



Original Research Article

Treatment of keloids with intralesional injection of bleomycin and triamcinolone acetonide

Vinay^{1,*}, Saurabh Sharma¹, Jasleen Kaur¹, Roopam Bassi²

¹Dept. of Dermatology, Sri Guru Ram Das Institute of Medical Sciences and Research, Amritsar, Punjab, India

²Dept. of Physiology, Sri Guru Ram Das Institute of Medical Sciences & Research, Amritsar, Punjab, India



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ABSTRACT

A keloid is a kind of overgrown scar due to aggressive healing response to a wound. Satisfactory management of keloid has always been a challenge. In this study we aimed to evaluate the efficacy of combination of intralesional bleomycin and triamcinolone acetonide in the treatment of keloids. Study on 20 clinically diagnosed lesions of keloids from 12 patients was conducted. Excellent response was seen in 70%, good response was seen in 10%, fair response was seen in 15%, poor response was seen in 5%. The main side effects observed were pain(100%), hyperpigmentation (50%), ulceration (15%), atrophy(5%).

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1. Introduction

A keloid, or keloidal scar, is a kind of overgrown scar, or an overly aggressive healing response to a wound. It rises above the skin level and extends beyond the original wound boundaries.¹ Keloid is characterised by proliferation of fibroblasts and excessive production of collagen in the lesion, with mechanisms not yet fully understood.² Areas most frequently affected are chest, shoulder and ear lobe. Keloid is usually itchy and painful.³ Satisfactory management of keloid has always been a challenge although many treatments are recommended, without agreement on the effectiveness of different choice. Intralesional corticosteroids are the mainstay of the treatment of keloids. Corticosteroids decrease the size of keloids by reducing the synthesis of collagen and glycosaminoglycans and reducing the activity of fibroblasts, thus suppressing the process of inflammation and mitosis.⁴ Bleomycin-induced apoptosis with sclerosing action on endothelial cells inhibited collagen synthesis by inhibiting the lysyl-oxidase enzyme and TGF- β , and it was used in keloid treatment for the first time by Bodokh and Brun in 1996.⁵ The effect of these drugs can be

synergistic when used in combination.

In this study we aimed to evaluate the efficacy of combination of intralesional bleomycin and triamcinolone acetonide in the treatment of keloids.

2. Aims and Objectives

To study the therapeutic efficacy of combination of intralesional bleomycin and triamcinolone acetonide in treatment of keloids.

3. Material and Methods

The treatment was carried out in 12 patients of age 18 – 70 years having 20 clinically diagnosed keloid lesions at different sites. Keloid duration varied from several months to years, not been treated before. The study was conducted in Department of Dermatology of Sri Guru Ram Das Institute of Medical Sciences & Research, Amritsar. It was ensured that all 20 lesions selected were keloids, none showed tendency to flatten spontaneously and all showed extension beyond the site of original injury.

* Corresponding author.

E-mail address: kajalvinay02@gmail.com (Vinay).

3.1. Requirements and Procedure

Intralesional Bleomycin was used in a concentration of 1.5 IU/ml. Dilution was prepared by mixing 15 IU of bleomycin in 10 ml of distilled water. 0.25 ml(=0.375 IU) of Bleomycin was injected intralesionally 1 cm apart followed by intralesional injection of 0.1 ml of triamcinolone acetonide (40 mg/ml) / cm. No local infiltration of anesthetics was done. Analgesics and antibiotics were given orally when required. The sittings were repeated after a gap of 4 weeks till the lesions resolved or a maximum of 10 sittings. Adverse effects at the time of injection and other complaints during the course of the treatment and during follow up were recorded. Patients were asked to come for monthly follow up, for a period of 6 months. The response to treatment in terms of flattening of lesions was categorised as: Excellent: 76-100% improvement, Good : 51-75% improvement, Fair: 26-50% improvement, Poor: <25% improvement.

4. Results

The results were evaluated primarily on the basis of type of response, side effects and recurrence. Pain at the injection site was present in all the patients.

Table 1 Shows that 14(70%) lesions showed excellent response, 2(10%) lesions showed good response, 3(15%) lesions showed fair response and 1(5%) lesion showed poor response. Regarding side effects, atrophy was seen in 1(5%) lesion, hyperpigmentation was seen in 10(50%) lesions, ulceration was seen in 3(15%) lesions (Table 2). Recurrence was seen in 1 lesion at 3 months of follow up (Table 3).

Table 1: Showing type of response

Type of response	Number	%
Excellent	14	70%
Good	2	10%
Fair	3	15%
Poor	1	5%

Table 2: Showing side effect

Side effect	Number	%
Ulceration	3	15
Atrophy	1	5
Hyperpigmentation	10	50

Table 3: Showing recurrence

Recurrence	Number	%
Present	1	5
Absent	19	95

5. Discussion

Keloid is a dermal benign fibro-proliferative growth that extends beyond the margins of the original wound and invades the adjacent normal tissue with claw like extensions. Management of keloids remains a difficult problem in dermatology till date. There is no single therapeutic modality that is best and cure of keloids. The present study has been conducted to evaluate the efficacy of combination of intralesional bleomycin and triamcinolone acetonide in the treatment of keloids. Bleomycin and triamcinolone acetonide act by different mechanisms, therefore their effects can be synergistic when used in combination.

In the present study the keloid lesions became flatter and softer with each successive treatment repeated at intervals of 1 month. The number of sessions required to successfully treat the lesions ranged from 2-9. 16(80%) lesions showed good to excellent response. Our observation is in agreement with Saray Y et al who conducted a study on the role of bleomycin in management of hypertrophic scars and keloids. In his study 80% lesions showed good to excellent response.⁶ Our observations are also similar to a study of keloid with intralesional bleomycin conducted by Nghi Dinh Huu et al who showed that 70.8 % lesions showed excellent response, 17.5 % lesions showed good response, 8.3% lesions showed fair response and 3.3% lesions showed poor response.² hyperpigmentation was the commonest side effect seen in 50% lesions. Other side effects were ulceration(15%), and atrophy(5%). Ahmed M Kabel in his study observed ulceration in 20% lesions and hyperpigmentation in 70 % lesions.⁷ His observations are comparable to our findings. Recurrence was seen in 1(5%) lesion during follow up whereas Nghi Dinh Huu observed the recurrence in 14 % patients treated with bleomycin alone after 18 months.²

6. Conclusion

We consider that bleomycin is an effective and safe treatment of keloids. When used in combination with triamcinolone acetonide, side effects such as necrosis and especially pain do not appear to be substantial, although this combination may increase the risk of dermal atrophy. The keloids with smaller size and of shorter duration responded better than the other lesions.

7. Study limitation

We suggest some more randomized clinical trials with a greater sample size. The follow up period should be longer to see the recurrence in all treated lesions.

8. Source of funding

None.

9. Conflict of interest

None.

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Author biography

Vinay Junior Resident 3rd year

Saurabh Sharma Professor

Jasleen Kaur Professor and Head

Roopam Bassi Professor

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