

## **Bio-restructuring medicines, new substances for the treatment of facial wrinkles: polylactic acid and tricalcium phosphate.**

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The treatment of facial wrinkles, depressions and in general the aging, is a very felt problem in the modern age and very susceptible of many treatments.

Bio-restructuring medicines are very useful for the production of volumes and reconstruction of the subcutaneous.

All skinny patients, who want to gain some weight and look fuller, are perfect for this kind of treatment, especially for face. Even all the male patients who see empty cheekbones...

The substances, I want to talk about today, are different from any types of fillers on the market, both for the results they give and for the protocol and the implant's technique.

In particular I want to talk about the polylactic and the tricalcic acid.

### **What is polylactic acid?**

It is the polymer of the lactic acid, it is produced by chemical synthesis and it is totally biodegradable and biocompatible if injected in human tissues.

This means that the active principle is completely reabsorbed in 6-8 months. Beside, it is immunological inactive and it well responds to those safety criterions that we always look for when injecting any substances in the face.

It has not risk of allergic reactions (as it results from a wide literature at world level). With the polylactic acid, it is possible to reduce the depth of wrinkles and increase the subcutaneous volumes.

It was born during some researches of the French CNR in the end of the '90 and nowadays it has a decade experience and very good results. Beside, since 2004, when the Aventis distributes the acid, it needs a formation course dedicated to doctors who want to know more about this field.

Now, the collateral effects are almost zero. So, it is absolutely important that the doctor, who uses this implant, has followed some courses that take place around Italy.

### **How does it work?**

The main characteristic of the polylactic acid is the one to determine an increase of the skin for the formation of new collagen. In other words the micro-particles of polylactic acid are recovered by a mousse of collagen made by the patient that thick the skin and increase the subcutaneous tissue. This is the reason why even the skin improves in its filling and turgidity.

So, when the polylactic acid is reabsorbed (about 6 months) the collagen remains for quite some time (2 or 3 years).

The immediate effect is the filling due to the quantity of liquid injected with whom the active principle has been diluted: it is fundamental to understand and be aware about the temporariness of this result in order to avoid any unsatisfactions. The true result shows up later after 3-4 sessions (about 2-3 months) and it will reach the maximum clinical evidence even after a long period of time from the first session. This time is necessary in order for the polylactic acid to develop its action of production of new collagen.

### **What is Tricalcium Phosphate?**

The Tricalcium Phosphate (beta TCP) is a synthetic ceramic used, for many years now, for treatments and in particular on bones. It is well known by dentists who use it to create under-gingival volumes.

Few years ago, it appeared on the market and it has the same mechanism of action of the polylactic acid, but it has not to be prepared before the use because it is already in a syringe, diluted with an uncrossed-linked hyaluronic acid.

In this way the filling effect is immediate.

### **What zones can be treated?**

In particular cheekbones respond very well to the treatment, in all those cases in which some vertical wrinkles start to appear, first when you laugh and then when you rest.

However, in all the cases where there is a loss of thickness of the subcutaneous.

It is also useful for cheekbones and nasogenian wrinkles.

It is suitable to fill the wrinkles of neck, to fill the reabsorption of collagen due to the aging. It is important to understand that we are not treating only one wrinkle, but the entire district.

The polylactic acid is usually injected under the skin, while the tricalcium phosphate is injected in a more superficial layer of it.

Beside, the tricalcium phosphate has a great indication for deep lines and furrows as nasogenians, in spite of deep filler.

Instead, different zones of the body, as neck, hands or arm revitalization or polylactic acid for legs, which can be diluted in many different concentrations, finds a great use which is absent for the tricalcium phosphate.

### **Can they be used in the mouth area?**

No, it is better not to use them in mimic area.

### **Are some necessary precautions after the implant?**

2-3 days after the treatment, it will be necessary to avoid the exposure to very low or high temperature. Right after the implant, the massage is important, better if the doctor, especially for polylactic acid, does it.

In fact, the micro-particles of polylactic acid must be distributed with absolute uniformity in the treated district: this will give a natural and uniform result.

If instead, in some spot there is a heap of polylactic acid, this will form a heap of collagen. In conclusion, it is absolutely evident that the massage is really important to uniformly distribute the active principle.

### **How long do they last?**

It is important to understand the beginning of the correction does not happen immediately as for normal fillers, but it shows up gradually in the following months.

The duration of the correction is variable based on the frequency with whom the zone of the implant is stimulated; the result is visible from 6-8 to 12-14 months after the first implant, but it is different from patient to patient.

### **What kind of problem can I have?**

In literature there are rare inflammatory and infective reactions. If the implant technique is not precise, and if we leave some heaps of product, the long lasting appearance of subcutaneous nodules is possible, as with other fillers.

The formation of subcutaneous nodules was more frequent in the first years of the experience, because the poly lactic acid was less diluted and especially less massaged. It was used as normal filler.

Today the poly lactic acid is more diluted and especially everyone understood the importance of massaging and then the formation of nodules became extremely rare.

However, it is more important to choose a very expert operator who can give results that any other fillers could, with a very accurate and rigorous technique.

The tricalcic phosphate is easier to inject, as we already said, ready to be used and easy to inject. I want to underline the importance not to inject very abundant globi.

