Complications after procedures performed with lifting threads. Authors’ own cases

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ABSTRACT
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KEY WORDS:
lifting threads, PDO threads, face and neck rejuvenation, complications

During the last twenty years threadlifting became very popular in rejuvenating procedures of the face and neck, especially in brows correction, reduction of nasolabial folds and restoring of facial contours. It is an alternative for surgical lifting, because procedures performed with threads are minimally invasive and require a short convalescence period. In this paper authors show possible complications after PDO threads implantation.
INTRODUCTION

Over the last twenty years, lifting threads have become very popular in rejuvenating facial and neck treatments. They are an alternative to surgical lifting because these minimally invasive procedures are associated with a short time of recovery [1-6]. In 1964, American John Alcamo patented barbed threads; in 1967 A.R. McKenzie from New Zealand published the first article on the use of barbed threads [7,8]. Barbed threads used for face and neck minilifting were developed by Marlen and George Sulamanidze in 1998 [5.9–11].

Micro-hooks are incisions made along the threads (uni- or bidirectional), which after implantation in the subcutaneous tissue, allow for mechanical pulling and the effect of minilifting. The effect depends on the length and thickness of the threads and the number of micro-hooks. Soluble lifting threads, which are made of polydioxanone (PDO), are biodegradable within a few or several months. Mechanical tissue irritation by a thread and micro-hooks stimulates the formation of collagen. PDO lifting threads are inserted with a cannula under local infiltration anaesthesia. After the procedure, the patient experiences temporary discomfort at the site of implantation, e.g. irritation or slight pain during facial movements which last up to two weeks.
COMPLICATIONS AFTER TREATMENTS

Surgical face and neck lifting is an invasive procedure which may be the cause of various complications [1,8]. These include:

- postoperative complications (e.g. nerve damage),
- the formation of disfiguring scars.

Moreover, after the procedure the patients need to recover for several weeks. PDO lifting threads used in face and neck rejuvenation are minimally invasive and do not cause scars. Recovery can last up to two weeks after surgery. The patient maintains the natural look and the lifting effect is achieved without adding extra volume.

PDO lifting threads are used for: correction of the eyebrow lines and facial asymmetry, reduction of nasolabial folds and melomental folds ("Marionette lines"), alignment of the jaw line (restoration of the oval), i.e. the reduction of the wrinkles called sagging jowls, and the neck and chin correction [5,6,12,13]. Possible PDO thread lifting complications are divided into minor and major [2,7,8,10,11,14–19]:

Minor complications are common and are an inherent element of the surgery. These include:

- redness,
- swelling,
- discomfort during facial movements (stinging and pain),

Fig. 5. Skin breakdown in the jowl area
Fig. 6. Large hematoma in the lip corner area
Fig. 7. Linear hematoma along the thread on the cheek
Fig. 8. Large hematoma in the forehead area
- transient unevenness in the skin surface (Figure 2).

Major complications occur in only 6–10% of patients. These are:
- facial asymmetry,
- hematoma (Figure 1),
- palpable or visible thread (as a result of superficial implantation – Figure 3, 4),
- skin break through the thread (Figure 5),
- linear bleeding along the course of threads during implantation (Figure 6-9),
- nodules (Figure 10), - infections (Figure 11).

Complications after using soluble PDO lifting threads, such as redness, swelling, hematoma, discomfort, unevenness or asymmetry disappear within two weeks after surgery. A visible thread, due to too superficial implantation, nodules or breaking of the skin by the thread are indications for the removal of the thread. These complications are temporary and always disappear when using biodegradable threads.

* A correct choice of patients has an impact on the effects of using PDO lifting threads; age 35–55 is the most suitable for this kind of procedure to be performed.

* The physician should obtain patient’s written informed consent to the procedure and ensure proper photographic documentation before and after the treatment in order to illustrate the effects.

* It is necessary to follow the rules of asepsis during the procedure.

* Biodegradable lifting threads are safer.
INDICATIONS AND CONTRAINDICATIONS

The treatments using PDO threads produce the best results in middle-aged people (35 to 55 years old). Combined therapy is ideal for the elderly: lifting threads combined with fillers and other rejuvenating treatments [4,13,14,20,21].

Contraindications to minilifting with PDO threads are:
- pregnancy,
- skin infections (bacterial, fungal, viral),
- coagulation disorders,
- autoimmune diseases,
- the presence of keloids or hypertrophic scars in another location found during the examination qualifying for the surgery.

Treatments should also not be performed in patients with personality disorders or those having unrealistic expectations.

CONCLUSIONS [5,22–25]

The complications after the implantation of PDO lifting threads can be caused by:
- no compliance with the principles of asepsis during implantation,
- technical errors: too deep or superficial thread implantation,
- incorrect selection of patients,
- wrong patient skin care after the procedure.

References: