same. Similarly, the distance from the angle of mandible to the transverse line on the mastoid process should be the same on both sides. An area of 3cm (maximum radius) from the ear lobe is also marked (Fig 1).

Anesthesia:

1% anesthesia is used for both the lines, and 0.5% and Klein Solution are used for providing tumescence using a lamis syringe. Infiltration is carried out from the temporal area first and later from the retro-auricular area. About 50cc of 0.5% and 150-200cc of Klein Solution is infiltrated.

Temporal Mini-Invasive Transcutaneous Face Lift:

Step 1: Temporal Incision:

Incision is made in the temporal line AB using a No 15 scalpel blade (Fig 1).

Step 2: Upper Dissection:

Upper dissection is done using long blunt scissors. Very superficial dissection is done above and at the zygomatic arch. Undermining is done uptil the marked facial point E.

Step 3: Superficial Liposuction:

Using a 3mm Keel-Cobra cannula and suction machine, liposuction is carried out using a vacuum cleaner technique. Superficial liposuction is carried out in the pre-auricular area especially in front of the lobule, and at and around the facial points. No suction is carried out close to the zygomatic arch.

Step 4: Upper KH needle descent:

Using a KH (Khawaja Hernandez needle; 9cm long , 1mm broad at the eye; tapering towards the end) or a Keith needle with similar dimensions and prolene 2/0 thread attached to the eye of the needle with secure knots, the needle is passed very superficially above and at the zygomatic arch and somewhat deeper below it, taking a gentle side to side curve. The needle takes bites of SMAS and exits at facial point E (Fig 1).

Step 5: Upper KH needle ascent:

The needle is reintroduced from the point E and follows an exactly similar pattern as while coming downwards and exits at the same point on temporal hairline.

Step 6: Upper SMAS lift:

SMAS is pulled up and knot is tied taking 4/5 turns. When knot is tied, it goes below the zygomatic arch.

Step 7: Temporal skin removal:

A semi-lunar or rectangular area of skin is removed depending on the amount of skin laxity (Fig 9.1).

Step 8: Upper closure:

Closure is performed using prolene 3/0 interrupted stitches usually 3.

Retro-auricular Modified Transcutaneous Face Lift:

Step 1: Retro-auricular incision:

Incision is made on the retro-auricular line CD using the same No 15 scalpel blade
(Fig 1).

Step 2: Lower dissection:

Using completely blunt scissors, dissection is carried out uptil the marked area (3 cm in front of the tragus and ear lobe)

Step 3: Lower KH needle descent:

Using the same KH or Keith needle and prolene 2/0 ; taking bite of the mastoid periostium, needle is advanced taking bites of SMAS uptil a maximum of 3 cm (point F; Fig 9.1). The neck point F marked on the skin is a point on the SMAS. The needle does not exits the skin, but reaches the point F subcutaneously.

Step 4: Lower KH needle ascent:

The needle is again taken from the distal point of the SMAS, taking bites of lower SMAS and Platysma, back to the mastoid periostium, where a second bite of the periostium is taken.

Step 5: Lower SMAS-Platysma Lift:

Lower SMAS and Platysma are pulled up as much as possible, and the knot is tied taking 4 / 5 whorls of the knot.

Step 6: Skin Draping:

Skin is draped from below the lobule backwards, and pulled up from the angle of mandible upwards to the mastoid incision.

Step 7: Retro-auricular skin removal:

The retro-auricular excess skin is removed as much as possible (Fig 1).

Step 8: Lower closure:

At the point of maximum tension, prolene 3/0 stitch is applied. Rest of the closure is performed using 5/0 interrupted stitches.

Post-operatively, cold compression is applied over the operated areas, taking care of stitches. Tripple antibiotic / analgesic ointment is applied over the stitches. Compression is applied over a 1 inch wide pre-auricular area especially in front of the lobule.

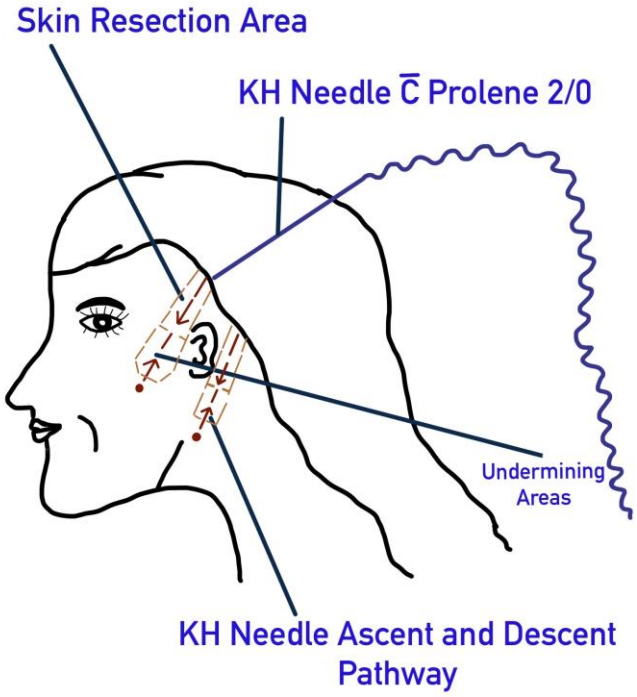

Fig. 1: SMITCFL technique.

Discussion:

For the beginners, it is good to mark beforehand , pathway of the frontal branch of facial nerve. It traverses an area from the ear lobe to the lateral edge of the eyebrow, and from the tragus to a point just above and behind the highest forehead crease. The temporal branches are at equal risk in the area mentioned above especially when they cross the zygomatic arch.[6] At the zygomatic arch, frontal nerve / branches are particularly vulnerable as they lie in the SMAS just beneath the subcutaneous fat and over the bony prominence. The approximate

path of the ramus to the frontal muscle can be traced by drawing a line from 0.5 cm below the tragus to a point 1.5 cm above the lateral eyebrow.[6]

The facial artery can be palpated just anterior to the angle of mandible.[7] The marginal mandibular nerve is superficial here as it crosses the facial vessels, and it is at this point that nerve injury can take place.[6,7] Therefore, before proceeding to liposuction of chin area and lower face lift, it is good for beginners to mark beforehand, marginal mandibular nerve, and avoid the area of nerve injury.

As SMAS laxity is moderate in the upper part of face, it is good to plicate it descending the knot below the zygomatic arch.[8] However, if excessive lift is required in this area, and for providing a more stable lift, it is necessary to avoid pathway of the frontal ramus / ramuses of facial nerve, and secure the knot in the thick temporal fascia or temporal bone periostium above the frontal branch pathway.

SMAS and platysma from the retro-auricular approach are plicated and pulled in a single suture. However, two separate one for SMAS, and the other one for platysma should be used in cases of significant laxity. Another technique modification is to use a curved cutting needle with prolene 2/0, and taking multiple bites of platysma and SMAS circumferentially, attaching it to mastoid periostium. However, instead of a single circle, two circles can be used; 1. a wider circle of SMAS-Platysma plication , and 2. a narrower circle of plication inside the wider circle. Another 3 suture variation, which we have used using the KH needle is; A. a vertical platysma-periosteal plication. B. a 45 degrees SMAS-periosteal plication. C. a transverse SMAS-periosteal plication.

When undermining and liposuction is performed in front of the tragus and lobule, and skin is draped posteriorly and pulled upwards, this usually avoids, a major skin hump in front of the lobule. In addition, liposuction using 2mm / 3mm cannulas , and post-operative compression in this area, the skin adjusts very nicely, just like after an abdominal liposuction. Liposuction from below the lobule provides a more direct approach for this area using a 2mm cannula in front of the lobule superficially.

When the needle exits, and goes back from the facial points, sometimes a dimple forms here, when the suture is pulled up. However, when skin is pulled from around the lobule backwards, and with some undermining close to this area, the dimple disappears. With excessive lift, and suturing the plicated SMAS to the temporal periostium, the skin dimple is likely to form. The dimple improves and disappears completely in the coming weeks. If the patient is too cautious about his looks, it is good to plicate SMAS only, descending the knot below the zygomatic arch. The possible complications of this face lift are summarized in the Table 1. Before and after results of original Transcutaneous Face Lift are shown in Figs 2 & 3, while Figs 4-7 show before and after results of Simplified Mini-Invasive Transcutaneous Face Lift (SMITCFL).

S M ITCFL COMPLICATIONS
EDEMA FRONTAL NERVE DAMAGE (rare) MARGINAL MANDIBULAR NERVE DAMAGE (rare) INFECTION WIDE SCAR ASYMMETRY (rare) SKIN HUMP IN FRONT OF LOBULE SKIN DIMPLING IN THE CHEEK AREA

Table 1: Possible complications of SMITCFL.

Figs 2 & 3: Before & After Original Transcutaneous Face Lift

Figs 4 & 5: Before & After SMITCFL.

Figs 6&7: Before & After SMITCFL.

The nasolabial folds improve considerably with this procedure. However, for complete elimination of the folds, it is necessary to use a permanent filler either before or after the procedure. We usually use Goretex CV 0 suture (polytetrafluoroethylene) 6-8 sutures, or silk threads for each nasolabial fold, [8] or

light liquid silicone. Melasma of our patients undergoing temporal modified transcutaneous lift improved considerably. In fact, some of our patients, who had light melasma never asked about the melasma treatment after the lift.

Conclusions:

The simplified mini-invasive transcutaneous face lift technique developed by the authors is a safe, ambulatory technique having superior aesthetic results without a pre-auricular scar. It can be used on persons of all age groups requiring a face lift.

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