

Modalities of Radiation

- Superficial radiotherapy
- Orthovoltage
- Megavoltage
 - Photons
 - Electrons
- Brachytherapy
 - Interstitial
 - Moulds

When to refer?

- The vast majority of skin cancers will be managed without any need for radiotherapy.
- Indications for RT
 - Early disease not suitable for surgery
 - Adverse prognostic features
 - Advanced disease
 - Unusual pathologies-Merkel cell carcinoma, lymphoma of skin, adnexal tumours, angiosarcoma

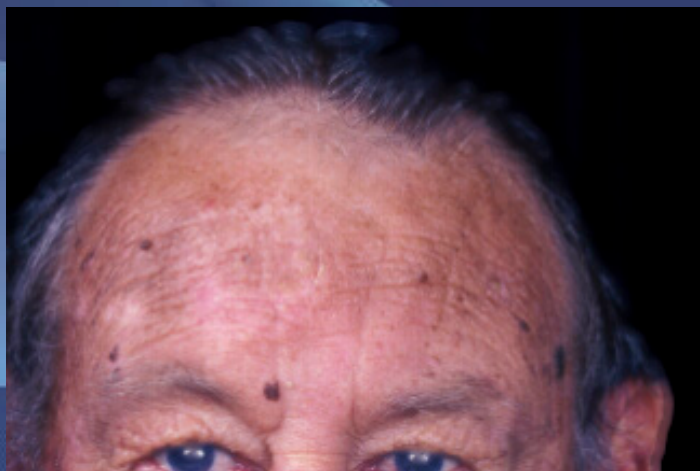
Early lesions

- Usually considered to be equivalent to surgery
- Cure rates vary from 86- 97% and the crude recurrence rate was 7.3% (Ashby)
- >90% will have good or excellent cosmesis
- Only 1 randomised trial in BCC < 4 cm of the face concluded that surgery was superior to RT (Amdur)
- Preferred in the elderly or where surgery is destructive

83 year old woman with deeply infiltrative SCC of the left hand.
Treated with cobalt therapy. Complete remission at 3 months



71 year old man with SCC of the right side for the forehead treated with Au 198 mould. Complete regression with excellent cosmetic result.



Relative Contraindications

- Young patients
- Previous RT to the site
- Bony prominences subjected to trauma
- Hair bearing areas
- Poor blood supply eg lower limb
- Bony or cartilage infiltration
- Gorlin's syndrome
- Fair skin with high UV exposure

Advanced or recurrent lesions

- Can use RT alone where surgery is felt to be too destructive or inoperable
- Multidisciplinary management
- Imaging with CT and MRI
- Elective nodal treatment in selected cases
 - Immunosuppressed
 - Lymphatic permeation
 - Undifferentiated

Advanced SCC of the cheek in an elderly lady with dementia. Treated with 3 weeks of RT with complete response. Later developed nodes in the neck.



Combined Surgery & RT

- Combined modality treatment is better than surgery or radiotherapy alone
- Pre-operative radiotherapy
 - For borderline operable
- Post operative radiotherapy
 - T3/T4 lesions
 - Incomplete excisions
 - Nodal involvement
 - Perineural disease

Incomplete excisions

- Risk of recurrence for BCC is 24-52%. SCC +ve margins should always be treated.
- Post -op RT may be a better alternative to surgery in some cases. Need to consider
 - Which margin- deep is higher risk
 - Histology (SCC, infiltrating BCC)
 - Cosmetic effects of re-excision
 - Late effects of radiotherapy
 - Geographic location and compliance of patient for follow-up

Perineural

- Occurs in 5% of cases
- No prognostic staging system
- Branches of the 5th and 7th nerve are most common
- Careful assessment with MRI at combined clinic
- Best results with S/RT
- If have established signs or symptoms, 5 year local control was 42% and the survival was 54%
- If no signs or symptoms, 5 year local control was 92%.



Biopsy proven SCC of the lower lip. Treated with pre-operative radiotherapy.



Post surgery. The lesion on the right upper lip showed pleomorphic adenoma. SCC from the lower lip was adequately excised.



The most malignant of skin cancers

- MCC is rare but aggressive
- Incidence has tripled in 15 years
- Occurs in the elderly in sun exposed areas
- Local therapy alone results in 65% recurrence
- Relapse in nodes in up to 76%
- Distant relapse rates from 28-70%
- Radiotherapy should be given to the primary site and the regional nodes.

Cutaneous lymphoma

Responsive to radiotherapy
Maybe localized or generalized
Multidisciplinary care required



Conclusions

- The majority of skin cancers will be cured without the help of radiotherapy
- Radiotherapy has 90% cure rate for early lesions. Preservation of cosmesis
- Good control rates for advanced lesions
- Multidisciplinary management for advanced or recurrent lesions offers best outcomes
- Rare non-melanomatous skin cancers need referral for combined treatment.
- Merkel cell carcinoma requires radiotherapy