Suppression of transforming growth factor-beta1 expression in keloids after cryosurgery

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Abstract:

The biological mechanism underlying cryosurgical treatment of keloids remains unclear. Transforming growth factor-beta1 (TGF-β1) has been implicated in the pathogenesis of keloids and was reported to be the target of several therapeutic modalities. However, the effect of cryosurgery on its expression in keloid tissue has not been yet investigated. In this study, 26 consecutive keloid patients were treated with cryosurgery for 2±6 sessions. Keloids were biopsied before starting cryosurgery and after two treatment sessions for the immunohistochemical evaluation of TGF-β1 expression. The average volume reduction, after two treatment sessions (in 22 patients completing the study) was 68.77 ± 15.82%. Dermal overexpression of TGF-β1 was demonstrated in all keloid specimens before treatment. Following therapy, significant reduction of that expression was detected in all keloid specimens (P = 0.016). In addition to attesting the clinical efficacy of cryosurgery, our findings indicate that cryosurgery effectively suppressed TGF-β1 expression, possibly contributing to keloid regression.

Keywords:

Cryosurgery, Keloid, Transforming growth factor-beta1

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