



EFFICACY OF INTRALESIONAL TRIAMCINOLONE WITH INTRALESIONAL VERAPAMIL IN THE TREATMENT OF KELOIDS AND HYPERTROPHIC SCARS

Dermatology

Dr Shivangi Jaiswal*	Junior Resident, Department of Dermatology, Venereology and Leprosy, Navodaya Medical College Hospital and Research Centre, Raichur. *Corresponding Author
Dr Chetan K	Junior Resident, Department of Dermatology, Venereology and Leprosy, Navodaya Medical College Hospital and Research Centre, Raichur.
Dr Kallappa C Herakal	Professor and HOD, Department of Dermatology, Venereology and Leprosy, Navodaya Medical College Hospital and Research Centre, Raichur.

ABSTRACT

Background: Keloids and hypertrophic scars represent an excessive connective tissue response to injury. A keloid is a benign well-demarcated overgrowth of fibrotic tissue which extends beyond original boundaries of defect, while hypertrophic scar is similar, but remains confined to original defect. **Aims And Objective:** To study and compare the efficacy of intralesional triamcinolone with intralesional verapamil in the treatment of keloids and hypertrophic scars. **Materials And Method:** A randomized Case Control Study, in which 80 patients were divided into 2 groups. Group A(40) received intralesional injection of 1 ml of Triamcinolone (40mg) and Group B(40) with 1ml of Verapamil (2.5mg) once in 3 weeks (6 sittings). **Results:** The rate of reduction of vascularity, pliability, height and width of the scar with Triamcinolone, was faster than Verapamil **Conclusion:** Triamcinolone Intralesional showed faster improvement than Verapamil Triamcinolone but has more side effects

KEYWORDS

Keloid, Hypertrophic scar, Intralesional triamcinolone, Intralesional verapamil

INTRODUCTION

Keloids and hypertrophic scars are two well-known types of excessive pathologic scarring. These types differ by aesthetics, pathogenesis, histopathology, and treatment, although there are overlapping characteristics. Compared to hypertrophic scars, keloids are characterized as more clinically severe in nature, causing pruritus and pain more frequently in patients.¹ Classically, keloid scars appear slowly over months beyond the initial wound edges, while hypertrophic scars typically develop over a period of weeks and stay within the initial edges.²

The occurrence of keloids and hypertrophic scars has equal sex distribution and the highest incidence in the second to third decade³

They arise from some injury to the skin that goes deep enough to affect the dermal layer. They can occur after burns, surgery, insect bites, tattoos, acne or chickenpox, and piercings. Although the specific mechanisms remain unknown, several associations are thought to influence the formation of these abnormal scars. Systemic inflammation has been posited to increase the risks of hypertrophic scars and keloids, and conditions increasing systemic inflammatory markers have been hypothesized to increase the risk of both scar hypertrophy and keloid.⁴

They are characterised by excess development of collagen in the dermis and subcutaneous tissues. Unlike scar characteristics of normal wound repair, the exuberant scarring of keloid and hypertrophic scars can result in disfigurement, contractures, pruritus and pain.

Intralesional therapy has been widely used due to its effectiveness and safety. Currently, the drugs used for intralesional treatment of HSS and keloids include corticosteroids, calcium channel blockers, oestrogen receptor modulators, and metabolic inhibitors.⁵

Verapamil, a calcium channel blocker, was first used in 1994 to treat burn scars.⁶ Calcium Channel blocker stimulates procollagenase synthesis in keloids, hypertrophic scars and normal human cultured fibroblasts, resulting in depolymerization of actin filaments, alteration of cell shape, apoptosis and reduction in fibrous tissue production.

Corticosteroids act by suppressing inflammatory cell migration and inhibition of fibroblast proliferation.

AIMS AND OBJECTIVES

To study and compare the efficacy of intralesional verapamil with intralesional triamcinolone in the treatment of hypertrophic scars and keloids.

Inclusion Criteria

Patients between 10 and 50 years of age

At least one hypertrophic scar or keloid;

Size of scar more than 2 to 10cm and of less than 5years duration;

Cause of scar being acid burns, trauma or surgery; insect bite or acne

Exclusion Criteria

Family history of keloids;

Pregnancy or lactation;

Patients with systemic illness (diabetes mellitus, cancer, cardiac disease and mental illnesses)

MATERIALS AND METHODS

A randomized Case Control Study, in which 80 patients were divided into group A and group B with 40 patients in each group.

Group A received intralesional injection of 1 ml of Verapamil (2.5mg) and Group B with 1ml of Triamcinolone (40mg) once in 3 weeks and a total of 6 injections were given.

Clinical Assessment of the scars were performed at the beginning of the study and at 3 weeks interval after starting treatment and patient asked to return for scar examination after 1 year for any recurrence or complications of Verapamil and Triamcinolone.

Improvement of the scar was measured using Modified Vancouver Scale.

RESULTS

There was reduction in vascularity, pliability, height and width of the scar with both the drugs. The rate of reduction of vascularity, pliability, height and width of the scar with Verapamil was slower than Triamcinolone. Toxicity and adverse drug reactions were more with Triamcinolone than with Verapamil. However, the incidence of burning sensation in verapamil group was higher than that in TAC group. Also, Verapamil is considerably cheaper and causes less severe pain at the injection site.



Fig 1- Keloid Before Treatment With Intralesional Triamcinolone



Fig 2- Follow Up After 5 Sitting Of Intralesional Triamcinolone

Table 1

	More tha 70% reduction	Side-effects
Group A- Intralesional triamcinolone	After 4 sittings	Atrophy, hyperpigmentation, pain during injection
Group B- Intralesional verapamil	After 6 sittings	Burning

DISCUSSION

The management of keloid and hypertrophic scar is ever evolving. With better understanding of pathophysiology of hypertrophic scars and keloids are emerging newer possibilities of treatment with verapamil, laser, antimitotic drugs like 5FU or bleomycin, interferon α 2b, and even botox⁷

Skin telangiectasia and atrophy were higher in the triamcinolone treatment group.⁸

Verapamil had fewer adverse events than TAC and can be used as a safer alternative for the treatment of keloids and hypertrophic scars.⁹

CONCLUSION

Both triamcinolone and verapamil intralesional injections can achieve scar flattening in hypertrophic scars and keloids. Intralesional triamcinolone continues to be the gold standard for the first line treatment owing to its rapid and effective response. However, verapamil is almost equally effective and offers several therapeutic possibilities to alternate with triamcinolone or be used simultaneously in larger (or multiple) scars with fewer side effect.

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