Correction of atrophic stretch marks on the body with restorative collagen complex Salvecoll®

Abstract
The article describes a clinical case of correction of stretch marks (striae) in the abdomen with collagen complex «SALVECOLL» 15%.

Key words: collagen, hyaluronic acid, striae, stretch marks, SALVECOLL

Striae often cause patients discomfort - especially for women. They do not allow you to feel comfortable and enjoy open clothes. Although the correction of striae cannot be called a vital manipulation, psychologically it is very important. Therefore, it is possible that readers will be interested to learn about the clinical experience of using the collagen complex Salvecoll to solve this aesthetic problem.

Patient A., 28 years, applied to us. She complained about the presence of stretch marks in the abdominal region, which appeared during pregnancy due to a change in body weight. Objectively: on the skin of the abdomen, mainly in the flank regions, there are multiple atrophic scars (striae) with a length of 1.5 to 4.5 cm (Fig. 1).

The doctor determined the following correction goals: decrease in the depth of the scar tissue, increase the skin tone and compression of the skin flap. Salvecoll 15% preparation was selected, the volume of the syringe is 1.5 ml.

Principle of the Method
The thread like structure of collagen macromolecules serves as the basis for directional cell migration. At the same time, the natural structure of the collagen of the biomaterial Salvecoll allows the fibroblasts to migrate in a directional way and for a greater distance than usual. Gradually, the implant is replaced by an autogenous tissue, which in its histological structure is similar to surrounding tissues.

Advantages of the preparation are:
1. It is a matrix for directed tissue regeneration (DTR).
2. It has a high biocompatibility.
3. Completely biodegradable.
4. Activates the synthesis of its own collagen.
5. Non-toxic.
6. Does not migrate.
7. Does not cause the formation of a fibrous capsule.
Indications for the use of the SALVECOLL preparation are:

1. Scars on the skin of the face and body (atrophic, post-traumatic, post-surgical, post-acne, striae).
2. Age changes in the skin (dermal cords, elastosis).
3. Hypotonia of the skin in various areas of the face, neck, decollete and body (age-related, appeared after pregnancy, lactation, sudden body mass jumps, unbalanced diet).
4. Excess of skin graft.
5. Restoration of facial and body skin after laser resurfacing, chemical peelings, insolation, plastic surgery, as well as preparation for them.

The course of work with striae consists of 3-10 procedures, 1 time per 3-4 weeks. The procedure itself takes no more than 15-60 minutes (depending on the need for topical anesthesia).

**Procedure Stages**

1. **Preparation**
   1-2 weeks before the main procedure it is recommended to take a test sample - 0.1 ml of the gel is injected intracutaneously into the region of forearm. Before the beginning of the course of treatment, the doctor evaluates the test-sample – it is considered positive in the following cases:
   - Preservation and growth of edema and bright erythema during 3 days or more;
   - General reactions – increase in body temperature above 37.5 °C, diffuse hyperemia, polymorphic eruptions in other parts of the body.

   When the above-mentioned reactions appear, the test-sample is considered positive, and in this case Salvecoll cannot be used.

2. **Performing the Correction**
   - **Cleansing** - 5-7 min
     Localization, type, size of stretch marks are determined. The correction region is treated with 0.05% aqueous solution of chlorhexidine bigluconate.
   - **Anesthesia (if the patient wishes to minimize the pain)** - 20-30 min
     An anesthetic cream “Emla” 5% is used – it is applied to the cleansed skin with a uniform layer for occlusion for 20-30 min. The composition is then removed, and the skin of the priority area of correction is treated twice with an antiseptic solution.
   - **Syringe preparation** - 10-15 min together with the stage of an anesthesia
     Before use, the syringe with Salvecoll gel is heated up to temperature of 36-40 °C in a thermostat or in a water bath. During the process of gel injection to the same patient, it is allowed to repeatedly heat the opened syringe with the gel. The preparation lot number is added to informed consent and the Patient’s Card. A needle is put on the syringe, its’ patency should be checked.
   - **Gel Injection** - 10-20 min
     A needle 27Gx13 mm is screwed onto the thread of the syringe until it stops, the patency of the needle is checked by squeezing out a drop of gel. Salvecoll is administered intracutaneous with the help of linear retrograde technique (and its variants - fan, "grating") (Fig. 2-4).
Linear injection technique: the needles used are 27Gx 13 mm, the angle of inclination of the needle and injection is 30°. The needle is inserted over its entire length and during tries to lift it - it contours through the skin. The volume of the gel administered in one pass is 0.01-0.02 ml.

It is possible to use fan technique in areas with closely spaced striae. The separate lines of the fan are located quite close to each other (at a distance of 2-3 mm). Both scar tissue and healthy adjacent areas of the skin are treated.

It is recommended to strengthen this technique with additional severe destruction along the scar tissue - for this purpose, larger caliber needles (22 or 25G) are used, since the empty needle destroys the bottom of the striae without concomitant administration of the preparation. Separating the scar tissue from the surrounding healthy skin not only facilitates the subsequent administration of the preparation, but also leads to the stimulation of reparative processes that are finished with a physiological remodulation of the dermis.

Next, the preparation itself is injected slowly, evenly applying pressure to the piston. Hypercorrection is necessary, since Salvecol, unlike hyaluronic injectors, does not have such rheological properties as viscosity, elasticity and cohesiveness, and also does not undergo reticulation (Fig. 5).

3. Postprocedural Stage
- **Final care - 5 min**
  After injections, the skin is treated with an antiseptic solution. On the injection area, appeasing, epithelizing and anti-inflammatory solution (Panthenol Cream) or Traumeel Cream is applied. With a pronounced hyperemia, short-term local cooling of the area of injection with ice is required.
  Usually all signs of physiological inflammation of the tissues (which is the norm) are resolved on their own within the first two days, the ecchymosis disappear within 5-7 days.

  **Home care**
  Within 7 days after the procedure, it is advisable to avoid excess insolation.
  The apparent effect of the procedure is noticeable by the 4th session (Fig. 6) and tends to increase with time.