Treatment of Pathological Hypertrophic Scars with Antihomotoxic Therapy

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Abstract

From January 1994 to January 1998, a total of 51 patients with hypertrophic and keloidal scars were treated with antihomotoxic remedies. Prior treatment according to current standard methods (pressure bandaging, corticosteroids, radiation therapy, intralesional excision, etc.) had been unsuccessful and had even worsened the scarring in some patients.

For a period of six months, the antihomotoxic preparations were administered systemically and applied topically to the scars. All scars were evaluated before and after treatment on the basis of both subjective parameters (pain and itching) and objective parameters (hardness, thickness, color, and surface area).

This article describes results in 25 patients (with a total of 38 pathological hypertrophic scars) whose treatment had been concluded at least six months prior to the time of writing. All scars ceased growing, and in most cases pain and itching disappeared and the size and thickness of the scars was reduced. No adverse effects were observed either during treatment or at the follow-up examination.

Resumen

Desde enero 1994 hasta enero 1998 un total de 51 pacientes con cicatrices hipertróficos y queloídicos fueron tratados con preparaciones antihomotóxicas. Los tratamientos precedentes según los métodos corrientes (vendajes de presión, corticoesteroides, excisión interlesional) fueron fracasados y en unos pacientes empeoraron los cicatrices.

Durante seis meses, se administraban sistemáticamente las preparaciones antihomotóxicas localmente a los cicatrices. Se evaluaban todos los cicatrices antes y después del tratamiento a base de parámetros subjetivos (dolor y comezón) y objetivos (dureza, grueso, color, y superficie).

Este artículo describe los resultados en 25 pacientes (con un total de 38 cicatrices hipertróficos patológicos) de quienes el tratamiento fue terminado por lo menos seis meses antes de la publicación del artículo. Todos los cicatrices se terminaron de crecer y en la mayoridad de los casos el dolor y el comezón desaparecieron y el tamaño y el grueso de los cicatrices fueron disminuidos. No se observaron efectos secundarios durante el tratamiento o en el examen consecutivo.

Introduction

In the complex process of scar formation, many different biochemical and cellular mechanisms interact to repair damaged tissue. Tissue repair takes place in three phases—inflammation, proliferation, and maturation—which correspond clinically to wound cleansing, wound closure, and scar formation.[1] In humans, soft tissue repair must always be considered repair rather than regeneration, since damaged tissue is not restored to its original condition but is replaced by less differentiated scar tissue.[2]

When a quantitative or qualitative error occurs in the repair process, a hypertrophic scar results from excessive reaction of the connective tissue. Although we distinguish between simple and keloidal hypertrophic scars, numerous transition forms exist, and the two types are not always easy to distinguish clinically. Histologically, however, keloids are well delineated by the typical double refraction of their collagen or by the shape of their cells.

Simple hypertrophic scars are raised, reddish, and hard rather than elastic. They cause itching or pain, do not invade the surrounding normal tissue, and tend to shrink spontaneously although sometimes very slowly.

From the clinical perspective, the characteristics of keloidal scars are similar to those of ordinary hypertrophic scars but are usually more pronounced. Keloids may be due to microtraumas. Rather than shrinking with time, they tend to expand, encroaching on the surrounding normal tissue. They also tend to recur and become worse after surgical excision.[1-4]

Many allopathic methods, alone or in combination, have been suggested for treating keloidal scars: compression, pressure therapy, interferon, retinoids, silicone gel, steroids (either administered topically or injected into the wound), cryotherapy.

Lymphomyosot®	12 drops in the morning
Galium-Heel	12 drops in the afternoon
Graphites-Homaccord®	12 drops in the evening
taken orally for 6 months	
1 ampule Graphites-Injeel® forte + 1 ampule Staphysagria-Injeel® forte injected directly into the scar, once a week for 2 months (months 1 and 2)	
1 ampule Interferon-Injeel® (30X) injected directly into the scar, once a week for 4 months (months 3-6)	

Table 1: Six-month antihomotoxic treatment protocol for keloidal scars.

radiation therapy, laser therapy, surgical excision, and so on. At present, however, there is no therapy that both prevents recurrences and is free of side effects.[5-8]

Because of the success of homeopathy in treating various illnesses[9,10] we found it advisable to assess the effects of homeopathic remedies on pathological hypertrophic scarring. We conducted our investigation by recording both subjective and objective parameters in a group of selected patients.[13]

Methods

During the period from January 1994 to January 1998, 51 patients with keloidal scars were observed at the Institute for Plastic Surgery, Università La Sapienza, Rome. Some of the patients had undergone prior treatment (pressure therapy, corticosteroids, radiation therapy, excision of the wound) without noting any improvement, and in some cases the scarring had worsened.

The patients were treated with antihomotoxic preparations in our clinic for a period of six months. Table 1 gives the treatment protocol.

Each patient was accepted into the study according to inclusion criteria that have been described elsewhere.[12,13] General and local examinations were performed on each patient. Local examinations of the scars took into account both subjective parameters (pain and itching) and objective parameters (size/area of the scar, tonometry, ultrasound, colorimetry, photography) and were performed both prior to and upon conclusion of the antihomotoxic therapy.[11,12] Of the 51 patients, 25 completed the six months of therapy some time ago, seven have completed it only recently, and ten others are still under treatment. Data on nine patients could not be used because of inadequate compliance.

Clinical Evaluation

Our goal was to objectively assess the efficacy of antihomotoxic treatment with the help of various measuring devices and by using careful clinical and photographic examinations to evaluate the morphological characteristics of the scars. Morphological and functional characteristics of the scars were recorded prior to and upon completion of therapy. The subjective parameters (pain and itching) and objective parameters (size, consistency, thickness, color, and photographic documentation) were analyzed and quantified either by direct measurement or on a visual analogy scale. All of the characteristics studied were assessed on the basis of how much they changed between the measurements before and after therapy.[13]

Subjective Parameters

The pain caused by the scar was assessed with the help of the Scott-Hussksun linear pain scale, on which 0 stands for the absence of pain and 10 for the most severe pain the patient can tolerate. Severity of itching was assessed on a four-point scale: 1) mild prickling sensation, 2) constant itching, 3) itching and slight injury due to scratching (reddened stripes), 4) itching with more severe injury due to scratching (excoriation, ulceration).

Objective Parameters

The area occupied by the scar was measured by tracing its outline on a piece of clear polyethylene film and calculating the area of the resulting geometric shape. In this way we were able to assess change in size during treatment.

The hardness of the scar was assessed by means of tonometry. We used a modified Schiötz tonometer with a conversion table that made it possible to measure the distortion of the skin's surface (which is due to a certain amount of pressure) in mmHg. The numerical value (in mmHg) was then compared to the hardness of normal skin near the scar and expressed as a percentage of the maximum measurable hardness in this area: hardness index = (value for scar - value for normal skin) ÷ 59.1, as %. Finally, the percentage of change between the value before and after treatment was calculated.

The thickness of the scar was measured in millimeters, as an absolute value, using a skin ultrasound device with a 10 MHZ probe.

The color of the scar was recorded using a reflex colorimeter. The color was recorded and numerically quantified by calculating the difference in color between the scar and the base color (healthy skin). The color of the scar was then broken down into three different but complementary values: intensity, reddening or erythema, and pigmentation. Each of the values obtained was compared to the value for healthy skin near the scar and then expressed as a percentage of deviation from the reference value: (value for scar - value for healthy skin) ÷ value for healthy skin x %.

A Nikon F301 camera with a 50-100 mm macro zoom lens and a ring-shaped flash attachment was used for photographic documentation of the scars.[14-21] All scars were photographed before and after treatment.

Results and Discussion

We will now present the results for 25 patients with a total of 38 scars. All of these patients concluded treatment at least six months ago. Four of these patients had reported previous surgical excision and a histological finding of "keloids." A typical case study will be described in detail.

The patients were a heterogeneous group with regard to age (7 to 57 years), gender (18 female, 7 male), race, number and location of scars, etiopathogenetic background, time elapsed since the appearance of the scars, and familial predisposition. Twenty-one patients (with 32 scars) were Caucasian, 3 were Asian (with 4 scars), and 1 was Black (2 scars). The locations of the scars were as follows: 13 on the chest, 13 on the limbs, 5 on the back, 7 on the face (including 5 on the earlobes). Twenty-two scars were iatrogenic and postoperative in origin (including 2 related to burns); 6 were caused by factors unknown to the patients. One patient reported the age of the scar as more than 20 years, 12 as 5 to 15 years, and 12 as 1 to 5 years.

The majority of patients had already undergone medical treatment (cortisone therapy, pressure therapy, radiation therapy, cryotherapy) and/or surgery (e.g. excision) for scarring with no sign of improvement; in fact, the scarring had worsened in some cases. Among the patients who had undergone surgical excision, histological investigations reported finding "keloidal scars."

Grade:	Substantial Improvement	Clear Improvement	Slight Improvement	No Change	Worse	N
Pain	10 (30.3%)	5 (15.1%)	6 (18.2%)	12 (36.4%)	0	33
Itching	8 (21.0%)	8 (21.0%)	10 (26.3%)	10 (26.3%)	2 (5.2%)	38
Thickness	5 (23.8%)	13 (61.9%)	3 (14.3%)			21
Tone	4 (12.5%)	16 (50.0%)	9 (28.1%)	1 (3.1%)	2 (6.2%)	32
Reddening	10 (31.2%)	7 (21.9%)	8 (25.0%)	1 (3.1%)	6 (18.8%)	32
Pigmentation			18 (56.2%)	1 (3.1%)	13 (40.6%)	32
Intensity			11 (34.4%)	2 (6.2%)	19 (59.4%)	32
Total	37 (16.8%)	49 (22.3%)	65 (29.5%)	27 (12.3%)	42 (19.1%)	220 (100%)

Table 2: Grading the results of therapy in 38 cases of scarring. After 6 months of treating hypertrophic scars with homeopathic antihomotoxic remedies, the parameters studied improved in 68.6 % of cases (16.8% significantly, 22.3% clearly and 29.5% slightly). In 12.3% of the scars, no improvement was noted and 19.1% grew worse.

The objective and subjective parameters recorded before and after the six month period of antihomotoxic treatment demonstrate that therapy resulted in objective improvement in the scars. All scars showed improvement with regard to at least three if not all recorded parameters (Table 2).

Pain levels were recorded for all 38 scars. In 10 cases, pain disappeared totally after treatment, with pain being reduced to zero from the following levels: level 8, one case; level 4, 2 cases; level 3, one case; level 2, 3 cases; level 1, 1 case. Pain was significantly reduced in 5 cases (in one case from level 6 to 1; in 2 cases from level 8 to 3, in 2 cases from level 5 to 1) and slightly reduced in 6 cases (in one case from level 5 to 4; in 5 cases from level 2 to 1). Pain remained unchanged in 12 cases and had been absent even prior to treatment in 5 cases.

Levels of itching were also recorded for all 38 scars. Itching disappeared in 8 cases, being reduced to zero from the following levels: level 3, 4 cases; level 2, 2 cases; level 1, 2 cases. Itching was significantly reduced (from level 3 to 1) in 8 cases, slightly reduced (from level 2 to 1) in 10 cases, remained unchanged in 10 cases, had been absent even prior to treatment in 6 cases, and increased (from level 0 to 1) in 2 cases.

The surface areas of 27 scars were recorded. After six months of treatment, scar area decreased in 15 cases (by 19-65% in 5 patients, by 4-12% in 10 patients) and remained unchanged in 12 cases.

The thickness of 21 scars was recorded. Scar thickness decreased very significantly (41-65%) in 5 injuries, significantly (18-33%) in 13 cases, and only slightly (2-13%) in 3 cases.

Tonometric measurements of hardness were recorded for 32 scars. These decreased very significantly (62-79%) in 4 cases, significantly (25-48%) in 16 cases, slightly (9-20%) in 9 cases, remained unchanged in one case, and increased slightly (1-16%) in 2 cases.

Colorimetry was used to assess 32 scars. Reddening was very significantly reduced (95%) in 10 scars, clearly reduced (12%) in 7, slightly reduced (9%) in 8, remained the same in 1 scar, and increased (by 25%) in 6 cases. Pigmentation was reduced (by 14%) in 18 scars, increased (by 14%) in 13 scars, and remained the same in 1 scar. Intensity was reduced (by 7%) in 11 scars, increased (by 8%) in 29 scars, and remained the same in 2 cases.

Thus the most significant improvements occurred with regard to thickness, hardness, surface area, and reddening. These data coincided with our clinical observations. The data on intensity and pigmentation, however, showed mixed positive and negative changes and are therefore inconclusive.

Case Study

Patient L.C., a 20-year-old Caucasian female with a positive family history of neoplasia (mother's sister has basal-cell carcinoma), presented with a hypertrophic scar on the sternum. According to the patient, the hypertrophic scar appeared when she was about 13 years old as a consequence of a comedo on the sternum. The scar was surgically removed in June 1994 and definitively histologically diagnosed as a "keloidal knot". The keloidal scar reappeared approximately one month after the surgical intervention, at which time the patient came to our Institute.

On the subjective level, pain was absent prior to treatment, but the patient was suffering from level 3 itching with slight injury due to scratching. Objective assessment yielded the following data on the keloid: It was roughly oval in shape with a knot-like appearance. In comparison to the surrounding healthy skin, it was covered with a dystrophic dermis and was reddish in color. It was hard and fibrous to the touch, with a surface area of 3.06 cm^2. Ultrasound examination established its maximum thickness as 3.4 mm. Tonometry revealed an increase in hardness of 55.2% in comparison to normal skin; colorimetry revealed increased intensity and reddening (5% and 78% respectively) and reduced pigmentation (-24%).

Upon conclusion of therapy with homeopathic antihomotoxic medications, the keloidal injury was again assessed both clinically and with measuring devices. The results were generally satisfactory: Subjectively, pain was absent, as before, while the itching had subsided, leaving only a slight prickling sensation in the scar. Upon visual inspection, the scar seemed to have improved in comparison to normal skin. Its surface area remained unchanged at 3.06 cm^2. Ultrasound examination showed only a minimal decrease in the scar's maximum thickness (from 3.4 mm to 3.3 mm). Tonometry revealed a significant decrease in hardness (from 55.2% to 4.9%). Colorimetry revealed a decrease in intensity (from 5% to 0.3%), a clear decrease in reddening (from 78% to 1.3%) and an increase in pigmentation (from -24% to -17%).

Conclusions and Comments

The pathological hypertrophic scars we studied improved greatly under antihomotoxic treatment. Invasive growth was stopped, and the majority of cases saw reductions in surface area and thickness, decreases in hardness and reddening, and the disappearance of pain and itching. Upon conclusion of treatment, all patients reported symptomatic and clinical improvement in their scars. During the entire treatment period and the six-month period of post-treatment observation, no cases of allergy to or intolerance of the antihomotoxic preparations were reported.

According to homotoxic theory, the clinical improvement in the scars we studied could be the expression of a regressive vicariation from the deposition phase to the inflammation phase. Pathological scar tissue, the result of chronic overproduction of connective tissue, attempts to reorganize and stabilize itself through a step-by-step process of retrogressive metamorphosis to the maturation phase of scar formation (regressive vicariation). In the process, scar tissue passes through a number of transitional forms between keloidal hypertrophic scars (deposition phase), simple hypertrophic scars (inflammation stage), and normal scars (excretion phase).

The biological mechanism leading to the development of hypertrophic pathological scarring has not yet been clarified, and there is no effective allopathic therapy that is free of side effects while reliably preventing recurrences.[8] It therefore seems advisable to continue the investigations we have begun in order to assess the efficacy of our method of treatment more precisely.

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