Acute and Chronic GVHD

Stephanie J. Lee, MD MPH
Fred Hutchinson Cancer Research Center
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Acute GVHD

• Major cause of morbidity and mortality
• Caused by donor T cells reacting against host (patient) tissues
• Skin, liver, GI are scored clinically
  – Skin – MP rash, erythema
  – Liver – ↑ LFTs
  – GI – anorexia, nausea, vomiting, diarrhea, cramps

• All can be biopsied
  – GI biopsies are often “graded” but this does not correspond to the clinical grade
Acute GVHD prophylaxis

- “Standard” prophylaxis
  - Calcineurin-inhibitor-based (cyclosporine, tacrolimus) + methotrexate, MMF, sirolimus
- T cell depletion
  - “ex vivo” – physical removal of T cells
  - “in vivo” – give medications to deplete T cells
- Post transplant cytoxan (day +3, +4)
- Clinical trials
- 20-70% still get acute GVHD
## Acute GVHD Staging

<table>
<thead>
<tr>
<th>Stage</th>
<th>Skin (rash)</th>
<th>GI (diarrhea)</th>
<th>Liver (total bilirubin)</th>
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<tbody>
<tr>
<td>1</td>
<td>&lt;25%</td>
<td>500-1000 mL/d or 280-555 mL/m²</td>
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<td>2</td>
<td>25-50%</td>
<td>1001-1500 mL/d or 556-833 mL/m²</td>
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<tr>
<td>3</td>
<td>&gt;50%</td>
<td>&gt;1500 mL/d or &gt;833 mL/m²</td>
<td>6.1-15 mg/dl</td>
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<tr>
<td>4</td>
<td>Erythroderma with bullae or desquamation</td>
<td>severe abdominal pain +/- ileus, grossly bloody stool</td>
<td>&gt;15 mg/dl</td>
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Stage 1 UGI – persistent nausea or vomiting
Erythroderma and bullae
Body surface area – Rule of 9s
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<td>I</td>
<td>1-2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>II</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>III</td>
<td>1-3</td>
<td>2-4</td>
<td>2-3</td>
</tr>
<tr>
<td>IV</td>
<td>4</td>
<td>-</td>
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New forms will collect stage and grade of acute GVHD at onset and at maximum
Acute GVHD treatment

- Initial treatment: Steroids 0.5-2.0 mg/kg/d
- Prophylactic agents can be used for Rx
- Extracorporeal photopheresis (ECP)
- Monoclonal antibodies, cytokine inhibitors
- Clinical trials
- Treatment success
  - Grade I – better survival due to ↑ graft-vs.-leukemia
  - Grade II – no association with mortality
  - Grade IV – 80-90% mortality
Medical records conundrums

• A rash was documented in the notes. 3 days later the clinician called the rash GVHD and started steroids. A skin biopsy was taken the following day and showed GVHD. What is the date of diagnosis?

• “The patient has GI GVHD.” No stage or volume is recorded. How do you know the GI stage?
Chronic GVHD

• Most common long-term complication of allogeneic hematopoietic cell infusion
  – Affects 10-50% of allogeneic recipients
  – Median onset 4-6 months after HCT
  – 90-95% of cases diagnosed within first year
  – Clinical implications:
    • Leading cause of non-relapse mortality
    • Associated with worse quality of life and functional status (e.g., inability to return to work)

• New CIBMTR forms will incorporate 2014 NIH Consensus recommendations
Acute and Chronic GVHD

Day 0
Graft infused

Day 100

ACUTE

CHRONIC
Acute and Chronic GVHD

Day 0                                      Day 100
Graft infused                              Graft infused

CLASSIC ACUTE                               CLASSIC CHRONIC
OVERLAP
LATE ACUTE
Diagnosis of Chronic GVHD

• Distinction from acute GVHD
• Presence of at least one diagnostic clinical manifestation OR at least one distinct manifestation confirmed by pertinent biopsy or other relevant tests
• Exclusion of other possible etiologies for the clinical manifestation (e.g., infection, drug toxicity)
## Diagnostic vs. Distinct

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<th>Distinctive</th>
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<td>air trapping and bronchiectasis</td>
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<tr>
<td>Musculo-skeletal</td>
<td>fasciitis, contractures</td>
<td>myositis, polymyositis</td>
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2014 NIH Consensus Development Project on Criteria for Clinical Trials in Chronic GVHD
Chairs: Steve Pavletic, Georgia Vogelsang, Stephanie Lee

- Diagnosis and staging
- Pathology
- Biomarkers
- Response criteria
- Supportive care
- Clinical trials

*Biology of Blood and Marrow Transplantation*
2015; 21: pages 389; 589; 780; 984; 1167; 1343
## NIH Skin Score

<table>
<thead>
<tr>
<th>Score %BSA</th>
<th>No BSA involved</th>
<th>1-18% BSA</th>
<th>19-50% BSA</th>
<th>&gt;50% BSA</th>
</tr>
</thead>
</table>

**GVHD features to be scored by BSA:**

**Check all that apply:**
- Maculopapular rash/erythema
- Ichthyosis
- Lichen planus-like
- Sclerotic features
- Papulosquamous lesions or ichthyosis
- Keratoris pilaris-like

<table>
<thead>
<tr>
<th>No sclerotic features</th>
<th>Superficial sclerotic features “not hidebound” (able to pinch)</th>
<th><strong>Check all that apply:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐ Deep sclerotic features</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐ “Hidebound” (unable to pinch)</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐ Impaired mobility</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐ Ulceration</td>
</tr>
</tbody>
</table>

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) _________________________

◆ % BSA and degree of sclerosis
Skin:

1. Skin
   - Yes – Go to question 249
   - No – Go to question 257

2. Score percent BSA involved:
   - Score 0 – No BSA involved, no sclerotic features
   - Score 1 – 1-18% BSA
   - Score 2 – 19-50% BSA, or superficial sclerotic features “not hidebound” (unable to pinch)
   - Score 3 - >50% BSA, deep sclerotic features, hidebound, impaired mobility, or ulceration

Y/N:
- [ ] maculopapular rash/erythema
- [ ] lichen planus-like features
- [ ] papulosquamous lesions or ichthyosis
- [ ] keratosis pilaris-like

https://bethematchclinical.org/Post-Transplant-Care/Chronic-GVHD/Skin/
# NIH Mouth Score

<table>
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<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Symptoms</strong></td>
<td><strong>Mild symptoms with disease signs but not limiting oral intake</strong></td>
<td><strong>Moderate symptoms with disease signs with partial limitation of oral intake</strong></td>
<td><strong>Severe symptoms with disease signs on examination with major limitation of oral intake</strong></td>
</tr>
</tbody>
</table>

*Lichen-planus like features present:*  
☐ Yes  
☐ No  
☐ Not examined

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) ______________

♦ Symptoms and limitation of oral intake
Mouth

1. Mouth
   - Yes – Go to question 258
   - No – Go to question 262

2. Mouth score:
   - Score 0 – No symptoms
   - Score 1 – Mild symptoms with disease signs but not limiting oral intake significantly
   - Score 2 – Moderate symptoms with disease signs with partial limitation of oral intake
   - Score 3 – Severe symptoms with disease signs on examination with major limitation of oral intake

3. Lichen planus-like features present?
   - Yes
   - No

Specify if any mouth abnormalities were present, but explained by non-GVHD causes:

4. Were any abnormalities present, but explained entirely by non-GVHD documented cause?
   - Yes – Go to question 261
   - No – Go to question 262

5. Specify abnormalities: ____________________________________________
## NIH Eye Score

<table>
<thead>
<tr>
<th>Score (0-3)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No Symptoms</td>
</tr>
<tr>
<td>1</td>
<td>Mild dry eye symptoms not affecting ADLs (requiring lubricant eyedrops ≤3x/day)</td>
</tr>
<tr>
<td>2</td>
<td>Moderate dry eye symptoms partially affecting ADLs (requiring lubricant eyedrops &gt;3x/day or punctal plugs) without new visual impairment due to KCS</td>
</tr>
<tr>
<td>3</td>
<td>Severe dry eye symptoms significantly affecting ADLs (special eyewear to relieve pain) OR unable to work because of ocular symptoms OR loss of vision due to KCS</td>
</tr>
</tbody>
</table>

**Keratoconjunctivitis confirmed by ophthalmology:**
- Yes
- No
- Not examined

- Abnormality present but explained entirely by non-GVHD documented cause (specify) ______________

SYMPTOMS, ADLS, EYEDROP FREQUENCY
# NIH Liver Score

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal total bilirubin and ALT or AP &lt;3x ULN</td>
<td>Normal total bilirubin with ALT 3-5x ULN or AP ≥3x ULN</td>
<td>Elevated total bilirubin but &lt;3x mg/dl or ALT &gt; 5x ULN</td>
<td>Elevated total bilirubin &gt; 3 mg/dl</td>
</tr>
</tbody>
</table>

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) ______________

♦ Liver function tests
## NIH GI Score

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Symptoms</td>
<td>Symptoms without significant weight loss (&lt;5%)</td>
<td>Symptoms associated with mild to moderate weight loss (5-15%) OR moderate diarrhea without significant interference with daily living</td>
<td>Symptoms associated with significant weight loss (&gt;15%), requires nutritional supplementation for most calorie needs OR esophageal dilation OR severe diarrhea with significant interference with daily living</td>
<td></td>
</tr>
</tbody>
</table>

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) ______________

♦ Symptoms, weight loss, ADLs, esophageal dilation
# NIH Lung Score

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Symptoms</td>
<td>Mild symptoms (shortness of breath after climbing one flight of steps)</td>
<td>Moderate symptoms (shortness of breath after walking on flat ground)</td>
<td>Severe symptoms (shortness of breath at rest; requiring O₂)</td>
</tr>
</tbody>
</table>

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) ________________

Were PFTs performed? Specify FEV1 % predicted ________________

♦ Symptoms and PFTs
<table>
<thead>
<tr>
<th>NIH Joint Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Symptoms</td>
<td></td>
<td>Mild tightness of arms or legs, normal or mildly decreased range of motion not affecting ADL</td>
<td>Tightness of arms or legs OR joint contractures, erythema thought due to fasciitis, moderate decrease ROM AND mild to moderate limitation of ADL</td>
<td>Contractures WITH significantly decreased ROM AND significant limitation of ADL (unable to tie shoes, button shirts, dress self, etc.)</td>
</tr>
</tbody>
</table>

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) ______________

♦ Tightness, range of motion, ADLs
# NIH Genital Tract Score

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<thead>
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<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Signs</td>
<td>No Signs</td>
<td>Mild signs and females with or without discomfort on exam</td>
<td>Moderate signs and may have symptoms with discomfort on exam</td>
<td>Severe signs with or without symptoms</td>
</tr>
</tbody>
</table>

*Currently sexually active:*
- [ ] Yes
- [ ] No
- [ ] Unknown

☐ Abnormality present but explained entirely by non-GVHD documented cause (specify) ______________

♦ Signs and symptoms on female exam
301. Maximum grade of chronic GVHD: (according to best clinical judgment by NIH criteria)

☐ Mild

☐ Moderate

☐ Severe

☐ Unknown

302. Specify if chronic GVHD was limited or extensive:

☐ Limited – localized skin involvement and/or hepatic dysfunction due to chronic GVHD

☐ Extensive – one or more of the following:
  – generalized skin involvement; or,
  – liver histology showing chronic aggressive hepatitis, bridging necrosis or cirrhosis; or,
  – involvement of eye: Schirmer’s test with < 5 mm wetting; or
  – involvement of minor salivary glands or oral mucosa demonstrated on labial biopsy; or
  – involvement of any other target organ

303. Date of maximum grade of chronic GVHD: ___ ___ ___ ___ - ___ ___ - ___ ___

* Check boxes of individual signs/symptoms retained
Treatment

• Initial therapy is steroids at 1 mg/kg/day
  – About 30% of people respond and never need additional treatment (Flowers Blood 2002; 100: 415)

• Secondary therapy - >30 agents but no standard established
1. Are symptoms of GVHD still present on the date of actual contact (or present at the time of death)?
   - Yes
   - No

2. Is the recipient still taking systemic steroids? (Do not report steroids for adrenal insufficiency, ≤10 mg/day for adults, <0.1 mg/kg/day for children)
   - Yes – *Go to question 402*
   - No – *Go to question 400*
   - Unknown – *Go to question 402*
   - Not applicable – *Go to question 402*

3. Date final treatment administered:
   - Known – *Go to question 401*
   - Unknown – *Go to question 402*

4. Date final treatment administered: ___ ___ ___ ___ — ___ ___ — ___ ___
Medical Records Conundrums

• Notes say the patient has chronic GVHD and prednisone was started. But she did not meet NIH criteria for chronic GVHD. *Do I check the chronic GVHD box?*

• Notes say that the patient has skin, eye and mouth involvement but no score is listed. *What should I record on the CRFs?*
Case #1

• 38 y/o man with AML in first complete remission undergoing HLA-identical sibling transplantation using cytoxan/TBI

• Day +30, skin rash involving 30% body surface area, diarrhea ~1200 mL/d

• What is his acute GVHD stage and grade?
## Acute GVHD Staging

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<tr>
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Case #1

- 38 y/o man with AML in first complete remission undergoing HLA-identical sibling transplantation using cytoxan/TBI
- Day +30, skin rash on 30% BSA, diarrhea ~1200 mL/d
- Despite treatment with steroids, mycophenolate mofetil, ATG and infliximab, he has lingering red skin and diarrhea on day +110

- What is the significance of residual symptoms on day +110?
Acute and Chronic GVHD

Day 0  
Graft infused

Day 100  

CLASSIC ACUTE

OVERLAP

CLASSIC CHRONIC

LATE ACUTE
Case #1

- His skin erythema and diarrhea resolve
- At day +150, he develops dry eyes, dry mouth, lichen planus in his mouth, and obstructive changes on pulmonary function tests
- The notes state: “He has chronic GVHD and was started on prednisone. Tacrolimus was increased to full dose.”

- *Does he have chronic GVHD?*
# Diagnostic vs. Distinct

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<td>Skeletal</td>
<td></td>
<td></td>
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Case #2

- A 60 y/o man with CLL has a matched unrelated donor non-myeloablative transplant. He does not have any skin rash, liver function abnormalities, or diarrhea.

- On day +90 he develops mouth sensitivity with erythema and his absolute eosinophil count is 720. No treatment is started.

- *Does he have chronic GVHD?*
Case #2

• On day +120 he has increased liver function tests, a pleural effusion, lichen-planus-like changes on the chest and in his mouth, and mouth sensitivity to spicy food.

• *Does he have chronic GVHD?*
## Diagnostic vs. Distinct

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Skin:

1. Skin
   ✗ Yes – *Go to question 249*
   ☐ No – *Go to question 257*

2. Score percent BSA involved:
   ☐ Score 0 – No BSA involved, no sclerotic features
   ✗ Score 1 – 1-18% BSA
   ☐ Score 2 – 19-50% BSA, or superficial sclerotic features “not hidebound” (unable to pinch)
   ☐ Score 3 - >50% BSA, deep sclerotic features, hidebound, impaired mobility, or ulceration
1. **Mouth**
   - Yes – *Go to question 258*
   - No – *Go to question 262*

2. **Mouth score:**
   - Score 0 – No symptoms
   - Score 1 – Mild symptoms with disease signs but not limiting oral intake significantly
   - Score 2 – Moderate symptoms with disease signs with partial limitation of oral intake
   - Score 3 – Severe symptoms with disease signs on examination with major limitation of oral intake

3. **Lichen planus-like features present?**
   - Yes
   - No

**Specify if any mouth abnormalities were present, but explained by non-GVHD causes:**

4. **Were any abnormalities present, but explained entirely by non-GVHD documented cause?**
   - Yes – *Go to question 261*
   - No – *Go to question 262*

5. **Specify abnormalities:** ____________________________
Case #2

• On day +120 he has increased liver function tests, a pleural effusion, lichen-planus-like changes on the chest and in his mouth, and mouth sensitivity to spicy food.

• He is started on prednisone with some improvement but when the prednisone is tapered his pleural effusion returns and mouth pain increases.

• He then starts sirolimus

*What other manifestations does he have?*  
*What treatments are used?*
Case #3

- A 48 y/o woman with MDS has a mismatched unrelated donor peripheral blood transplant using busulfan and cytoxan
- On day +50 she has 15% BSA skin rash, bilirubin 2.1 mg/dL
- She receives steroids, continues tacrolimus, and her symptoms improve

Did she have acute GVHD? What stage and grade?
## Acute GVHD Staging

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<td>500-1000 mL/d or &gt;30 mL/kg/d</td>
<td>2-2.9 mg/dl</td>
</tr>
<tr>
<td>2</td>
<td>25-49%</td>
<td>1000-1500 mL/d or 30-60 mL/kg/d</td>
<td>3-5.9 mg/dl</td>
</tr>
<tr>
<td>3</td>
<td>&gt;50%</td>
<td>1500-2000 mL/d or 60-90 mL/kg/d</td>
<td>6-15 mg/dl</td>
</tr>
<tr>
<td>4</td>
<td>Erythroderma with bullae</td>
<td>&gt;2000 mL/d or severe abdominal pain +/- ileus</td>
<td>&gt;15 mg/dl</td>
</tr>
</tbody>
</table>
## Acute GVHD Grading

<table>
<thead>
<tr>
<th>Grade</th>
<th>Skin (rash)</th>
<th>GI (diarrhea)</th>
<th>Liver (total bilirubin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1-2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>II</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>III</td>
<td>1-3</td>
<td>2-4</td>
<td>2-3</td>
</tr>
<tr>
<td>IV</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>
Case #3

- A 48 y/o woman with MDS has a mismatched unrelated donor peripheral blood transplant using busulfan and cytoxan
- On day +50 she has 15% BSA skin rash, bilirubin 2.1 mg/dL
- She receives steroids, continues tacrolimus, and her symptoms improve
- At day +130 she is seen with a red rash and diarrhea x 3 days. Her prednisone dose is increased and her symptoms improve

Does she have chronic GVHD or late acute GVHD?
Acute and Chronic GVHD

- Day 0: Graft infused
- Day 100:
  - Classic Acute
  - Overlap
  - Late Acute
  - Classic Chronic
Case #3

• On day +276 she notes dry eyes and a sensitive mouth. The physician note says that this could be chronic GVHD, and prescribes topical cyclosporine for her eyes and dexamethasone for her mouth. In addition, she is using eyedrops every 3-4 hours.

Does she have chronic GVHD?
# Diagnostic vs. Distinct

<table>
<thead>
<tr>
<th>Organ</th>
<th>Diagnostic</th>
<th>Distinctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>poikiloderma, sclerosis, morphea, lichen-planus, lichen-sclerosis</td>
<td>depigmentation, papulo-squamous</td>
</tr>
<tr>
<td>Nails</td>
<td>-</td>
<td>dystrophy, ridging, onycholysis</td>
</tr>
<tr>
<td>Mouth</td>
<td>lichen planus</td>
<td>xerostomia, mucoceles, ulcers, atrophy</td>
</tr>
<tr>
<td>Eyes</td>
<td>-</td>
<td>new onset dry eyes, keratoconjunctivitis sicca</td>
</tr>
<tr>
<td>Genitalia</td>
<td>lichen planus</td>
<td>erosions, fissures, ulcers</td>
</tr>
<tr>
<td>GI tract</td>
<td>esophageal web or strictures</td>
<td>-</td>
</tr>
<tr>
<td>Liver</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lung</td>
<td>bronchiolitis obliterans (bx proven)</td>
<td>air trapping and bronchiectasis</td>
</tr>
<tr>
<td>Musculo-skeletal</td>
<td>fasciitis, contractures</td>
<td>myositis, polymyositis</td>
</tr>
</tbody>
</table>
Case #3

• On day +365 sclerosis (skin thickening) around her waistline is seen. Fasciitis of her upper extremities prevents full range of motion. Dry eyes worsen and she uses eyedrops every 2 hours. Prednisone is started. In retrospect, she first noticed problems with her skin 2 months before.

• On day +400 she reports difficulty swallowing. EGD shows an esophageal web which is dilated. She is scheduled to start ECP

• Does she have chronic GVHD? What is the date of diagnosis?
## Diagnostic vs. Distinct

<table>
<thead>
<tr>
<th>Organ</th>
<th>Diagnostic</th>
<th>Distinctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>poikilodermatitis, sclerosis, morphea,</td>
<td>depigmentation, papulo-squamous</td>
</tr>
<tr>
<td></td>
<td>lichen-planus, lichen-sclerosis</td>
<td></td>
</tr>
<tr>
<td>Nails</td>
<td><strong>GVHD onset day 365 (not 2 mo before when symptoms developed)</strong></td>
<td>dystrophy, ridging, onycholysis</td>
</tr>
<tr>
<td>Mouth</td>
<td>lichen planus</td>
<td>xerostomia, mucoceles, ulcers, atrophy</td>
</tr>
<tr>
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<td>Liver</td>
<td>-</td>
<td>-</td>
</tr>
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<td>Lung</td>
<td>bronchiolitis obliterans (bx proven)</td>
<td>air trapping and bronchiectasis</td>
</tr>
<tr>
<td>Musculo-</td>
<td>fasciitis, contractures</td>
<td>myositis, polymyositis</td>
</tr>
<tr>
<td>skeletal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Skin:

1. Skin
   - Yes – Go to question 249
   - No – Go to question 257

2. Score percent BSA involved:
   - Score 0 – No BSA involved, no sclerotic features
   - Score 1 – 1-18% BSA
   - Score 2 – 19-50% BSA, or superficial sclerotic features “not hidebound” (unable to pinch)
   - Score 3 - >50% BSA, deep sclerotic features, hidebound, impaired mobility, or ulceration
Joint

☐ Score 0 – No symptoms

☐ Score 1 – Mild tightness of arms or legs, normal or mild decreased range of motion (ROM) AND not affecting ADL

☒ Score 2 – Tightness of arms or legs OR joint contractures, erythema thought due to fasciitis, moderate decrease ROM AND mild to moderate limitation of ADL

☐ Score 3 – Contractures WITH significant decrease ROM AND significant limitation of ADL (e.g. unable to tie shoes, button shirts, dress self, etc.)

☐ Not applicable – abnormality present but explained entirely by non-GVHD documented cause
Esophageal web ✔

Dysphagia ✔

Anorexia

N/V/D

Weight loss > 5%

Failure to thrive
Eyes

261. Eyes
   - Yes – Go to question 262
   - No – Go to question 266

262. Eyes score
   - Score 0 – No symptoms
   - Score 1 – Mild dry eye symptoms not affecting ADL (requirement of lubricant eye drops ≤ 3x per day)
   - Score 2 – Moderate dry eye symptoms partially affecting ADL (requiring lubricant eye drops >3x per day or punctal plugs), without new vision impairment due to KCS
   - Score 3 – Severe dry eye symptoms significantly affecting ADL (special eyewear to relieve pain) OR unable to work because of ocular symptoms OR loss of vision due to KCS

263. Keratoconjunctivitis sicca (KCS) confirmed by ophthalmologist?
   - Yes
   - No
   - Not done
Case #4

- A 26 y/o man with chronic GVHD of the eyes and mouth reports a cough and decreased exercise tolerance although he can still walk up stairs.
- Workup shows bronchiolitis obliterans with an FEV1% predicted of 56%.
- He then reports worsening shortness of breath and is found to have a pulmonary embolus.

*How would you score his lung GVHD?*
Lungs

282. Lungs
   □ Yes - Go to question 283
   □ No - Go to question 288

283. Lung score
   □ Score 0 - No symptoms
   X Score 1 - Mild symptoms (shortness of breath after climbing one flight of steps)
   □ Score 2 - Moderate symptoms (shortness of breath after walking on flat ground)
   □ Score 3 - Severe symptoms (shortness of breath at rest; requiring oxygen)

284. Were pulmonary function tests performed?
   □ Yes - Go to question 285
   □ No - Go to question 286

285. Specify FEV1 percent: 56%

Specify if any lung abnormalities were present, but explained by non-GVHD causes:

286. Were any abnormalities present, but explained entirely by non-GVHD documented cause?
   □ Yes - Go to question 257
   □ No - Go to question 288

287. Specify abnormalities: ____________________________
Summary

• New CRFs are coming (Spring 2016)
  – Acute GVHD section minimally changed
  – Chronic GVHD section significantly different
• New cGVHD questions based on the 2014 NIH consensus conference
  – Allow better understanding of organ severity and overall prognosis
  – Likely to have difficulty finding information in medical records