

## Case Report

# The “Golden Thread Lift”: Radiologic Findings

G. Björn Stark, M.D., and Holger Bannasch, M.D.

Department of Plastic Hand and Surgery and Erich-Lexer-Klinik, University of Freiburg Medical Centre, Hugstetterstrasse 55, D-79106 Freiburg, Germany

**Abstract.** A 48-year-old patient reported pain in her face and neck. Within 10 years she had undergone three “golden thread lift” suspension procedures, the last one 2 years previously. Skull radiographs showed complete fragmentation of all the implants into small pieces, and a total loss of their vector orientation.

**Key words:** Facial alloplastic implants—Facial rejuvenation—Foreign body—Thread lift

The so-called “golden thread lift,” developed in Russia, recently has also been adopted and broadly advertised in western countries. In its original version, this method of facial rejuvenation relies on a noninvasive suspension of the facial and cervical soft tissue by the introduction of gold threads and reduction of tissue laxity via induction of myofibroblast contraction [2,5].

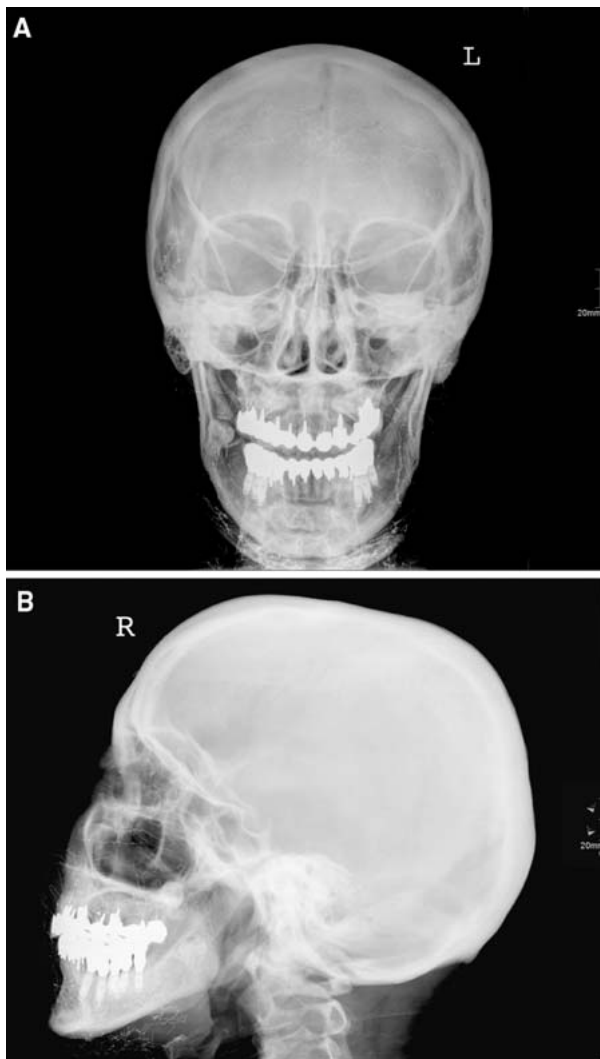
Other barbed-thread materials (e.g., Aptos, Total Charm, Moscow, Russia) have been introduced more recently [4]. Whereas proponents of these techniques postulate low morbidity and a complication rate nearly nil as well as predictable and long-standing results of facial rejuvenation, numerous facial plastic surgeons have questioned these claims [1]. Despite heavy advertising and case-based propagation, evidence-based information on objective long-term cosmetic results and the fate of the implant materials are lacking. This is why the presentation of radiographs from a patient who underwent three “golden thread lifts” is illustrative.

## Case Report

An attractive 47-year-old Russian woman presented for unspecific pain in her face and neck. She reported that she had her first “golden thread lift” at about the age of 35 years. Because she was pleased with the initial result and not informed about an alternative endoscopic subperiosteal lift, she had the procedure repeated twice at nearly equal intervals over 10 years. Some months after the last “thread lift” 2 years before the current consultation, she started to experience soaring pain within the soft tissue all over her middle and lower face and upper neck. The pain increased when she exercised and was most intense below her mandibular angles, in front of the right tragus, and even extensively into the meatus.

At her clinical examination, the patient’s face and neck showed no major visible anomalies except a very minor motor asymmetry of the modioli. Otoscopy was equally normal. There were no clinical signs of inflammation such as redness, symptomatic sinuses, or indurations, and the patient also denied that she ever had observed any of these symptoms. Careful palpation of the face and neck, especially in the areas described as most irritating (submandibular, preauricular, upper lip, and piriform aperture), was described as being diffusely painful, but no localizable indurations were detected.

Regular facial skull radiographs with frontal and lateral views (Fig. 1a and b) showed very numerous short, x-ray-dense thread fragments randomly distributed and oriented. These fragments were located all over the middle and lower facial soft tissues and upper neck. None of these fragments were longer than about 3 cm, and none were oriented straight, as would be expected for them to function as a reasonable mechanic suspension vector for facial rejuvenation.



**Fig. 1.** Frontal (a) and lateral (b) radiographic skull views of a 47-year-old patient after three consecutive gold thread implantations for facial rejuvenation. The “permanent” suspension threads are completely fragmented. They are unevenly distributed and oriented within the facial and cervical soft tissue.

The patient had to be advised that complete surgical removal of all these foreign bodies was impossible, although a later attempt might be made to remove some of them in open face-lift. On the other hand, an endoscopic subperiosteal face-lift was recommended for middle and lower face remodeling if required.

Regarding the patient’s pain in the absence of an inflammatory reaction, administration of steroids or antibiotics was not indicated. *Ex juvantibus* symptomatic treatment with external nonsteroid anti-phlogistic gel was recommended.

### Discussion and Conclusions

Quick nonsurgical procedures, frequently advertised as “lunch time” treatment alternatives to formal

rejuvenation operations, are in vogue [4,8]. Reports on side effects from an increasing variety of alloplastic materials introduced into the facial tissue for this purpose are increasing, and more scrutiny in the monitoring of such effects should be requested [6].

Although it appears simple to suspend the ptotic facial tissues like a marionette, more profound knowledge concerning the anatomic and physiologic basis of aging argues for the need of a surgical approach to redistribute the different layers and components by open or subperiosteal face-lifts [1]. Suture materials used in surgery generally are aimed at joining tissues and serve only as a temporary splint until biologic healing and maturation have occurred. This has been unsurpassably expressed by G.R. Girdlestone (1881–1950): “The surgeon should rather be considered a gardener than a carpenter” [3].

An unsatisfactory and only short-term result may not be the only risk of “noninvasive” thread suspension procedures. The permanent introduction of foreign bodies may lead to unexpected reactions with considerable morbidity and negative aesthetic effects.

It is well known from material sciences that even the most stable alloplastic materials, whether metal or synthetic, finally fail and break under repeated bending stress, as in the ever-moving face [1,7]. This is exemplarily illustrated in the radiographs of the reported patient who underwent three “golden thread lifts.” Only 2 years after the last thread suspension, not a single thread was found to be intact or in its original location.

Although adverse chemical or immunologic tissue reactions are very unlikely with an inert implant material such as gold [5], such foreign bodies may become infected. In the reported case, just the fragmentation and migration of the implant material resulted in very disturbing pain. Because these procedures are administered commonly for relatively young patients and complete surgical removal is virtually impossible, these residuals may remain for decades, with symptoms worsening through time.

### References

1. Baker TJ: Rhytidectomy: A look back and a look forward. *Ann Plast Surg* **55**:565–570, 2005
2. Hyo JJ, Seok LW, Kun H, Ho PJ, Joong KD: Effect of cog threads under rat skin. *Dermatol Surg* **31**:1639, 2005
3. Kellam JF: An orthoedic traumatologist—gardener or carpenter? *Orthop Rev Suppl*:6–7, 1994
4. Lycka B, Bazan C, Poletti E, Treen B: The emerging technique of the antiptosis subdermal suspension thread. *Dermatol Surg* **30**:41, 2004
5. Rondo W, Vidarte G, Michalany N: Histologic study of the skin with gold thread implantation. *Plast Reconstr Surg* **97**:256–258, 1996
6. Silva-Siwady JG, Diaz-Garza C, Ocampo-Candiani J: A case of Aptos thread migration and partial expulsion. *Dermatol Surg* **31**:356–358, 2005

7. Spilker G, Stark GB: Der alloplastische Gewebeersatz  
In: Krupp S (ed) *Plastische Chirurgie* Ecomed Verlag,  
Germany, II-6, pp 1–18, 1994
8. Sulamanidze MA, Fournier PF, Paikidze TG, Sulamanidze GM: Removal of facial soft tissue ptosis with special threads. *Dermatol Surg* **28**:367–371, 2002