New and Emerging Therapies for non-Melanoma Skin Cancer (NMSC)

David J. Goldberg, MD, JD
Skin Laser & Surgery Specialists of NY/NJ
Disclosures

• Program Director: ACGME Micrographic Surgery and Cutaneous Oncology Fellowship

• Consultant for Sensus Healthcare
Skin Cancer

• Includes a variety of cancers
  – Melanoma
  – Basal Cell Carcinoma
  – Squamous Cell Carcinoma
    (+/- Actinic Keratoses)
  – Merkel Cell Carcinoma
  – Atypical Fibroxanthoma
  – Malignant Fibrohistiocytoma
  – Dermatofibrosarcoma protuberans
  – Eccrine and Sebaceous carcinomas
NMSC

- BCC
- SCC
Nonmelanoma Skin Cancer

- Incidence rising at 4-8% each year
- Overall 5 year survival rate of 95%
- Mortality of 1-2% (75% of these are metastatic squamous cell carcinoma)
Basal Cell Carcinoma

Epidemiology

- Approximately 1,000,000 new cases per year
- Most common malignancy of all cancers
- Most common cutaneous malignancy
- Low risk for metastasis
Basal Cell Carcinoma

Epidemiology

• Most important risk factor is inability to tan

• Mild increased risk associated with:
  – fair skinned
  – light colored eyes
  – red or blonde hair

BCC Variation
Basal Cell Carcinoma

Treatment

• Superficial Ablative Techniques
  – Liquid Nitrogen
  – Electrodessication and Curettage

• Surgical
  – Excision with standard margins
  – Mohs Micrographic Surgery

• Photo/chemotherapy
  – Photodynamic Therapy
  – Topical 5-flourouracil

• Radiotherapy
## Basal Cell Carcinoma Treatment - 5 Year Cures

<table>
<thead>
<tr>
<th>Treatment</th>
<th>BCC</th>
<th>SCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Surgical Excision</td>
<td>89.9</td>
<td>91.9</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>91.3</td>
<td>90.0</td>
</tr>
<tr>
<td>Cryotherapy</td>
<td>92.5</td>
<td>NA</td>
</tr>
<tr>
<td>ED&amp;C</td>
<td>92.3</td>
<td>96.3</td>
</tr>
<tr>
<td>Mohs Surgery</td>
<td>99.0</td>
<td>96.9</td>
</tr>
</tbody>
</table>

Squamous Cell Carcinoma (SCC)

- Second most common cutaneous malignancy
- Approximately 200,000 new cases per year
- Moderate metastatic potential (3-30%)
- Causes approximately 2000 deaths per year
Squamous Cell Carcinoma

**Epidemiology**

- Prevalence and incidence varies with several factors:
  - age - >80% of people above the age of 70
  - anatomic distribution - >80% occur on the upper limbs, head and neck
  - skin type - fair skinned, light colored eyes, red or blonde hair
  - cumulative sun exposure
  - history of previous actinic keratoses
Squamous Cell Carcinoma

Epidemiology

- Most important risk factors:
  - Cumulative sun exposure
  - Increasing age
Squamous Cell Carcinoma

Treatment

• Superficial Ablative Techniques
  – Liquid Nitrogen
  – Electrodessication and Curettage

• Surgical
  – Excision with standard margins
  – Mohs Micrographic Surgery

• Photo/chemotherapy
  – Photodynamic Therapy
  – Topical 5-flourouracil

• Radiotherapy
## Basal Cell Carcinoma

### Treatment-5 Year Cures

<table>
<thead>
<tr>
<th>Treatment</th>
<th>BCC</th>
<th>SCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Surgical Excision</td>
<td>89.9</td>
<td>91.9</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>91.3</td>
<td>90.0</td>
</tr>
<tr>
<td>Cryotherapy</td>
<td>92.5</td>
<td>NA</td>
</tr>
<tr>
<td>ED&amp;C</td>
<td>92.3</td>
<td>96.3</td>
</tr>
<tr>
<td>Mohs Surgery</td>
<td>99.0</td>
<td>96.9</td>
</tr>
</tbody>
</table>
Mohs Micrographic Surgery

• Treatment of choice for high risk BCC and SCC lesions

• Histologic evaluation of 100% of surgical margins

• Maximal tissue preservation and minimal defect size
Mohs Micrographic Surgery

High Risk Lesions

- Facial location (anatomic “H” zone)
- Recurrent
- Large size
- Rapidly growing
- Ill-defined borders
- Poorly differentiated histologically
- Perineural invasion
Superficial Radiation Therapy
Modern SRT Equipment

• Utilizes low energy photon X-rays operating at variable peak voltages of 50, 70, and 100 kVp.
Modern SRT Equipment

• Easy to administer

• Effectively targets and treats lesions

• Delivers gentle indirect radiation which does not penetrate and impact the underlying healthy tissue.
• FDA approved for total body treatment of non melanoma skin cancer (NMSC)

• Keloid
Evidence Based Therapy

• The cure rate for 1715 primary nonaggressive NMSC treated with the SRT-100™ was 98% (Cognetta et al, JAAD 2012).
Tumor and Patient Selection: Treatment Objectives

- To eradicate the tumor while maintaining or improving the patient’s quality of life.
Tumor and Patient Selection: Treatment Objectives

• To deliver a measured dose of radiation to a defined volume with minimal damage to surrounding normal tissue, resulting in eradication of the tumor.
Ideal Patients for SRT

• Elderly

• Poor surgical candidates
Indications for SRT

- Medically unfit for surgery/limiting diseases
- Contraindications for anesthesia
- Potential for significant cosmetic, neural or functional limitations post op
New and Emerging Therapies for non-Melanoma Skin Cancer (NMSC)

David J. Goldberg, MD, JD
Skin Laser & Surgery Specialists of NY/NJ