

CASE SUMMARY

Office-Based Radiation Therapy for the Dermatology Clinic

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INTRODUCTION *Treating skin cancers with surgery is still the standard of care for most NMSC patients. However, surgery is not without potential downsides, especially for patients with other health issues. Surface radiotherapy, both Electronic Brachytherapy (EBT) and Superficial Radiation Therapy (SRT), is an FDA-approved treatment option and an excellent choice for select NMSC patients.*

CASE ONE

76 Y/O MALE WITH TWO CANCERS NEEDING TO BE TREATED SIMULTANEOUSLY

- Presented with an SCC and BCC lesion, both in close proximity to each other on the left cheek
- Had undergone many surgeries to the face and scalp and was reluctant to have additional surgeries
- Past medical history of cardiac disease and antiplatelet therapy
- Recommendation:** Electronic Brachytherapy (EBT) as the best option to provide a short course of treatment

Left Temple - Superficial Basal Cell Carcinoma

- Size 2.5cm X 1.8cm
- 12 total fractions
- 2 fractions per week
- 3.5 Gy per fraction and 42.0 Gy total target dose
- Treated to surface
- Treatment margin: 0.7cm

Settings/parameters are based on multiple factors for each patient, including tumor type and location

Left Pre-Auricular - Squamous Cell Carcinoma

- Size 1.8cm X 1.7cm
- 9 total fractions
- 2 fractions per week
- 4.5 Gy per fraction and 40.5 Gy total target dose
- Treated to surface
- Treatment Margin: 1.0cm

EBT FEATURES

- Uses low energy, superficial x-rays in range of 50 to 70 kV
- Lower energy allows for higher dose per fraction and fewer treatments, usually 8-10 visits
- Surface applicators and small source-to-skin distance results in a sharp field edge, thereby smaller margins around the lesion



Planning visit Final fraction One-month post-treatment

Planning Visit: Superior lesion indicates the SCC; inferior, pre-auricular lesion is BCC, which was debulked to ensure optimal skin dose. Allowed ten days to heal prior to beginning radiation treatment.

Final Fraction: Patient experienced slight breakdown of the skin, some peeling, weeping, and crusting.

One-month post-treatment: Patient was well healed, showing little evidence of treatment, and no scarring.

CASE TWO

69 Y/O FEMALE PRESENTED WITH AN SCC ON THE LEFT NASAL SIDEWALL

- Past medical history of diabetes, immunosuppressed with medications for rheumatoid arthritis, and on antiplatelet therapy
- Potential for poor wound healing due to the immunosuppression and diabetes
- Undergone multiple past surgeries on face and scalp
- Recommendation:** Patient opted for surface radiation over surgery. SRT was prescribed and patient was treated with 80kV x-rays.

Left Nasal Sidewall - Squamous Cell Carcinoma

- Size 0.6cm X 0.6cm
- 15 total fractions
- 3 fractions per week

Settings/parameters are based on multiple factors for each patient, including tumor type and location

- 3.5 Gy per fraction and 52.5 Gy total target dose
- Treated to surface
- Treatment margin: 0.7cm

SRT FEATURES

- Slightly greater source-to-skin distance and the higher energy range of 80-150 kV
- Treatments typically spread out over a longer period, usually 12-18 fractions
- Although source-skin-distance is slightly longer, treatment applicator produces tight field edge and slightly increased margin allowed around the lesion



Biopsy Final fraction

Over treatment course: Patient experienced moderate redness and peeling on the treated site

Two weeks post-treatment: Patient showed eschar formation in the center, surrounded by otherwise healthy tissue at margins

One-month post-treatment: Skin well healed, little to no scarring, patient was pleased with outcome



Two-weeks post-treatment One-month post-treatment

CONCLUSION: With published cure rates at 92-98%, surface radiotherapy is an excellent alternative to surgery for treating superficial NMSC skin lesions.