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Surgical Management of Ear Lobe Keloid: A Case Report

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ABSTRACT

Background: The excessive amount of thick, fibrous tissue that forms throughout the healing process of a skin injury is known as a keloid. occurs most frequently on the earlobes, upper back, shoulders, chest, and back of the neck. The causes of keloids remain unclear despite decades of research. Based on recent research, platelet-derived growth factor (PDGF) and transforming growth factor beta (TGF-β) are vital for the development of keloids. Keloid treatments can be challenging since there is an opportunity that another bigger keloid may develop in the newly damaged area even after the keloid was surgically removed. Recurrence rates after operation without additional treatment may exceed 80%.

Aim & Objectives: To study the effect of adjuvant therapy after surgical excision in treatment of ear lobe keloid.

Materials and Methods: The study includes a case of a 23-year-old woman who came to the Shalyatantra department complaining of swelling on both earlobes within three years of getting an ear piercing.

Intervention: Intralesional steroid injection after surgical excision.

Results: Following therapy, there were significant reductions in signs and symptoms as well as an improvement in quality of life**.**

Conclusion: The study concluded that surgical excision followed by intralesional steroid injection is an effective way to control keloid.

Key words: Keloid, Surgical excision, Intralesional steroid injection, Triamcinolone

INTRODUCTION-

The physiological wound-healing process that takes place deep inside the dermis has the complex side effect of scarring. The healing cascade is divided into three stages: remodeling, proliferation, and inflammation. Platelet degranulation after injury triggers a series of processes that ultimately result in 1) fibrin clot formation, which serves as a scaffold for the creation of the extracellular matrix (ECM), 2) cytokine and growth factor release and activation. For neutrophils, macrophages, and fibroblasts, these cytokines and growth factors function as chemotactic agents. Fibroblasts are the cells that produce extracellular matrix, which aids in the healing of wounds. Excess ECM is deteriorated once the wound is bridged. A disturbance in the deposition and degradation of ECM proteins results in abnormalities in scarring. Fibrogenic factors such as TGF-B1 and TGF-2, which are secreted by the inflammatory cells within the scar tissue, promote the accumulation of extracellular matrix.[1]

An excessive amount of thick, fibrous tissue that forms during the healing process of a skin injury is known as a keloid. If it can be observed, this tissue development goes beyond the original wound location. Keloids, in contrast to regular scars, do not go away on their own over time and frequently come back following surgery.[2]

Because keloids commonly recur and some are extremely difficult to treatment, treating keloids can be difficult. Genetic factors are among the numerous factors that affect the severity and recurrence of keloids. African, Asian, and Hispanic people are said to have a higher prevalence of keloids than others. In Asian cultures, the prevalence of keloids ranges 4.5%.[3,4]

Many studies showed that combination of postoperative steroid injection or radiation therapy with surgical resection achieved outstanding results with a low recurrence rate.[3,5] In this case study, a 23-year-old woman with an auricular lobe keloid was effectively treated with a combination of intralesional triamcinolone injection after surgical excision.

AIM: To study the efficacy of excision followed by intralesional injection of steroid in the management of ear lobe keloid.

METHODS AND MATERIALS

CASE REPORT

The present case study was carried out on a 23 years old female, attended the OPD of Shalyatantra (BVVS Ayurved medical college and hospital, Bagalkot, Karnataka) with complaints of swelling on bilateral ear lobe in the past 3years following ear piercing. There was no significant past history of any other chronic illness, no history of any kind of allergy or addictions. all the vitals were within the normal limits.

ASHTASTHANA PAREEKSHA

- Nadi - Vata-Pitta
- Mala - Prakruta
- Mutra - 4-5 times /day
- Jivha - Nirliptata
- Shabda - Prakruta
- Sparsha - Anushna
- Drik - Prakruta
- Akriti - Madhyama

VITAL SIGNS

- BP - 120/80 mm of Hg
- Pulse - 76 bpm
- Spo2 - 98% on RA
- R.R. - 18/min
- Temperature - Afebrile

EXAMINATION-

Inspection-:

- Location - on both ear pinna
- Size- 2cm
- Number- Right ear pinna-02, left ear pinna-01
- Shape- Dumbbell
- Color- Brown

Palpation-:

- Tenderness- Absent.
- Consistency- Hard.
- Mobility- Non movable, Fixed.
- Fluctuation test- Negative.
- Transillumination test- Negative.

Investigations

Blood investigations - Hb%, BT, CT, RBS, HbsAg, HIV, were carried out and found to be normal.

Treatment Plan:

Surgical excision of keloid followed by intralesional Triamcinolone injection.

TREATMENT

1. Pre-operative

- OT Consent was taken.
- Inj Lox 2% 0.2cc s/c test dose given
- Inj TT 0.5cc IM given
- Part preparation done.
- IV line secured & pre-op medicines (Inj Atropine) given.
- Shifted to OT on call.

2. OPERATIVE PROCEDURE

- Patient taken on OT table in supine position.
- Under all aseptic precautions painting & draping was done.
- Local anaesthesia inj.lox 2% (Lignocaine +Adrenaline) approx (3ml) was given using 26 no. needle around the keloid.
- Keloid was held by using Allis forcep and elliptical incision was taken.
- Excision of keloid was done.
- Skin flap was created by using scissor and knife around the margin of the wound.
- Wound was closed by using vicryl 3-0
- Intralesional steroid injection was given by using inj. Kenacort 40 mg. (Triamcilone)
- Hemostasis achieved and bandaging was done.
- Patient shifted to post operative ward under good condition.

3. POST OPERATIVE

- Inj Monotax 1gm IV stat
- Tab Taxim-OF PO BD for 5 days
- Tab Pan 40 mg PO OD for 5 days
- Tab Zerodol SP PO BD for 5 days

RESULT-

Before treatment

After treatment

Mode of Action-

The method of treatment includes steroid injections after intramarginal excision under magnification and tensionless wound closure using a small number of tiny monofilament sutures. As skin strain is a stimulant for collagen production, it was thought that keeping a tiny rim around the wound might prevent damage to the adjacent "keloid-prone" skin and reduce skin tension during wound healing. Triamcinolone acetonide 40 mg/ml intralesional steroid injections were used in the study. these injections have the potential to decrease collagenase activity and inhibit collagen formation.[1]

DISCUSSION

Although keloid scars may develop in any age group, they are significantly more common in the second and third decades of life. Young individuals' injuries likely to cause more apparent keloid forms.[6,7]Excess scar tissue can be surgically removed to produce a situation similar to a fresh wound, which makes it easier to administer conservative adjunctive treatments early on to prevent the recurrence of excessive scarring[8].

Surgery and intralesional triamcinolone injections (Triamcinolone acetonide 20 or 40 mg/ml) are also used to treat our patient's auricular lobe keloid. Keloid excision in the auricular region can be performed in a number of methods, including intralesional excision, shave excision, full-thickness wedge excision, and total excision. Careful wound closure must be done in addition to excision to avoid stretching the margins of the wound.[5]

To avoid scarring and keloid recurrence, intralesional triamcinolone injection following excision will be helpful. As of now, there is no set protocol for administering triamcinolone injections following keloid excision. According to a recent comprehensive review, 108 separate trials had different triamcinolone injection frequencies and intervals following excision, ranging from daily, weekly, and monthly injections. According to one study, the greatest results were seen when triamcinolone injections were administered every two weeks. However, according to a different research, weekly triamcinolone injections for four weeks following surgical excision also resulted in positive results with no recurrence over the six-month follow-up period.[9]

CONCLUSION

Keloid care has always been a therapeutic challenge, but it has become increasingly challenging in rural areas due to the lack of adequate and advanced treatment options including cryotherapy, radiation, bleomycin or interferon injections, and laser treatment. Even dermatologists and plastic surgeons may find treating keloid scars to be extremely difficult at times. However, in facilities with limited resources, proper patient education in addition to surgical excision and adjuvant therapy of intralesional injection of triamcinolone can show to be an effective therapy in the management and prevention of keloid recurrence. The pathogenesis of keloids remains unclear despite decades of research. Based on recent research, PDGF and TGF-β2 are necessary for the development of keloids. In future, development of selective inhibitors of TGF-β, will produce new therapeutic tools with enhanced efficacy.

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