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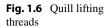


The author has come to lose interest in the thread lifting procedures since the effect was not as much as we first expected, and, as explained above, several problems were found, using the APTOS thread.

Afterward, the U-shaped Quill lift with cogs made of absorbable PDO (polydioxanone), which was developed for suturing purposes in other countries, became available and it was the first absorbable cogged threads with actual lifting effects that the author got to use (Fig. 1.6).

The Quill lift thread was originally produced not for the lifting procedure, but rather for suturing purposes, which consisted of the central part without cogs and both sides that are made of cogs with opposite directions thereby strongly pulling and gathering the tissues to the central part. It was the first thread model produced with the principle of U- or V-shaped lifting threads, which are widely used types of lifting threads these days. However, when compared to the current models the nitial model was considerably thicker and retener, causing many discomforts in patients, such as irritation or stabbing pain when the threads are more n.

Since an absorbable thread with cogs that can make a significant lifting effect was not yet released, Quill lift was used despite the many problems it caused. Then, the EZ lift, a U- or V-shaped cogged thread developed with principles of Quill lift, but purely for lifting purposes, was released for the first time in Korea. Although there was an inconvenience caused by the unabsorbable nature of polypropylene, it was more effective in lifting than existing products, gaining much attention from the clinicians and mainly being used for the procedures.





Quill[™] Variable Loop Device

Absorbable PDO device

Unlike the initial APTOS uncad lifting, this lifting method using U- or V- aped cogged threads was not only effective m-infting the drooped tissues of the cheek and mouth but also in making slimmer facial shapes. Vith fifting procedures, it was possible to improve an squared facial shape with decreased skin classicity with age and to intensely lift the drooped skin and tissues on cheeks and chins even in your patients, making the face smaller and slimmer.

However, while the procedure had the excellent effect of lifting the tissues of the lower facial part and the neck, patients got to feel severe headaches, when the thread was fixed too deep, instead of precisely on the deep temporal fascia. On the contrary, when fixed to a superficial layer, the cogs of both sides of threads lose their balance, since the noncogged central part may not play its role as a buffer zone by firm embedding and finally, the threads often get pulled out toward the side where the force was concentrated.

In addition, when using certain products for the first time, the main concern was the efficacy of the procedures. While the product had a strong lifting effect, when the procedure was mistakenly performed or the barbs held the targeted skin too superficially, adverse effects such as skin dimpling or unevenness were found, which lasted more than one or two months and were not relieved by massage. In the aspect of materials of threads, since the nylon threads were not absorbable, when moving the face or making facial expressions after the procedure, the threads displacement or irritating sense were increasingly reported as the procedures were more generally performed. Also, as with the case of the APTOS thread, even when a patient wants to remove the threads for any reason, there is a real problem that there is no easy way to remove them.

For this reason, since the late 2000s, the lifting method using the absorbable PDO thread, similar to the Quill lift, has been developed and used in rorea. Among the various types of absorbable suture threads used in various surgical operations i clading plastic surgery, PDO has been widely u cu as a material for absorbable lifting threads be(ause it has a relatively long half-life and less ticsue " cuon than Catgut or Dexon.

These absorbable PDO threads were used based on the findings suggesting that a short monofi ament hread without cogs may improve skin tone and lasticity when inserted under the skin. With the first introduction of short PDO threads with fit coss, the technique of contouring the thread shape also developed. Various designs were developed, including a straight type, mainly used initially and gradually converted to the bundling of two lines; a twin type; a twist type, which is made by twisted monofilament threads; a coil type, coiling the monofilament threads on the needle; and water drop type that is embossed like water droplets (Fig. 1.7). Recently, a product that is made by braided multiple strands of monofilaments has been developed and can be used as a scaffold for the skin and tissues.

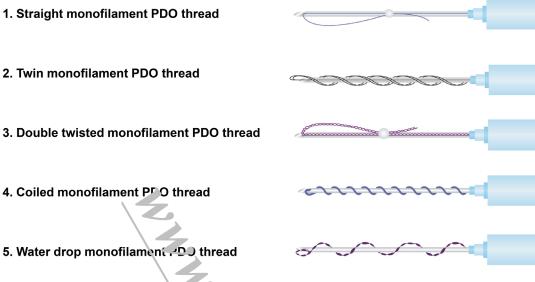


Fig. 1.7 Various types of monofilament . DC threads (i-THREAD, HEALUX)

In addition, as the technique of making cogs on the absorbable thread has also been 1.cioped, diversifying the number and shape ... the cogs and the thickness of the threads, pro sucto with strong tensile force cogs are now available and thus, the actual lifting effect of the absorp able thread that naturally pulls the tissue also and toxin injection, fat transplantation, laser therimproved.

It still seems that monofilament thread lifting, for which several PDO threads without cogs integrating the needle are inserted to improve skin tone and resilience, is commonly performed among the various lifting methods and it is assumed to be due to its simple procedural process, manageability, and decreased risks of postprocedural complications or swelling. In addition, considering the materials of the thread, there is an immediate wound-healing process in the tissue in terms of the physiological effect on the skin when using the absorbable threads. As a result, new connective tissues are increased and new capillary blood vessels are formed. Since the retention period of the thread is more than 6 months, it is gradually absorbed, continuously stimulating collagen production and activating skin regeneration. As a result, the skin gets to look younger. For the physical effects, the absorbable thread helps skin tightening, firming, and shaping, which makes the skin healthier and

more elastic. It naturally smoothens the lines of the cheek and jaw, which helps reduce wrinkles and make elastic and narrow facial features. Concomitantly, the thread serves as a scaffold in the skin, which enhances the effect and duration or the accompanying procedures such as filler 2 Jy, and so on. Nowadays, these types of monof'unent threads have become very diverse, and many methods of treatment have been developed, mono⁶¹ ... thread lifting procedures have established a solid foothold in the esthetic markets.

In the mid 2000s, gold threads, which were popular in Jar at the time, were introduced to Korea and a concerne prevalent, with some domestic companies starting to manufacture gold threads themselves and some groups of clinicians studying the effects of gold thread lifting. The authors used to perform gold thread lifting frequently, based on the findings on gold thread lifting that shows improvements in skin tone by stimulating collagen proliferation, which were even better outcomes than that of simple PDO threads, and its prevalent usages in Europe. Because the inserted gold threads of the initial model tend to be pulled out easily, due to the stiff nature of the material, the pure gold, the product that was designed to insert the PDO threads and



Fig. 1.8 (1) Gold thread, (2) gold and PDO combination thread

the gold threads at the same time was developed. The PDO threads inserted with gold oreads helped the settling of gold threads to the skin without being pulled out easily, facilitating me insertion of gold threads. It compensated for the fisadvantage of the gold threads of the delayed effects when compared to the PDO threads, playing an any file of y role in stimulating skin tissue (Fig. 1.8).

Nowadays, the product has been change 1 for easy usage, coating the PDO thread with gold or the outside to achieve the effects of the PDC thread and the pure gold thread simultaneously. Although any form of a product containing gold may have a lasting effect, the metal that remains in the body may disturb the results of many medical radiologic evaluations. Also, in patients with a lot of laser procedures, the gold threads inserted superficially on the surface of the skin may cause pigmentation, so the author does not perform the procedure, but some clinicians still prefer gold thread lifting.

Even though absorbable monofilament threads without cogs are frequently used for the natural outcomes, due to Koreans' thicker and firmer skin properties and heavier weight of the tissue per unit of lifting area, compared to that of Caucasian people, it is necessary to use absorbable lifting threads with more strength to pull the tissue. Since the author initially focused on lifting the tissues visibly using lifting cogged threads rather than monofilament threads, looking for the threads with definite lifting effects, we have come to have interests in other imported thread products after experiencing the EZ lift.



Fig. 1.9 V-loc lifting threads

After experiencing various imported products, the author has come to use V-Loc, which is an I-shaped suturing thread with multiple cogs (Fig. 1.9).

V-Loc thread lifting is a lifting method using polytrimethylene carbonate (Maxon) material rather than PDO, the most commonly used material of absorbable threads, with the advantages of being not slippery like PDO, but softer and more resilient due to its material properties, facilitating me process of tying. It is also manageable and a cunician can feel more comfortable with pulling t' e hreads. The number of cogs per unit length is of ne cog is not as sharp as the tip of the initial cogged decads, but rather made in the shape of the $c_{0,p-1}$ threads of the press type nowadays. As it is known that the dual-angle cogs allow the area of contact with the tissue to be widened and the threads to 12 more effectively fixed, it is suggested that th ... is no necessity to fix the thread on the side of the up poral head but rather fixing on the front of the hairline. The author has come to choose the method due to the advantages of no need for fixing the threads on the temporal region like U- or V-shaped long cogged threads (Fig. 1.10).

However, since there is a hook on one side and a needle on the other side due to its usage for suturing, when not using the hook part, there was an inconvenience of removing the hook part and then bundling the threads together to pull the tissue and fix it. Using a method of inserting a thread into the skin and soft tissues in a V-shape,

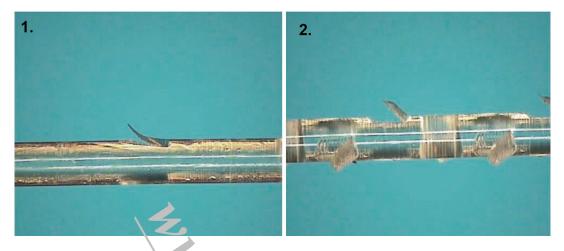


Fig. 1.10 (1) Single-angle $\cos(3, (2)\vec{v})$ al-angle $\cos(3)$

pulling them together, and then tying them together, was used to lift tissue around the check and mouth, to improve the jowl of the nomen, and sharpen the jawline. Not only in elderly performs but also those who have relatively thin skill and want slimmer and taut faces, it was better to use the front of the hairline to pull the tissues rather than fixing threads in the temporal region which can cause headaches in patients.

In addition, due to the properties of the thread materials, the threads under the skin were not expected to only play the role of skin lifting but also to play the same role as reinforcing steel into the cement as if constructing the building. In addition, the procedure also has shown some effects of stimulating the skin and dermis broadly to promote the collagen production of the dermis, resulting in improved skin tone and elasticity after the thread lifting procedure, making the face more lifted and resilient. However, as the quality of the cogged threads that are integrated into the cannula produced in Korea has been improved, the demand for the thread lifting method of bundling the threads has gradually decreased.

There were some attempts of lifting tissues with other methods other than simple cogs. To make the fixation firmer and to extend the maintenance period, various products of nonabsorbable threads such as Tess, Ribbon, or Raise me up, which were fixed with a mesh in addition to

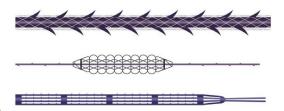
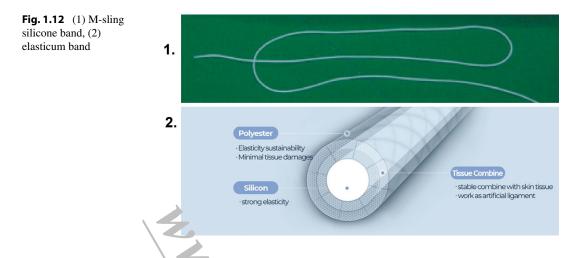


Fig. 1.11 Various types of lifting threads that combine cog and mesh

 c_{55} on the deep temporal fascia were developed (Fi 1, 1).

Appel agated cylinder-shaped mesh surrounding the difference of the strong adhesion created through the mean even after the tensile strength of the cogs is elimined. However, these products were not widely us a despite their efficacy, because of the burden of in caston in the temporal region.

Also, another method of threading, bundling, and fixing the tissues with a silicone band, which was made as a rubber band rather than the general thread that easily breaks and once, the band gets loosened, the inserted area is incised and cut and lifting the drooped part again is possible. The lifting using a silicone band called M-sling has been developed by a domestic clinician and is still being used by some clinicians. It has been widely used as a material for vaginal molding and tightening in obstetrics and gynecology especially because of its elasticity. In recent years, Elastic



thread lifting using Elasticum, a nonabsorbable suture thread that is wrapped in a form of sheath by polyester weaving in the middle of a silicone monofilament, called Elasticum lifting, has been introduced and used in some clinics. It can be said that it is a lifting method using an elastic and with elasticity like M-sling (Fig. 1.12).

These methods commonly require a main incision to insert the materials due to difficuries in implanting with completely no incision, which is different from the basic method that we commonly use with nonincisional thread lifting. Of course, in thread lifting, a stab incision can be used to the thread to be fixed, but basically it is distinguished from normal nonincision thread lifting in that it requires a certain size of incision to manipulate the material. In addition, at first, the elasticity of the silicone band is good, so the

pulling effect is strong, but since it is made of nonabsorbable material, some people may feel uncomfortable. In addition, if the elastic band fixing the tissue is tied too tightly, the tissue can be torn due to pulling force, and the possibility of inflammation or foreign body reaction over time is also higher than when using the suture-type cogged thread.

The histories of trends in lifting threads in norea since its first introduction have been discussed above. Nowadays, since various kinds of l' ting threads are manufactured and imported, in accad of a certain type of thread being recomme acco suitable for lifting, it is preferable to select the according to the overall condition of the patient, the operation site, and status of patient's skin an aussure.

