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Dystrophic calcification in a keloid following intra lesional triamcinolone acetonide injection

Nitin Mishra[1], Shashikala P.[2]

[1]Associate Professor Department of Dermatology, SRMSIMS Bareilly Uttar Pradesh

[2]Professor and HOD Pathology, SS Institute of Medical Sciences and Research Centre, Davangere.

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Abstract :

We report a case of dystrophic calcification,atrophy and perilesional hypopigmentation in a keloid, following intralesional triamcinolone acetonide (TA) injection which is one of the most frequently used treatment modalities of keloid. A young lady presented with a whitish lesion on the right arm of one month duration. She noticed it five months after receiving multiple injections of TA by a dermatologist for a keloid at that site.Excision of the lesion was planned and immediately after incision, it was extruded as chalky white, gritty material suggesting calcification.

Keywords : Triamcinolone acetonide injection, Dystrophic calcification, keloid

Introduction:

Dermal inflammatory processes and keloids are treated by intra lesional administration of corticosteroids , as the advantages of this method are more compared to topical steroid application. They bypass the barrier of a thickened stratum corneum,reduce the chance of epidermal atrophy and deliver higher concentrations of drug to the lesional site .Under aseptic precautions, the drug is injected directly into the skin lesion using a fine needle. The injection should be intradermal, not subcutaneous to avoid causing a dent in the skin[1]. In recent years Triamcinolone acetonide (Kenalog, TAC-3) and triamcinolone diacetate (Aristocort) are the most widely used intralesional corticosteroids. In addition to antiinflammatory properties, there are few side effects of TA injection.

Side effects and risks of intra lesional TA may be divided as early and delayed effects. Early side effects are pain, bleeding, bruising, infection, contact dermatitis due to the preservative, impaired wound healing and sterile abscess. Most common delayed adverse effect is cutaneous and subcutaneous lipoatrophy which appears as skin indentations or dimples around the injection site,a few weeks after treatment and may be permanent. Other side effects are hypo or hyper pigmentation at the site of injection or spreading from the site of injection which may resolve or persist for a long term. Telangiectasia, localised hypertrichosis and localised or distant steroid acne are other complications. The atrophogenic side effect of corticosteroids also can be used advantageously when treating hypertrophic types of lesions, including keloids.

Address Correspondence to :

Dr. Nitin Mishra

Associate Professor, Department of Dermatology
SRMSIMS Bareilly Uttar Pradesh
Email : dermanitin@gmail.com
Mob. : 9012303662

The steroid most commonly used, being depot preparation of TA. The concentration of the drug injected, depends not only on the age of the individual but on the size and location of the keloid. Generally it is used in a concentration of 10-20 mg/ml and a dose of 40 mg/ml for a tough bulky lesion. The total number of injections depends on the response and possible side effects[1,2] . To the best of our knowledge, literature search using the key words ,"dystrophic calcification in keloid" "intra lesional injection of TA for keloid and calcification" "side effects of intra keloidal TA injection" shows no reports of dystrophic calcification following intralesional TA injection .

Case Report

Twenty six years old female presented with a complaint of a whitish lesion on the right upper limb since one month. It was gradually increasing in size, not associated with pain, itching or any other symptoms. Local examination revealed an oval atrophic erythematous scar on the right arm measuring 4cm× 2 cm surrounded by hypopigmentation (Fig.1). There was a whitish lesion on the surface measuring 1 cm × 0.7cm at the distal margin. The lesion appeared like a cyst and was attached to skin. On enquiry it was known that patient had a laceration with a glass object at that site, six months earlier. The lesion healed but the scar was becoming bigger for which she consulted a dermatologist who gave multiple intralesional Triamcinolone suspension injections. The scar improved but after about five months, patient noticed a whitish lesion, which was gradually increasing in size.

With a clinical diagnosis of epithelial inclusion cyst, surgical excision was planned. Under local anaesthesia, an incision was put over the lesion. As soon as the incision was put,a whitish material, gritty to feel with scissors and knife extruded from the lesional site. The wound was dressed.

Discussion

One of the treatment modalities in the management of keloids is intralesional injection of steroids. The steroid most commonly used is depot preparation of TA. Muneuchi G, et al studied longterm outcome of injection of TA into keloid scars in Asian patients. They treated 109 keloid scars in 94 patients by injecting low dose (1 to10mg) of TA depending on the size of the lesion at four week intervals. Pain and lack of improvement in a short period made few patients stop further treatment, whereas in other patients they reported that the drug was

Safer[3] .. Yong Jun Jin et al report the first case of lumbar spinal canal ossification and calcification after decompressive surgery followed by repetitive TA injections[4].

Raghavendran et al reported a case of subcutaneous gritty calcification surrounded by a chronic histiocytic response following two injections of triamcinolone hexacetonide for plantar fasciitis[5.]

Carruthers et al reported localized dystrophic calcification, which was found eight months after intralesional TA injections for infantile periocular hemangiomas, and suggested that undissolved steroid crystals may have formed a nidus for calcification in the subcutaneous tissue. Similar to this case calcification was one of the side effect following TA injection in our case in addition to atrophy and peri lesional depigmentation. Calcification was superficial appeared beneath the epidermis and was visible to the naked eye [6.] Whitish colour and gritty nature of the material were the gross features favouring calcification. However microscopic confirmation was not possible in this case. Perilesional streaky depigmentation and atrophy is also a distinct, though rare adverse effect resulting from lymphatic uptake of corticosteroid crystals. This is reported to be an interesting local adverse effect following intralesional corticosteroid therapy[1,7].. The gross appearance of the extruded material differed from the whitish flecks of steroid reported by others by being larger, chalkywhite, gritty and hard. Though microscopic confirmation was not possible, it alarms the dermatologists about subcutaneous calcification in keloids following TA injections.

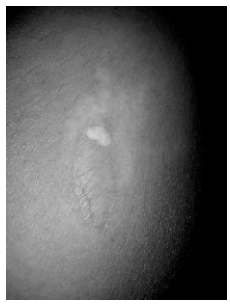

Fig. 1. Scar with whitish leison and sourrounding hypopigmentation

It is emphasized that while administering the intra lesional corticosteroid injections care should be taken not to inject excess of the drug and to avoid injecting too deep into the underlying dermis and subcutaneous tissue.

Keloids and hypertrophic scars are a cause of cosmetic concern especially when they are present in visible sites of the body. Though there are various modes of therapy, each therapy has its own advantages and disadvantages and even TA injection is no exception to this rule. In addition to having a good knowledge about all the adverse effects of TA injection clinician should know about dystrophic calcification also as a complication which could cause further disfigurement of the scar . Patients should be informed about the nature and course of the disease, possible side effects. We recommend informed consent prior to treatment and pretreatment and post treatment photographs at regular intervals for documentation.

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