

The Use of Triancinolone for the Treatment of Keloid Scars

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Abstract

Scars, when in good evolution, result in a smooth, thin and discreet tissue. Keloid scars, however, are a type of abnormal and exacerbated repair response to tissue injury, whether in surgical interventions or in various injuries, which present in a prominent and gross way. In this context, there is an excess of collagen deposition in the tissue repair process, which can lead to the formation of keloids. The diagnosis of the condition presented is made by the medical professional or by the patient himself after the surgical intervention or skin injury. Under this analysis, protruding, rough and bad-looking scars are identified. In addition, we highlight the existence of keloids similar to large tumors, described as Jorge Lobo disease. The treatment encompasses massages, compressions, corticosteroids, chemotherapy, collagenase and cryotherapy. At first, we used corticosteroid-based massages, and then we started using compressive dressings until we started intrakeloid infiltrations with injectable triamcinolone. Triamcinolone 10 mg injectable—1/10—in 0.9% saline, with syringe and fixed needle 0.3 mm × 8 mm, intralesional infiltrate, in this context, proved to be effective for its treatment when applied sequentially and linearly. In cases where the medication was applied, there was an improvement after 21 days of application and a definitive improvement 2 months after the injury. In comparison, on the other hand, patients who were not subjected to the application of the medication may improve after 4 months of the injury or worsen compared to the initial case. We have come to the conclusion that this procedure may be one of the chosen ones for the treatment of keloid scars, being one of the most recommended for cases of keloid already installed.

Keywords

Keloid, Scar, Hypertrophy, Collagen, Affection

1. Introduction

Keloids arise from an exacerbated response to dermal injury, which results in fibroblast proliferation, too much collagen deposition, and impairment of adjacent healthy skin. The diagnosis is clinical and there are many conservative and surgical methods that are used for treatment [1].

What characterizes keloid is the abnormal growth of normal tissue in the scar, forming the keloid. It is a benign alteration, therefore without risk to health, in which there is a loss of the control mechanisms that regulate the balance of tissue repair and recovery.

Due to the complexity of classifying fibroproliferative scars based solely on their morphological appearance, Muir [2] proposed a classification based on the prognosis of these lesions. This classification encompasses three categories: 1) hypertrophic scar (Short-Term Evolution, STE), which clinically corresponds to hypertrophic scar, characterized by being flatter and presenting a more favorable prognosis; 2) keloid scar (Long-Term Evolution, LTE), which corresponds to keloid, being nodular and associated with a more unfavorable prognosis; and 3) mixed scar (Intermediate Group, IG), represented by keloid located in the deltoid and scapular regions, which, despite being flat, is also associated with a more unfavorable prognosis.

How keloid starts: It can be caused by a number of factors, including burns, surgical cuts, ear piercings, tattoos, after vaccinations, and traumatic wounds. Correctly healed wounds hardly become keloids.

The keloid can be improved with cryotherapy, which will reduce the size of the scars. Laser and compression by means of silicone tapes or lead foil have also already been used. The keloid can start from one month after the trauma, but occasionally can appear after 1 year of the scar.

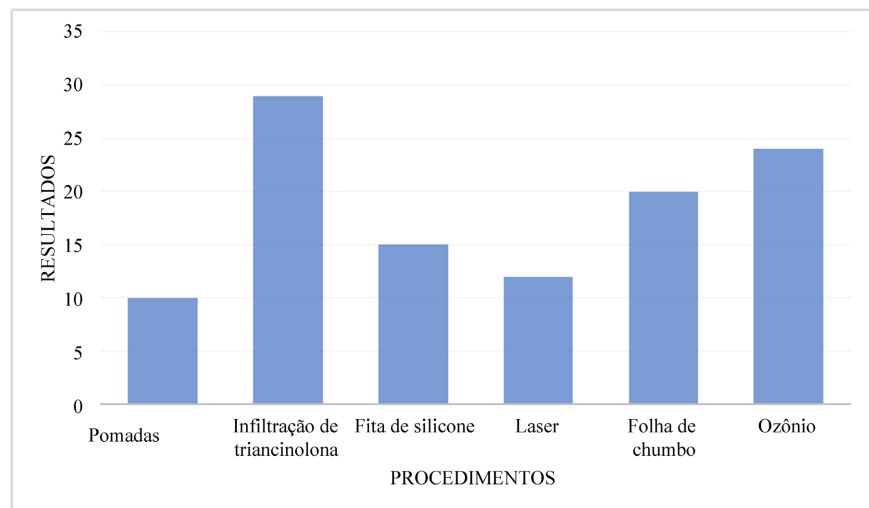
Surgery for keloid removal is performed in the operating room: keloid excision in a certain region. Many professionals also use radiotherapy for the treatment of keloids. The ICD-10 of the disease is L-910.

The difference between keloid and normal healing is the growth, the color of the scar, its height or, popularly, its thickening (pinkish color) [3].

The reason why a scar turns into a keloid involves several factors already mentioned in this manuscript. The scar is hard inside, due to the increase in fibers or extra tissues at the cut site. The deeper the cut, the more the tendency to keloid may be. They can also occur in scars with irregular or very tight spots.

In the case of this manuscript, we used the intralesional infiltrate of triamcinolone diluted 1/10 in 0.9% saline, using insulin needles. The application frequency was once a month for a maximum of three months. As an adjunct to this approach, massage based on triamcinolone ointment was used. The method proved to be valid in comparison to non-infiltrated areas. We can consider the reason for the treatment as focusing on the aesthetic aspect, with the improvement of the appearance of the individual's skin [4]. As there is no reliably effective treatment for keloids, we consider the individual and family history to choose treatment and prevention

(Graph 1).

**Graph 1.** Comparative results of treatments for reducing keloid scars.

2. Material and Method

Triamcinolone has been employed for the treatment of keloid scars since 1966 (Ferguson, 1992; Griffit). Triamcinolone acetonide is an organic, synthetic corticosteroid compound used in dermatitis, canker sores and keloids. Its formula is C₂₄H₃₁F₀₆. It is anti-inflammatory, antipruritic and anti-allergic. The application of triancil, terracortril or other trade name on the keloid requires a suspension that does not exceed 5 mg/ml, varying with each patient. In a new experiment, applications were made every 21 days, no less, once a month, for 3 months, after waiting 5 months only with compress and massages until we see the result. This is a subcutaneous application, preferably intralesional infiltrate, so that results appear only in the desired zones. When we apply it to the subcutaneous tissue, we sometimes observe the destruction of the fat site with small sinks. Improvements are observed in the first few days (Figure 1 and Figure 2). The dilution may vary dm 1:4 or 1:10, and dilutions 1:1 and 1:2—are not recommended to avoid unpleasant surprises, respecting the organic response of each patient. The sequence: clean the scar site thoroughly, prepare the diluted substance, use an insulin syringe and needle, and inject it into the keloid until the scar appears clearer. After that, apply corticosteroid-based ointment and cover for the first two days. Triamcinolone should be avoided on healthy skin. After 3 months, review the scar and only perform a new infiltration where there is no favorable response [4]-[6].

Case 1—Patient with abdominal scar, post abdominal dermolipectomy and scar following the line of the previous cesarean section (Figure 1).

Case 2—Patient with keloid scar after mastoplasty intralesional infiltrate for comparison (Figure 2).

In some cases, patients complained of pain during infiltration, which made us put 1% liquid xylocaine serum together.



Figure 1. Patient with abdominal scar and triamcinolone infiltration every 1 centimeter.



Figure 2. Patient with keloid scar after mastoplasty and 5 in 5 cm triamcinolone infiltration.

Case 3—The difference between a scar classified only as hypertrophic is the flatter aspect of it, wider and without elevation [7]-[10]. The keloid is already hardened scar, with itching and without aesthetic presentation (**Figure 3** and **Figure 4**).



Figure 3. Hardened keloid on the chest awaiting infiltration.



Figure 4. Keloid without aesthetic presentation on the right earlobe—without treatment.

3. Discussion

After many years of observation, we chose this method as the one that presented the best visible results when compared to other procedures, such as the use of compression, massages with corticosteroid-based ointments, cryotherapy, laser and others. Infiltration brought better results than lead compress, used in keloids from “Jorge Lobo Disease” [11], considered the most severe. Massages are good, but they require a longer time. Radiation therapy caused some patients to develop dark spots in the most affected parts. Compress with silicone tape could be a choice, but there is no speed in the results. What we could guide to need in the future of the use of injectable triamcinolone would be the treatment, after 21 days after the injury, the placement of Drenison tape 4 mcg/cm² (trade name), with Fludroxicortide (active ingredient), a species of adhesive tape that already contains the corticosteroid [12]-[14].

4. Conclusions

Triamcinolone infiltration was positive with excellent results. This publication aims to assist in solving cases quickly, affordably and with better aesthetics. On the other hand, it is important to highlight that there was the purpose of comparing the treated area with the untreated area, which may lead some professionals to choose this treatment method.

The combination of treatments may be visible in younger patients, in whom the keloid appears harder, itchy and unsightly. In addition, we may observe the lightening of the scar after treatment.

Declaration

Work was carried out in partnership with Alfredo Nasser University (UNIFAN) and Brasil Clinic (Goiânia-GO).

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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