Comprehensive care of solid organ transplant recipients: A focus on skin cancer

Lindsay R. Smith, MSN, RN
Quality Manager
Vanderbilt Transplant Center
Objectives

- Skin Cancer 101
- Skin Cancer in Transplant Recipients
- Vanderbilt Experience
- Making a change with a lasting impact
What is skin cancer?

- Uncontrolled growth of abnormal skin cells
- Caused by DNA damage which triggers mutations
- Three types:
  - Melanoma
  - Basal Cell Carcinoma (BCC)
  - Squamous Cell Carcinoma (SCC)
Basal Cell Carcinoma

The most common cancer
Basal Cell Carcinoma

- BCC is the most commonly occurring cancer.
- Extremely rare for this type to metastasize.
- 4 million cases diagnosed in U.S each year.
Most often found on the face, ears, and other sun exposed areas.
- Papule with rolled borders
- Central ulceration
- Pearly sheen
- NON-HEALING SORE
Basal Cell Carcinoma
Superficial Basal Cell Carcinoma

- Most common on shoulders, chest, back and arms
- Area of redness, often with scaly appearance
- May have brown color at the border
- Slow growing
Superficial Basal Cell Carcinoma
Morpheaform BCC

- Often on face
- Locally aggressive and destructive
- May look like a scar
- Can be cosmetically destructive
Squamous Cell Carcinoma

The Second Most Common Skin Cancer
Squamous Cell Carcinoma

- SCC is the second most common form of skin cancer
- More than a million cases are diagnosed each year in the U.S
- 8,800 people died of SCC each year
- Risk of metastasis is 0.5-5%
- Incidence has increased by 200% in the past three decades
First Stage of SCC- Actinic Keratosis

- Rough, scaly lesion with a red base
- May shed and then reappear
- Individuals may have multiple lesions
First Stage of SCC- Actinic Keratosis
Squamous Cell Carcinoma

- 75% occurring on head/neck or hands
- As progression occurs from a AK it will:
  - Red
  - Scaly path
  - With or without crusting
  - May develop a nodule
Squamous Cell Carcinoma
Squamous Cell Carcinoma
High Risk SCC

- Multiple lesions, rapid recurrences
- Located on: forehead/temple/ear/lip
- Large size
- Aggressive growth
- Deep invasion into fat, muscle, cartilage and bone
High Risk Squamous Cell Carcinoma
Melanoma

The deadliest skin cancer
Melanoma

- Melanoma is the most dangerous form of skin cancer
  - Melanoma accounts for less than one percent of skin cancers
  - One person dies every hour of melanoma.
- Survival Rate:
  - Early Stage- 98% survival
  - Lymph node- 63%
  - Metastized- 17%
Melanoma

**Asymmetry**

**Border:** Irregular borders

**Color:** Variations in color

**Diameter > 6mm**

**Evolving**
Melanoma
Impact of skin cancer on transplant patients
70 out of 100 post-transplant patients will develop skin cancer vs. 1 out of 100 people in the general population.
**Impact**

- Greatly decreases quality of life
  - Some patients develop > 100 skin cancers per year
  - Painful and disfiguring

- Increases risk of metastasis

- Increases risk of death
  - After the fourth year post-transplant, 27% of patients die of skin cancer.
73 Year-old Outdoorsman s/p Cardiac Transplant 1993

- Had multiple small skin cancers at time of transplant
- 1996 numerous skin cancers developed rapidly
- Started oral treatment but side effects caused him to discontinue
- 1998-2000 he had over 300 skin cancers including SCC that metastasized
- Radiation treatment → cancer spread
- During work up for operation found invasive melanoma and renal cell carcinoma
This patient dies in 2002, his quality of life post-transplant was dramatically impacted by his skin cancer. Many times he questioned if his transplant was “even worth it”.
Impact- metastatic squamous cell carcinoma
Impact- metastatic squamous cell carcinoma
Impact- metastatic squamous cell carcinoma
Contributing Factors

- Intense immunosuppression regimens to prevent rejection
- Pre Transplant Sun exposure
- Post-Transplant Sun exposure
- History of previous skin malignancies
Strategies for success
Main components

- Prevention
- Identification of high risk patients
- Early detection and management
- Immunosuppression management
- Collaboration with dermatology
- Education, Education, and Education
Prevention Basics

- Everyday apply sunscreen 30SPF
- Reapply every 2 hours if outside
- Wear protective clothing
- DO NOT USE A TANNING BED
- Perform a self-skin assessment
- Report any concern to dermatologist
Identification of high risk patients

- Start the process in the evaluation phase
- Obtain a good past medical history or use a simple skin assessment tool i.e BRAT (brief skin assessment tool)
  - Sun exposure history
  - Demographics
  - Moles
- Patients who have been identified as high risk need to start dermatology follow up appointments earlier post transplant ~3-6 months.
Zwald and Brown’s high risk surveillance recommendations (2011)

<table>
<thead>
<tr>
<th>Patient risk factors</th>
<th>Interval for total body skin examination (no. of months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No skin cancer/field disease</td>
<td>12</td>
</tr>
<tr>
<td>Field disease</td>
<td>3-6</td>
</tr>
<tr>
<td>One nonmelanoma skin cancer</td>
<td>3-6</td>
</tr>
<tr>
<td>Multiple nonmelanoma skin cancers</td>
<td>3</td>
</tr>
<tr>
<td>High-risk squamous cell carcinoma or melanoma</td>
<td>3</td>
</tr>
<tr>
<td>Metastatic squamous cell carcinoma or melanoma</td>
<td>1-3</td>
</tr>
</tbody>
</table>
Early Detection and Management

- Every post-transplant patient needs *at least* an annual dermatology appointment.

- What is your current process for seeing patients who have concerns?
After skin cancer develops, the chance of getting another occurrence is 100%

Immunosuppression regiments require balancing with skin cancer diagnosis
- Consider reducing current immunosuppressive regiment
- Consider switching from a calcineurin inhibitor to an mTOR inhibitor
Collaboration with Transplant Dermatology

- Critical to have a strong relationship between dermatology and transplant
  - Communicate about immunosuppressive regimens
  - Partner in Education
  - Earlier access to dermatology when a questionable lesion appears
Only 54% of all transplant recipients remember receiving skin cancer education

Only 40% of transplant recipients regularly use sunscreen
Vanderbilt Transplant Center Experience
It all starts with QUALITY

- Vanderbilt patients transplanted between 2010-2014
- N=1667 patients
- 54 patients diagnosed with skin cancer (3%)
Skin Cancer Occurring Much Earlier
69% developed prior to two years post-transplant

Skin Cancer Occurrence Post Transplant for all Organs
(N=55 pts, 2010-2014)
Percentage of Vanderbilt Transplant patients in 2013 who had a documented post-transplant dermatology appointment.
Welcome to the South

- High sun exposure due to southern region
  - Increase chance of pre sun exposure
  - Increased post sun exposure
Making changes that have a lasting impact
Only 54% of all transplant recipients remember receiving skin cancer education

Only 40% of transplant recipients regularly use sunscreen
Education: things to consider

- What?
- When?
- How often?
Goal 1: Standardize Education

- Changed patient education
  - AT-RISC Alliance

- Standardized timing of patient education on skin cancer to the post-transplant phase

- Documentation of education to monitor compliance
Goal 2: Remind healthcare providers & patients

THE MANY FACES OF SKIN CANCER

YOU ARE AT RISK

Up to 70% of transplant patients will develop skin cancer post-transplant. PROTECT YOURSELF

Please remember to always:
- Wear SPF 30 or higher DAILY
- Limit out-door activities between 10am-4pm
- Wear protective clothing
- AVOID tanning beds
- See your dermatologist annually
- Report suspicious moles to your doctor
Goal 3: Reminder for dermatology appointment

- Created Vanderbilt Transplant Center Bulletin that patients receive at 9 months post transplant

- Covers topics important in the post transplant phase:
  - Dermatology appointment reminder
  - Prevention tips
  - Self-skin Examination guide
Resources

- AT-RISC Alliance
  - Presentations
  - Patient education
  - Posters
- Skincancer.org