Vitamin D in Keloids: An alternative to steroids?

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Madam, Keloids are wound healing scars with well-demarcated overgrowth of fibrotic tissue, mainly involving excessive collagen proliferation produced by fibroblasts. They extend beyond the original injury site, and are associated with pain and pruritus.[1,2]

Few treatments available for Keloids include occlusive dressings, compression therapy and intralesional corticosteroid injections.[1] Triamcinolone acetate, a corticosteroid injection, is considered the first line treatment as it possesses anti-inflammatory and anti-mitotic activities, which reduce scar volume and prevent a recurrence. However, approximately 50% of keloids are considered to be steroid resistant.[3,4] Moreover, as per literature, the usage of intralesional corticosteroid injections can cause several local and systemic adverse effects such as telangiectasias, skin necrosis, skin and subcutaneous fat atrophy, and Cushing's syndrome.[5]

In light of the above, researchers are keen on finding other treatment modalities for treating these lesions, and among them Vitamin D, is being investigated. Vitamin D is a steroid hormone that normally plays a role in regulating serum calcium, inhibiting cellular proliferation and promoting cell differentiation and apoptotic activities. Transforming growth factor-beta (TGF-β), an inflammatory marker, has been implicated in the pathogenesis of keloids. TGF-β is believed to be inhibited with localised Vitamin D. Furthermore, Vitamin D deficiency plays a significant role in keloidogenesis, a process mediated by dysregulation of koebnerisin, an antimicrobial polypeptide.[2]

A study was conducted recently, where 40 adults, aged 18 to 60 years, were administered intralesional Vitamin D, on keloids sized atleast 5 cm, with sessions carried out every week for a maximum of 3-4 sessions. This study showed a highly significant reduction in the Vancouver Scar Scale, a scarring scoring system.[1]

However, further trials, specially comparative studies, are needed to effectively weigh in the efficacy of Vitamin D over steroids. Advantages of Vitamin D are evident and promising so far – it's cost-friendly, and shows mild side effects such as burning, pain, swelling and tenderness that shortly disappear on its own.

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