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Introduction

- Keloids are challenging with significant recurrence
- External beam radiotherapy has been effective in recurrent keloids but with significant exposure.
- Brachytherapy allows for surgical excision of keloids and delivery of radiation precisely in a manner isolated to the scar

Aim

- We demonstrate our preliminary experience of HDR Brachytherapy and outcomes from two cases.

Method

- Surgery and HDR brachytherapy is usually given only when less invasive treatments failed.
- Both Radiotherapist and surgeon are involved
- Steps include
 1. Extra-lesional excision with 1 mm margin under LA, closed in two layers Brachytherapy sheath placed in dermal layer parallel to the scar. Subcuticular skin closed over with Monocryl.
 2. Optimal positioning is decided by radiotherapist with distal sheath 5 mm away from its resurgence from scar
 3. Proximally sheath is cut depending on the length of scar and sufficient distance for connection to be made with the radioactive source.

Brachytherapy step

An iridium -192 source is selected for high dose brachytherapy. Length of scar is noted and ejection length and stops determined using computer interface.

Total of 12 Gy in divided dose is administered, 4 Gy in 3 days with target depth of 10mm

At end of third session the sheath is removed



Figure 1: Protocol for the use of surgery and HDR brachytherapy

Results



Case 1: Young male with recurrent Keloid on the chest underwent surgery and brachytherapy as day case. No recurrence over 12 months follow up.



Case 2 year follow up with HDR brachytherapy in neck in previously unsuccessfully treated keloid.

Discussion

2 Male patient successfully treated with surgery and HDR brachytherapy with no recurrence

- Brachytherapy protects the healthy tissue
- Aesthetic results
- Long symptom free period
- High satisfaction
- Reduced interventions

This study reinforces the benefits of using the combination of excision and HDR brachytherapy for treatment of difficult keloids

Conclusion

- Our Preliminary experience with surgery combined with HDR brachytherapy have been safe and effective with high satisfaction rate.
- Future studies to expand benefits and ability to discharge patients from clinics and use as a single effective treatment.

Reference

- Sigaux, N., et al. "Association of surgical excision and brachytherapy for the management of keloids." *Journal of stomatology, oral and maxillofacial surgery* 118.3 (2017): 161-166.
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