Chronic Graft-versus-Host Disease of Skin and Connective Tissues

Celebrating a Second Chance at Life Survivorship Symposium

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DERMATOLOGIC CHALLENGES IN PATIENTS UNDERGOING STEM CELL TRANSPLANTATION

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Disclosures

- I have received honoraria as a consultant and/or speaker in the past from the following:
  - Abbvie
  - Adgero
  - Amgen
  - AstraZeneca
  - Biogen
  - Boehringer-Ingelheim
  - Bristol Myers Squibb
  - Eisai
  - Eli Lilly
  - Genentech
  - ImClone
  - Therakos
  - Xoma

- These relationships have no relevance towards the following lecture
Objectives

1. Explain risk factors for developing skin GVHD
2. Describe the various manifestations of skin GVHD
3. Discuss potential therapies available to manage skin GVHD
4. Present best practices to minimize risk for developing skin cancer for patients with skin GVHD
What is GVHD?

• Graft (donor) versus host (recipient) disease
• New immune system cells attacking tissues in its new home  
  – Appears “Unfamiliar”
• Skin (rash), Liver, Intestines (diarrhea) most common targets
• Lungs, Eyes also possible later on
Risk factors for Developing Skin GVHD

• Greater degrees of donor-recipient mismatch

• Older age of recipient or donor

• Female donors (especially after pregnancy)

• Stem Cells collected from bloodstream
  – instead of bone marrow or umbilical cord blood donation
Organs Affected by GVHD

• Skin - most commonly affected site (75%)
• Mouth (51–63%)
• Liver (29–51%)
• Other sites affected: Eyes, Genitals, GI tract, Lungs, Joints, Muscles, Nervous system
Manifestations of Skin GVHD

- Rash
- Sores in mouth or genitals
- Itching
- Change in skin color
- Sweat gland damage
  - Difficulty handling heat
Manifestations of Skin GVHD

• Tight skin
  – Mouth opening
  – Limited joint movement
  – “Cellulite” look
  – Tough to take deep breaths
Rash Caused by GVHD

• Acute (soon after transplant)
  – Red and all over

• Chronic (usually months after transplant)
  – Purple spots
  – Tight skin
  – Shiny patches of skin
Acute Skin GVHD
Chronic Skin GVHD

• Purple Skin = “Lichenoid”
Chronic Skin GVHD
- ”Lichenoid” Nail changes
Chronic Skin GVHD
-”Lichenoid” Mouth changes

Personal Collection (Anadkat)
Chronic GVHD – “Sclerodermoid”

• Tight skin
Overall GVHD Diagnosis Rules

• Acute vs chronic GVHD: based on how it looks
  – NOT when it appears

• Face/Scalp and Palm/Sole involvement unique

• Skin Biopsy not essential to make diagnosis

Based on NIH GVHD Guidelines (2005)
Treatment of Skin GVHD

• Treat symptoms
  – Itching
  – Decreased range of motion
  – Wounds

• Skin-specific therapies

• Part of the Oncology team approach
Skin-Specific Therapies

- Topical anti-inflammatory medicines
  - Steroid
  - Non-steroid (tacrolimus, pimecrolimus)
- Phototherapy
- Photopheresis
- Acitretin: vitamin A pill

[https://www.dermnetnz.org/topics/topical-steroid](https://www.dermnetnz.org/topics/topical-steroid)
Phototherapy

• UV-B or UV-A

• Anti-inflammatory in skin

• Takes minutes

• Safe!

www.verywellhealth.com/phototherapy-overview-4177939
Extracorporeal Photopheresis (ECP)

- Light therapy to the blood
- Safe

[Image of photopheresis equipment]

www.nationwidechildrens.org/specialties/photopheresis-clinic
Managing Tight Skin

• Physical Therapy

• Deep Tissue Massage

• Stretching
Treatments used by the Oncology Team

• Prednisone
• Traditional Immunosuppressants
  – Mycophenolate, Tacrolimus, Cyclosporine
• Ruxolitinib (JAK inhibitor)
• Ibrutinib
• Rituximab
• Sirolimus
• Bortezomib
Skin GVHD Increases Risk of Skin Cancer

• Check your skin every 1-2 months
• Annual (at least) doctor skin checks recommended
• Skin cancer risk 30 times higher
• Skin cancers more likely in patients who have received:
  – Radiation
  – Immune suppressing therapy
Skin Cancer Types

1. Basal Cell Carcinoma - most common
2. Squamous Cell Carcinoma
3. Melanoma
Squamous Cell Carcinoma

www.dermnet.com
Steps You Can Take to Reduce Risk of Skin Cancer

• Annual skin exam over age 40
• Annual dermatologist exam if history of skin cancer
• May need more frequent monitoring
• ALWAYS consult your doctor if new concerning lesion appears
Prevention

There is no such thing...

.... as a "safe tan"
Sun Protection

• **Clothing**
  – Wide brim hats and Long sleeves

• **Avoid Peak UV Hours**
  – Esp. 10AM – 3PM

• **UV Window Filters**
Sunscreens

• Assumes 2g/cm² application (a lot!)

• SPF – only indicative of UVB (erythema) protection
  ◦ SPF 15 - 93%
  ◦ SPF 30 - 97%****
  ◦ SPF 45 - 98%
  ◦ SPF 55 - 99%
Sunscreen Application Tips

• Apply every day...Rain or shine!!

• Re-apply
  – after 90 minutes of exposure
  – after water immersion

• If you TAN or BURN, you didn’t put enough on!!
Thank You

• My Family
• My Colleagues
• My Mentors
• My Patients

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Questions?

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