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Skin De-pigmentation Following Local Steroid injection in Orthopedic Conditions is Temporary.

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ABSTRACT

Depigmentation from therapeutic local intra-lesional steroid injection sometimes occurs after few weeks after the procedure. Though alarming this is temporary and self limiting and need to be informed to the patient before the procedure itself.

Keywords: Depigmentation, local, intra-lesional, steroid, self-limiting, temporary.

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INTRODUCTION

Discoloration and de-pigmentation of the skin is received with awe by any person. It is normal that in patients who had severe painful local conditions like tennis elbow and plantar fascia that local steroid are given. Local Lignocaine is used along with the local preparation of steroids. In this paper we would present few cases of skin de-pigmentation and what was the outcome in them. We present three case examples in this paper.

1. A 15 year old girl she presented with low back ache to me. After spinal examination an examination of the legs revealed a 4 X 5 cm hypo-pigmented macule on her ankle in the region below her lateral malleolus. On enquiry she gave a history of severe pain in her heel earlier and she was given drug treatment elsewhere. After a course of routine physiotherapy she had injections of steroids along with the local Lignocaine elsewhere with temporary relief. Two weeks after this injection, she noted a skin change in the region of injection. She ignored it. She was under treatment with me for almost for the past three years. During her visits to me I noticed the de-pigmentation site became better and better and at the end of a year it disappeared.

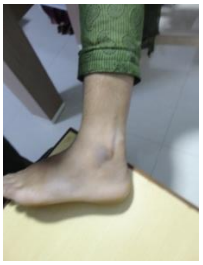

Figure 1: The hypo pigmented area of the lateral malleolus area following a steriod injection.

2. A 35 year old gentleman a welder working abroad, had injection of steroids mixed with Lignocaine for refractory tennis elbow on the right side and he noticed a hypo pigmented macule on her right tennis elbow site. He came for a second opinion to me. He was given a course of low level laser therapy which reduced his pain. he also had hyper-uricemia which was treated with drugs. During subsequent visits it was noticed that his depigmentation settled and his skin regained the colour as surrounding skin.

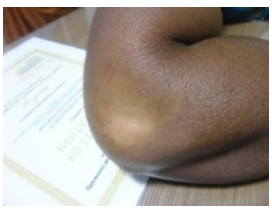

Figure 2: The hypo pigmented area of the lateral condyle of right humerus injected for tennis elbow.

3. Third patient was a 40 year old lady teacher presented with severe tennis elbow to me. After a course of physiotherapy with low level laser therapy she had injection of steroids mixed with Lignocaine. Four weeks later when I examined her she had a hypo pigmented macule on her injected right tennis elbow site. This again settled with time after a period of 8 months

DISCUSSION

Complications of corticosteroid injection are very rare and are less than 1 % [1]. Even after studying 87 articles of adverse effects, feel that the quantification of such adverse reactions to local steroid injection is difficult [2]. A case of fatal injection into the trochanteric bursa ending in necrotizing fasciitis is also reported [2]. Hypo-pigmentation is a problem in individuals with dark complexion [3]. Also patient who are with darker complexion are more prone for de-pigmentation of the skin [4]. Such pigmentation will have cultural

implications on a dark skinned patient [5]. However reports of certain cases of hyper pigmentation also are reported [2,6].

Pressure on removing the needle while after injection even as the needle is being withdrawn. This will possible prevent the leakage of the drug into the superficial tissues [1,4]. Considering the depth of injection, adverse affections of corticosteroid injection like soft tissue atrophy and local de-pigmentation are more if the injection is given superficially [4]. It can be avoided if the injection is given deep [1]. This will prevent leakage into the subcutaneous tissue [6].

When considering the solubility and action duration of the steroid chosen, less potent and short acting corticosteroid injection have less chance to cause de-pigmentation. in selecting injections to treat the subcutaneous orthopedic lesions like tenosynovitis of the wrist for example , it is better to chose agents which are less potent and are short acting and soluble Betamethasone [5] it is preferable to have low soluble drug like Triamcinolone are chosen for deep joint injections and high soluble Betamethasone are selected for superficial tendon injections [1,6]. Both the long and short acting drugs can cause neurotoxicity .The patient must be counseled regarding these adverse effects even before the injection [1]. Sometimes spontaneous recovery is reported where not only hypo pigmentation but also deep branch of ulnar nerve weakness following a steroid injection recovered [1].

With regard to the duration to develop the side effects, while soft tissue atrophy appears in a month's time, it may take even six to 30 months to resolve [4]. Apart from soft tissue atrophy there are side effects like de-pigmentation and [6,7]. One case report is similar to one of our cases which was injected in another centre for pain in the tendo-calcaneous region is reported [3].

Though exact mechanism is not known, it has been proposed that the main cells the melanocytes are still present but only their action is impaired by the steroids. We may assume that the cells are temporarily functionless and later come back into action. Such depigmentation is with larger molecules like Triamcinolone and larger steroid molecules [8]. In patients with de Quervain's tenosynovitis after the steroid injection, pain relief was noted but developed hypopigmentation, eight weeks after a Triamcinolone injection. There is some peculiarity to the direction of proceeding of the depigmentation. This de-pigmentation started at the site of injection and proceeded proximally. Such linear progression is explained due to lymphatic uptake of the steroid molecules [9]. Further de-pigmentation may be due to mechanical, like causing edema, changes in matrix or vasoconstriction [1].

Apart from this intra tendinous steroid injection should be avoided. At a site in general a maximum of only two injections must be given and it should not be repeated [7].

CONCLUSION

Discoloration and skin de-pigmentation following local intra- lesional steroid injection in orthopedic conditions is temporary. But the patient must be apprised of such events even before injections.

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