

## Expanding the Indications of Subdermal Facial Suspension

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### ABSTRACT

Correction of early involutional changes of the midface has been recently attempted using new threading techniques. 113 patients were operated upon using the antiptosis (APTOS) threads developed by Sulamanidze. They proved successful in lifting various ptotic areas of the face, and improving contour. Additional indications for this technique include its use as an adjuvant to surgery in the correction of lower lid ectropion, and in males in association with rhytidectomy to obviate the need for a pre-auricular scar.

### INTRODUCTION

The midface is the first region to undergo involutional changes, such as gravity-induced skin ptosis, appearance of lacrimal grooves (tear troughs), progressive development of nasolabial folds and "sadness" wrinkles that significantly change facial contour [1-2].

In recent years, a totally non-traumatic bloodless facelift technique for the correction of soft tissues ptosis has been proposed and introduced into clinical practice [3]. The method is based on the use of specially designed polypropylene APTOS filaments. One side of the APTOS thread bears barbs that extend forwards in the direction of its movement through the tissue, on the other side the barbs extend backwards, i.e. in the opposite direction. Such a design ensures that the filament gently glides through soft tissues in a desired direction but resists drawing in the other one, i.e. remains fixed as appropriate. As a result, subcutaneously implanted filaments keep in place the lifted facial tissues, do not allow them to slip down, and thus maintain a new facial contour [4].

All the techniques described by different authors were aiming at correction of midface sagging. In this work, evaluation of the results of the technique as well as new indications of using APTOS threads will be discussed, as these threads could be used

as a replacement or even in some cases as an adjuvant to surgery.

### PATIENTS AND METHODS

113 patients were operated upon in the period from 2003-2005. 111 patients were females and only 2 males. The age range of the female patients was 35-80 years with a mean age of 50 years. The 2 male patients were 48 and 57 years respectively. Subdermal suspension was carried out alone in 86 patients. The procedure was combined with blepharoplasty in 13 patients, neck lifting in 10 patients, lateral canthal strip in 2 patients who suffered rounded eye deformity following previous blepharoplasty, one of them operated upon 3 times, rhinoplasty in one patient, and abdominoplasty in 1 patient.

The first 49 patients were all done as an office procedure under local infiltration anesthesia. The last 63 cases were all done under Intra-Venous sedation with a minimal amount of local anesthetic given only at the entry and exit points of the needle. Only one patient had general endotracheal anesthesia due to an abdominoplasty procedure done at the same setting.

An average of 10 threads was used in each patient, 2 threads in the lower cheek and nasolabial fold, 1 from the upper cheek to the labio-mental fold. These threads were all put at the SMAS layer plane. 2 threads were put along the mandibular line in the immediate subdermal plane.

### RESULTS

#### *Correction of naso-labial folds:*

All patients had marked improvement of the naso-labial folds. Only 3 patients with deep folds needed additional injection of the folds 3 months after surgery (2.2%).



Fig. (1): Correction of midface ptosis.



Fig. (2): Correction of midface ptosis.



Fig. (3): Facial contour correction.



Fig. (4): Facial contour correction.



Fig. (5): Contour and ptosis correction.



Fig. (6): Correction of contour, ptosis, and lower lid ectropion.

*Correction of labio-mental folds:*

103 patients had marked improvement of their sagging. 7 patients (4.6%) needed an additional thread to be inserted 3 months post-operatively and 3 patients (2.2%) had filler injection to camouflage the residual defect.

*Improvement of facial contouring:*

Marked improvement of facial contour at the cheek level as well as at the mandibular level was noticed in all patients. Refilling of markedly wasted buccal fat was achieved in 2 patients.

*As adjuvant to lateral canthal strip:*

Correction of rounded eye deformity and mild ectropion was achieved in 2 patients without a need for cartilage graft to support the tarsus of the lower eye lids.

*Improvement of "tear-trough" deformity and submalar depression:*

Marked improvement of both "tear-trough" and submalar depression was noticed in 12 patients without the need for any additional procedures.

*Post-operative sequel:*

The first 49 patients had edema and ecchymosis in the first 7-10 days following the procedure. In the other 63 patients and the patient done under general anesthesia slight swelling occurred only in the first post-operative day.

*Complications:*

During a total follow-up period of 30 months, 3 patients had extrusion of one of the threads. 1 patient at the lower cheek level and in the other 2 the upper mandibular thread. In one of them the thread extruded inside the oral cavity through the cheek mucosa. One patient had detachment or prolapse of the upper mandibular thread which appeared as a sub-cutaneous string when the patient used to smile. This was delivered through a small puncture over the apparent part of the thread using a fine hook. In all these patients the threads were replaced as an office procedure.

**DISCUSSION**

This study demonstrated that the technique of lifting facial tissues using APTOS threads is simple, constructive, and time-saving. It also avoids scars and the need for facial implants. These results conform with the results of other workers [3,4].

Many plastic surgeons tend to resort to a combination of minor invasive interventions that can

significantly shorten the rehabilitation period and are possible to perform in an outpatient setting [5-7]. One of the main advantages of this technique is the rapid recovery time of one week [4]. In this study, the use of I.V. sedation with minimal local anesthetic even reduced the post-operative recovery to 24 hours.

All the results obtained in this study were matching results obtained by other authors [2-4]. Midfacial ptosis was the main indication for subdermal suspension by all other investigators.

*In this study, new indications were found:*

- 1- Correction of naso-labial folds.
- 2- Correction of "tear-trough" deformity.
- 3- Improvement of facial contouring at the cheek level instead of using implants.
- 4- Replacement of atrophied buccal fat through redistribution of the facial soft tissues without the need for fat grafting.
- 5- As an essential adjuvant to surgery in the correction of ectropion and rounded eye deformity following blepharoplasty. Its use obviates the need for tarsal reinforcement using cartilage graft with the lateral canthal strip technique.
- 6- As an adjuvant to neck lifting techniques, especially in male patients, as it avoids the pre-auricular scar.

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