Distinguishing Sclerosing Diseases

AAD
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Nicole Fett, MD MSCE
Associate Professor of Dermatology
Conflicts of interest and Disclosures

• I have no conflicts of interest

• I have no pertinent disclosures
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  – Education and Program Committee MDS
  – Education and Program Committee RDS
  – Materials review panel medical expert in dermatology for the Lupus Foundation of America
  – Executive committee member, Pacific Dermatology Association
  – President, Oregon Dermatology Society
Objectives

1.) To distinguish morphea, limited cutaneous systemic sclerosis, diffuse cutaneous systemic sclerosis and eosinophilic fasciitis from one another

2.) To explain the importance of mucosal exams in morphea patients
Case 1, Question 1

- This 58 yr old female presents with the following skin findings, + ANA (1:160), a 40 yr history of Raynauds phenomenon without evidence of digital ulcers, nor sclerodactyly. Her most likely diagnosis is:

A.) Limited cutaneous systemic sclerosis
B.) Diffuse cutaneous systemic sclerosis
C.) Dermatomyositis
D.) Generalized morphea
E.) Eosinophilic fasciitis
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How to you distinguish Systemic Sclerosis from Morphea?
Limited Cutaneous Systemic Sclerosis

Skin

By definition requires proximal involvement

Diffuse Cutaneous Systemic Sclerosis
Morphea: Sclerosis

- Discontiguous
- Does not spread distal to proximal
Systemic Sclerosis: Red puffy hands
Systemic Sclerosis: Sclerodactyly
Systemic Sclerosis: Sclerodactyly
Morphea: Hand changes

- Absent
Systemic Scleroderma:
Facial tightening and telangiectasias
Systemic Sclerosis: Mat-like telangiectasias
Systemic Sclerosis: Decreased oral aperture
Morphea: Telangiectasia and facial involvement

- Telangiectasias – Absent
- Facial involvement
  - Linear, not diffuse
  - Unilateral
  - Pansclerotic

Systemic Sclerosis: Raynaud’s phenomenon and digital ulcers
Dermoscopy: Nailfold Capillary Changes

Normal

Nailfold Capillary Dilation

Dilation, hemorrhage, drop-out


Morphea:
Nailfold capillary changes and digital pitting

• Absent
Compare and Contrast

• Which of the following is true?

A.) ~ 60% of patients with Systemic sclerosis have a positive ANA

B.) ~ 80% of patients with morphea have a positive ANA

C.) Anti-centromere, anti-topoisomerase 1 and anti-RNA polymerase III antibodies are sensitive for Systemic sclerosis

D.) Anti-centromere, anti-topoisomerase 1 and anti-RNA polymerase III antibodies are helpful in the diagnosis of morphea
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Limited Cutaneous Systemic Sclerosis

Diffuse Cutaneous Systemic Sclerosis

Autoantibodies

+ANA

+anti-centromere

+Scl-70

+RNA polymerase III

Morphea: Autoantibodies

• 20 to 80% with ANA positivity

• No anti-centromere, anti-topoisomerase I, anti-RNA polymerase III antibodies
  – Testing for antibodies not recommended

• Morphea patients may have anti-single-stranded DNA antibodies, anti-histone antibodies, and anti-topoisomerase II a
  – Testing for antibodies not recommended

Compare and Contrast

- Which of the following is true?
  - A.) This biopsy is representative of systemic sclerosis
  - B.) This biopsy is representative of morphea
  - C.) This biopsy is representative of nephrogenic systemic fibrosis
  - D.) This biopsy is representative of systemic sclerosis and morphea
Which of the following is true?

A.) This biopsy is representative of systemic sclerosis

B.) This biopsy is representative of morphea

C.) This biopsy is representative of nephrogenic systemic fibrosis

D.) This biopsy is representative of systemic sclerosis and morphea
Systemic Sclerosis: Making the Diagnosis

+ ANA

+ anti-centromere
OR
+ Scl-70
OR
+ RNA polymerase
OR

Morphea: Making the Diagnosis

This 49 yr old male presents with the following skin findings, + ANA (1:160), no Raynauds phenomenon, no digital ulcers, no sclerodactyly. His most likely diagnosis is:

A.) Limited cutaneous systemic sclerosis
B.) Diffuse cutaneous systemic sclerosis
C.) Dermatomyositis
D.) Generalized morphea
E.) Eosinophilic fasciitis
EF: Sclerosis

- Contiguous
- Spares the fingers and toes
EF: Hand changes
EF:
Nailfold capillary changes and digital pitting

- Absent
EF: Autoantibodies

• ~15% with + ANA

<table>
<thead>
<tr>
<th></th>
<th>Morphea</th>
<th>Eosinophilic Fasciitis</th>
<th>Limited cutaneous systemic sclerosis</th>
<th>Diffuse cutaneous systemic sclerosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites of cutaneous involvement</td>
<td>Linear – extremities or head &amp; neck Circumscribed – usually trunk Generalized – extremities and trunk</td>
<td>Extremities sparing the fingers and toes &gt; trunk Generally spares the face</td>
<td>Head and neck Distal extremities</td>
<td>Head and neck involvement extends to proximal extremities and often also involves the trunk</td>
</tr>
<tr>
<td>Cutaneous findings contiguous (i.e. without skip areas) or discontinuous?</td>
<td>Discontinuous</td>
<td>Contiguous</td>
<td>Contiguous</td>
<td>Contiguous</td>
</tr>
<tr>
<td>Raynaud’s phenomenon</td>
<td>~22% of patients with morphea will have primary RPs (Prev in normal healthy pop)</td>
<td>~22% of patients with morphea will have primary RPs, as this is the rate in the normal healthy population</td>
<td>Yes – Often starts 5 to 10 years prior to presentation</td>
<td>Yes – Often starts 1 to 2 years prior to presentation</td>
</tr>
<tr>
<td>Digital ulcers/pits</td>
<td>No</td>
<td>No</td>
<td>Often</td>
<td>Often</td>
</tr>
<tr>
<td>Nailfold capillary changes</td>
<td>No</td>
<td>No</td>
<td>Yes. Early findings = Nailfold capillary dilation and hemorrhage. Late findings = Nailfold capillary drop out and arborizing vessels.</td>
<td>Yes. Early findings = Nailfold capillary dilation and hemorrhage. Late findings = Nailfold capillary drop out and arborizing vessels.</td>
</tr>
<tr>
<td>Specific auto-antibodies</td>
<td>No</td>
<td>No</td>
<td>Yes Anti-centromere</td>
<td>Yes Anti-Scl70 (anti-topoisomerase 1) Anti-RNA polymerase III</td>
</tr>
<tr>
<td>Systemic involvement</td>
<td>No</td>
<td>No</td>
<td>Yes High risk of ILD and PAH</td>
<td>Yes High risk of ILD &amp; renal crisis</td>
</tr>
<tr>
<td>Increased mortality</td>
<td>No</td>
<td>No</td>
<td>Yes SMR 2.7</td>
<td>Yes SMR 6.2</td>
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</tbody>
</table>
Approach to the patient with morphea

• HPI
  – Is the patient developing new spots?
  – Is there expansion of their existing spots?
  – Symptoms of pain/itch?
  – Functional limitations?
  – Emotional limitations?
Approach to the patient with morphea

• Additional history
  – PMH autoimmune disease?
  – Fam Hx autoimmune disease?

• SH: etoh use/IVDU
Approach to the patient with morphea

• Exam
  – Remember mouth and genitals
  – Assess ROM of all involved extremities
  – Neuro exam for head and neck involvement
Oral Involvement of Morphea

Oral Involvement of Morphea
Genital Involvement of Morphea

• Genital lichen sclerosus has also been reported to occur in all subtypes of morphea

• 38% of asymptomatic morphea patients had LS compared to 3% of controls

• Patients need to be specifically asked
Genital Involvement of Morphea

- Genital lichen sclerosus occurs in all subtypes of morphea

76 Patients

- 49 had plaque morphea
- 18 had linear morphea
- 9 had generalized morphea

- 22 had LS
- 1 had LS
- 6 had LS

Lichen Sclerosus

- Chronic inflammation = vulvar intraepithelial neoplasia
  - Increased risk anogenital squamous cell carcinoma
- Treated with super-potent topical steroids
  - Adherence decreases risk of VIN and SCC
Approach to the patient with morphea

• Labs?
  – Currently none recommended – with exception of prepping for MTX or ruling out concomitant autoimmune disease based on history and exam

• Biopsy?
  – Only if not a classic presentation

• Consults?
  – Optho if child with head and neck
  – PT/OT/Ortho
Morphea Treatment Decision Points

• Morphea subtype

• Depth of involvement

• Disease activity
Treatment of Morphea Subtypes

Topicals/Phototherapy

Systemics/Phototherapy

Systemics/Phototherapy
Algorithm Based on Subtype

Limited plaque morphea

Topical tacrolimus

Lesion limited phototherapy

No response after 8 weeks

Calcipotriol and betamethasone dipropionate

Topical imiquimod

ocluded calcipotriene

Generalized morphea without joint contractures

Phototherapy

No response after 8 weeks

Methotrexate and systemic steroids

No response after 8 weeks

Change therapy to mycophenolate mofetil

Linear morphea involving face or crossing joints

Methotrexate and systemic steroids

No response after 8 weeks

Phototherapy

Change therapy to mycophenolate mofetil
Treatment of LS should be graded according to clinical subtype and disease severity.

<table>
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<tr>
<th>Subtype with limited skin involvement (affecting the dermis)</th>
<th>Subtype with severe skin and/or musculoskeletal involvement (affecting adipose tissue, fasciae, muscles, joints, and bones; or extensive skin involvement)</th>
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<tbody>
<tr>
<td><strong>Topical corticosteroids</strong></td>
<td><strong>Methotrexate</strong></td>
</tr>
<tr>
<td>‣ Highly potent once a day for up to 4 weeks</td>
<td>‣ <em>Adults</em>: 12.5–25 mg every week</td>
</tr>
<tr>
<td>‣ Moderately potent once a day for up to 3 months</td>
<td>‣ <em>Children</em>: 15 mg/m² every week, max. 25 mg every week</td>
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<td>Application under occlusion may be considered to increase therapeutic effects. Longer corticosteroid therapy should be in the form of interval therapy.</td>
<td>Treatment should be for at least 12 months; following a therapeutic response, dose reduction may be considered.</td>
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*Alternatively:*
Topical Calcipotriol or topical calcineurin inhibitors 1–2 times a day

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<td><strong>UVA1 phototherapy</strong></td>
<td><strong>Systemic corticosteroids</strong></td>
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<td><em>(50–80 J/cm², 3–5 times a week, 40 treatment sessions altogether)</em></td>
<td>‣ <em>Adults</em>: methylprednisolone 500–1,000 mg IV daily on three consecutive days every month for at least 3–6 months</td>
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<tr>
<td>or:</td>
<td>‣ <em>Children</em>: methylprednisolone 30 mg/kg IV daily (maximum 1,000 mg) on three consecutive days every month for at least 3–6 months</td>
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<td><strong>PUVA therapy</strong> (bath or cream PUVA therapy, depending on the affected area, 2–4 times a week, for 30 treatment sessions)</td>
<td>or</td>
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<td></td>
<td>prednisone 0.5–2 mg/kg PO, if possible divided into 2–3 daily doses (maximum 60 mg) for 2 to a maximum of 4 weeks, followed by gradual dose reduction</td>
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