

## RESEARCH LETTER

**Low Rate of Keloid Recurrences Following Treatment of Keloidectomy Sites with a Biologically Effective Dose 30 of Superficial Radiation**

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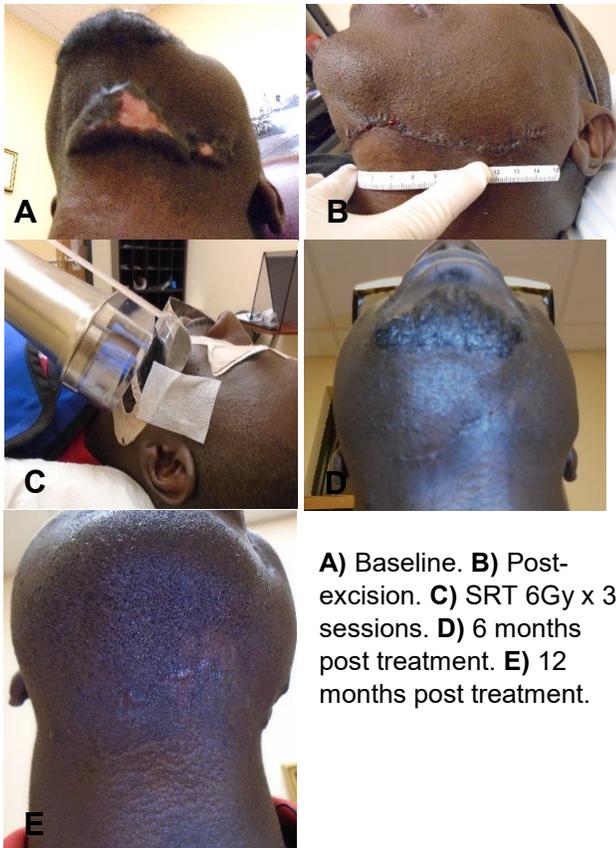
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The potential for recurrence of keloids at the sites of previously excised keloids is a well-recognized consequence following keloidectomy, and based on the published literature, has been reported to occur approximately in 71% of cases.<sup>1</sup> Superficial radiation reduces wound fibroblast proliferation and enhances apoptosis.<sup>2</sup> In this multi-center, case series, we determine the recurrence rate of keloids post keloidectomy with peri-operative treatment with a biologically effective dose 30 of superficial radiation.<sup>3</sup>

297 keloids were surgically completely excised. Starting on post-operative day (POD) 1 the suture closure line, with a 5 mm margin, received a total biologically effective dose 30 (BED 30), either 70 kV or 100 kV, of superficial radiation delivered by an SRT-100 (Figure 1). One of the following superficial radiation BED 30 fractionation protocols was employed post keloidectomy: one fraction of 13 Gy on post-operative day 1; or 2 fractions of 8 Gy on post-operative days 1 and 2; or, in the majority of cases, 3 fractions of 6 Gy on post-operative days 1, 2 and 3.

Radiation dermatitis was not reported. The most common adverse local skin reaction was transient (3-6 months) hyperpigmentation, occurring in Fitzpatrick Skin Type V-VI individuals. Hypopigmentation was noted to occur rarely. The follow-up period ranged from 1 month to 3 years, with the majority having been followed for more than 1 year. There were 9 clinical keloid recurrences in the 297 keloidectomy sites for a recurrence rate of 3.0%.

The observed 3.0% rate of keloid recurrence following surgical keloidectomy and treatment of the excision site with superficial radiation therapy (BED 30) is markedly lower than that reported in the literature following keloid excision alone. A prospective study, with longer follow-up to assess any long term adverse events and late recurrences, is warranted.



**A)** Baseline. **B)** Post-excision. **C)** SRT 6Gy x 3 sessions. **D)** 6 months post treatment. **E)** 12 months post treatment.

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