The Essential Role of Primary Care in the Diagnosis, Assessment, and Co-Management of SLE
I. Introduction

II. Case 1–Felicia: Approach to SLE diagnosis and treatment

III. Case 2–Trina: Management of SLE; pregnancy considerations

IV. Key Takeaways

V. Q&A
Learning Objectives

- Describe key evidence-based strategies for diagnosing SLE
- Use effective strategies to assess and co-manage patients with SLE over time
- Summarize key aspects of established treatments for SLE
- Monitor patient for treatment side effects
- Develop a plan for communicating with patients about SLE, its treatment, and the importance of adhering to therapy
Content Developed by Multidisciplinary Steering Committee

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GET YOUR PHONES or TABLETS READY!

• You will access the Pretest, Posttest, and Interactive Questions on your phone via the QR Code or web browser
How to Use Your Phone to Answer Polling Qs

Answering today’s polling questions is required to receive credit

**FIRST** start a new text message and type this number: **22333**

**THEN** type a message that says **TFFlive** and hit **Send**

You’re ready to go!

Simply text A, B, C... to answer when you see a question slide pop up
Which superpower would you like to have?

- Mind reading
- Invisibility
- Teleportation
- Flying
- I already have a superpower
Pretest Question #1: Which of the following anti-nuclear antibody (ANA) patterns almost always indicates systemic lupus erythematosus (SLE)?

- Nucleolar
- Peripheral or rim
- Speckled

I’m not sure which is correct
Pretest Question #2: On the basis that American College of Rheumatology criteria are met, which of the following patients would you refer to a rheumatologist for confirmation of an SLE diagnosis?

A patient with joint disease, malar (butterfly) rash, and a positive ANA

A patient with serositis, lymphopenia, and low complement (C3) levels

A patient with oral ulcers, joint disease, serositis, and leukopenia

I’m not sure which is correct.
Just 2 more questions, almost done!
Pretest Question #3: In a study by Manzi and colleagues, how much more likely were women ages 35-44 years with SLE to have a myocardial infarction compared to age-matched controls?

2 times
5 times
25 times
50 times
Pretest Question #4: In the BLISS-76 clinical trial of belimumab, what percentage of patients on the 10 mg/kg dose were responders on the Systemic Lupus Erythematosus Response Index (SRI)?

- 28.6%
- 38.5%
- 44.8%
- 61.1%
Systemic Lupus Erythematosus (SLE)

- Chronic, multi-system, inflammatory autoimmune disease.
- Disease mechanisms include autoantibody formation.
- Characterized by flares, spontaneous remission, and relapses.
- May affect any part of the body, but often results in damage to:
  - Lungs
  - Heart
  - Nervous system
  - Kidneys
  - Skin
  - Bones
  - Joints

Epidemiology of SLE (United States)

Prevalence
- 54-73/100,000
- May be increasing

Prevalence by gender and race
- Higher in women than men (F-M ratio = 9:1)

Onset typically between ages 15-45 years

# ACR-Defined SLE Prevalence—NY and SF County Populations

<table>
<thead>
<tr>
<th>New York County</th>
<th>Prevalence*</th>
<th>San Francisco County</th>
<th>Prevalence*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>62.2</td>
<td>Overall</td>
<td>84.8</td>
</tr>
<tr>
<td>Women overall</td>
<td>107.4†</td>
<td>Women overall</td>
<td>155.6‡</td>
</tr>
<tr>
<td>White (non-Hispanic) women</td>
<td>64.3</td>
<td>White women</td>
<td>109.8</td>
</tr>
<tr>
<td>Black (non-Hispanic) women</td>
<td>210.9</td>
<td>Black women</td>
<td>458.1</td>
</tr>
<tr>
<td>Asian (non-Hispanic) women</td>
<td>91.2</td>
<td>Asian/Pacific Islander women</td>
<td>149.7</td>
</tr>
<tr>
<td>Hispanic women</td>
<td>138.3</td>
<td>Hispanic women</td>
<td>177.9</td>
</tr>
</tbody>
</table>

*Racial and ethnic minorities are also at increased risk of developing severe manifestations following SLE diagnosis*

*Age adjusted, per 100,000 person-years
†Ratio of women to men = 8.4:1
‡Ratio of women to men = 8.6:1

Disease Mechanisms in SLE

1. Genes
   - C1q, C2, C4
   - HLA-D2, 3, 8
   - MBL
   - FcR 2A, 3A, 2B
   - IL-10
   - MCP-1
   - PTPN22
   - Environment
     - UV light
     - Gender
     - ?Infection
     - ?EBV
     - Others

2. Abnormal Immune Response
   - DC
   - T cell
   - B cell
   - C3
   - C3a
   - Defective suppressive networks

3. Autoantibodies
   - Immune Complexes

4. Inflammation
   - Rash
   - Nephritis
   - Arthritis
   - CNS disease
   - Carditis
   - Clotting
   - Etc
   - Chronic inflammation
   - Chronic oxidation

5. Damage
   - Renal failure
   - Atherosclerosis
   - Pulmonary fibrosis
   - Stroke
   - Damage from Rx
   - Etc

Disease Activity Predicts Organ Damage and Death

• ↑ disease activity is associated with ↑ risk of organ damage and death
• Each 1-point ↑ in BILAG score associated with:
  – 8% ↑ risk of any new organ damage
  – 11% ↑ risk of CV, pulmonary, or musculoskeletal damage
  – 15% ↑ mortality

*Assessed using BILAG score; high: ≥ 6.84; lower: 0 to < 6.84.
SDI = Systemic Lupus International Collaborating Clinics/American College of Rheumatology damage index.
Early Organ Damage Is Associated With Reduced 10-Year Survival Rate

- Initial SDI assessment performed ≥ 6 months after study enrollment
- Early organ damage defined as initial SDI ≥ 1
- 25% of patients with early damage died within 10 years vs 7.3% with no early damage ($P = 0.0002$)

SLE Comorbidities

- Cardiovascular disease
- Stroke
- End-stage renal disease
- Cancer, including lung cancer and lymphoma
- Osteoporosis
- Infection
- Thyroid disease
- Sjögren syndrome
- Depression and other neuropsychiatric disorders
- Fatigue
CVD in Patients With SLE

• Coronary artery disease:¹
  • 2-to 10-fold increased risk overall
  • > 50-fold increased RR in women ages 35-44 years vs age-matched controls (Framingham Heart Study)²

• Stroke: 1.8-to 2-fold increased risk overall, higher risk among younger women¹

• Carotid ultrasound: plaque in 37% vs 15% in age-matched controls³

Case 1: Meet Felicia

• 28-year-old, African American
• Mother of 2, Uber driver, uninsured
• Symptoms over the past few days
  – Fatigue
  – Arthralgia in multiple joints
  – Muscle aches
  – Painless oral ulcers
  – Swollen cervical lymph nodes
• 2 similar episodes, most recent 3 months ago
  – CBC & CMP then WNL
  – Symptoms resolved with OTC NSAIDs

Should We Be Thinking SLE?
Challenges With SLE Diagnosis

• Onset is insidious
• Many symptoms are nonspecific (eg, fatigue, joint pain)
• Symptoms and lab findings vary widely from one patient to the next
• Misdiagnosis is common
  – Note: A positive ANA is just one indicator for SLE
• Missed/delayed diagnosis is common
  – Mean delay in diagnosis: 2 years (longer in men, children, later-onset disease)
## SLE: Common Clinical Manifestations

<table>
<thead>
<tr>
<th>Manifestation</th>
<th>%</th>
<th>Manifestation</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
<td>41.3</td>
<td>Serositis</td>
<td>12.9</td>
</tr>
<tr>
<td>Malar rash</td>
<td>26.4</td>
<td>Thrombocytopenia</td>
<td>9.5</td>
</tr>
<tr>
<td>Nephropathy</td>
<td>22.4</td>
<td>Oral ulcers</td>
<td>8.9</td>
</tr>
<tr>
<td>Photosensitivity</td>
<td>18.7</td>
<td>Thrombosis</td>
<td>7.2</td>
</tr>
<tr>
<td>Fever</td>
<td>13.9</td>
<td>Livedo reticularis</td>
<td>5.5</td>
</tr>
<tr>
<td>Neurologic</td>
<td>13.6</td>
<td>Discoid lesions</td>
<td>5.4</td>
</tr>
<tr>
<td>Raynaud’s phenomenon</td>
<td>13.2</td>
<td>Myositis</td>
<td>4.0</td>
</tr>
</tbody>
</table>

### SLE “Mimickers”

- Dermatomyositis
- Inflammatory myopathies
- Juvenile idiopathic arthritis
- Primary biliary cirrhosis
- Autoimmune hepatitis
- Rheumatoid arthritis
- Sjögren syndrome
- Systemic sclerosis
- Autoimmune thyroiditis
- Drug-induced lupus

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<table>
<thead>
<tr>
<th>Common Lab Findings</th>
<th>Common Laboratory Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ ESR</td>
<td>Proteinuria</td>
</tr>
<tr>
<td>Anemia</td>
<td>Anti-nuclear antibodies (ANA)</td>
</tr>
<tr>
<td>↓ C3, C4</td>
<td>Anti-dsDNA antibodies</td>
</tr>
<tr>
<td>Leukopenia</td>
<td>Antiphospholipid antibodies</td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>Anti-Smith antibodies</td>
</tr>
<tr>
<td>Hypergammaglobulinemia</td>
<td></td>
</tr>
</tbody>
</table>
When considering cost-effective lab tests to order for Felicia to guide a diagnosis of SLE, which might you avoid?

Comprehensive lupus panel

ANA

Complement (C3, C4)

Urinalysis

CBC
Interpreting a Positive ANA

• Reasons for a positive ANA
  – SLE
  – Other autoimmune disorders
  – Infections
  – Certain medications (eg, hydralazine)

• Titer and pattern are informative
  – Include in lab request
  – Titer of < 1:80 is NOT diagnostic
ANA Patterns and Diagnostic Implications for SLE

Homogenous
- Very common
- Not specific for a particular illness, but usually found in lupus

Peripheral (Rim)
- Uncommon
- Almost always indicates lupus

Speckled
- Common
- Nonspecific
- Usually not found in lupus; more common in mixed connective tissue disease, Sjögren’s syndrome

Nucleolar
- Uncommon
- Associated with scleroderma
- Also found in healthy individuals

Centromere
- Uncommon
- Associated with scleroderma
- Also found in healthy individuals

Felicia’s Test Results

- ANA: positive (1:160)/homogeneous pattern
- C4: 10 mg/dL
  - Low (normal range: 16–48 mg/dL*)
- WBC count: 2400/µL
  - Low (normal range 5000/µL–10,000/µL*)
- All other tests are normal
  - CMP
  - Urinalysis
  - RF

*Normal ranges vary from one laboratory to another.
ACR Criteria for SLE

- Malar rash
- Photosensitivity
- Discoid rash
- Oral ulcers
- Arthritis
- Serositis
- Renal disorder
- Neurologic disorder
- Hematologic disorder
- ANA+
- Immunologic disorder

Diagnosis based on ≥ 4 of 11 criteria

## SLICC Criteria for SLE

### Clinical Criteria
- Acute cutaneous lupus
- Chronic cutaneous lupus
- Nonscarring alopecia
- Oral or nasal ulcers
- Joint disease
- Serositis
- Renal
- Neurologic
- Hemolytic anemia
- Leukopenia or lymphopenia
- Thrombocytopenia

### Immunologic Criteria
- ANA
- Anti-dsDNA
- Anti-Sm
- Antiphospholipid antibodies
- Low C3, C4, CH50
- Direct Coomb’s test

Diagnosis is based on \( \geq 4 \) of 17 criteria, including
- \( \geq 1 \) clinical and
- \( \geq 1 \) immunologic criterion

OR
- biopsy-proven lupus nephritis and positive ANA or anti-dsDNA

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*SLICC = Systemic Lupus International Collaborating Clinics*
Does Felicia have SLE?

**ACR Criteria**

- Malar rash
- Photosensitivity
- Discoid rash
- Oral ulcers
- Arthritis
- Serositis
- Renal disorder
- Neurologic disorder
- Hematologic disorder (leukopenia*)
- ANA+
- Immunologic disorder

*less than 4000/µL, confirmed on 2 or more occasions.

Does Felicia Have SLE?

**SLICC Criteria**

**Clinical Criteria**
- Acute cutaneous lupus
- Chronic cutaneous lupus
- Nonscarring alopecia
- Oral or nasal ulcers
  - Joint disease
- Serositis
- Renal
- Neurologic
- Hemolytic anemia
  - Leukopenia or lymphopenia
- Thrombocytopenia

**Immunologic Criteria**
- ANA
- Anti-dsDNA
- Anti-Sm
- Antiphospholipid antibodies
- Low C3, C4, CH50
- Direct Coomb’s test

**Diagnosis based on ≥ 4 of 17 criteria, including**
- ≥ 1 clinical and
- ≥ 1 immunologic criterion

**Provisional Diagnosis of SLE**

**Prompt referral to rheumatology for confirmation and initiation of SLE treatment**

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*SLICC = Systemic Lupus International Collaborating Clinics*

SLE: Roles of Primary and Specialty Care

*Based on ACR or SLICC criteria.
# Role of the Rheumatologist

<table>
<thead>
<tr>
<th>Confirmation of diagnosis</th>
<th>Assessment of disease activity and severity</th>
<th>General disease management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of uncontrolled disease</td>
<td>Management/prevention of treatment toxicities</td>
<td>Other specific circumstances (eg, pregnancy, anti-phospholipid antibody syndrome, surgery)</td>
</tr>
</tbody>
</table>
Felicia’s Rheumatology Visit

- Confirm diagnosis
- Assess disease severity
- Provide education
  - SLE disease process
  - Treatment options
  - Considerations for women of childbearing age
  - Importance of adherence
- Review treatment options
- Select treatment, establish initial treatment plan
SLE Treatment

- Establish diagnosis
- Determine likely prognosis
- Assess severity and organ involvement
  - Lifestyle (e.g., sun avoidance)
  - Topical agents
  - Symptomatic agents
  - Manage comorbidities

**No Major Organ Involvement**
- Antimalarials
- Low-dose steroids
- Azathioprine/methotrexate

**Major Organ Involvement**
- Cyclophosphamide (IV)
- Mycophenolate mofetil (MMF)
- Calcineurin inhibitors
  - Cyclosporine A
  - Tacrolimus
- Biologics
  - Belimumab
  - Rituximab
  *OR*
  - Enroll in clinical trial

**FDA-approved**
- Hydroxychloroquine
- Corticosteroids
- Belimumab

**Other**
- Azathioprine
- Methotrexate (MTX)
- Leflunomide (lupus arthritis)
- Cyclophosphamide
- MMF
- Cyclosporine
- Tacrolimus
- Rituximab

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# Medications for SLE

<table>
<thead>
<tr>
<th>Medication</th>
<th>Uses</th>
<th>Delivery Route</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxychloroquine (HCQ)</td>
<td>SLE</td>
<td>PO</td>
<td>Multiple: immunomodulation without immunosuppression</td>
</tr>
<tr>
<td>Glucocorticoids</td>
<td>SLE without major organ damage (low-dose)</td>
<td>PO, IV</td>
<td>Inflammation</td>
</tr>
<tr>
<td></td>
<td>Lupus nephritis (higher doses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imunosuppressants</td>
<td>Lupus nephritis</td>
<td>PO</td>
<td>Multiple effects</td>
</tr>
<tr>
<td>- Azathioprine</td>
<td>Severe SLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cyclophosphamide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Methotrexate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- MMF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Tacrolimus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSAIDs</td>
<td>Lupus joint pain</td>
<td>PO</td>
<td>Analgesic, anti-inflammatory, antipyretic</td>
</tr>
<tr>
<td>Belimumab</td>
<td>SLE; Skin, mucosal, serositis</td>
<td>IV, SC</td>
<td>B cell activity (anti-BLyS)</td>
</tr>
<tr>
<td>Rituximab</td>
<td>Refractory severe SLE</td>
<td>IV</td>
<td>B cell activity (anti-CD20)</td>
</tr>
</tbody>
</table>

Why HCQ?

Symptom Control and Reduced Mortality


*eg, hydroxychloroquine, chloroquine.

*eg, hydroxychloroquine, chloroquine.
## Considerations for Starting HCQ

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective for early mild-moderate disease</td>
<td>GI side effects</td>
</tr>
<tr>
<td>Improvements noted in 70% within 12 weeks</td>
<td>Cardiac effects of QT prolongation</td>
</tr>
<tr>
<td>Associated with fewer thromboembolic events</td>
<td>Myopathy/cardiomyopathy</td>
</tr>
<tr>
<td>Decreased damage scores over time</td>
<td>Retinal damage with long-term use</td>
</tr>
<tr>
<td>Decreased mortality rate</td>
<td>Rash</td>
</tr>
<tr>
<td>Decreased disease activity during pregnancy without fetal harm</td>
<td>Alopecia</td>
</tr>
<tr>
<td>Long-term protective effect for SLE-associated organ damage</td>
<td>G6PD deficiency (may be more common in Hispanics)</td>
</tr>
</tbody>
</table>

Corticosteroid Treatment

Multiple Agents

- Prednisone
- Methylprednisolone
- Hydrocortisone*

Well-Established Side Effects

- CV events
- Diabetes mellitus
- Osteoporosis, osteonecrosis
- Infections
- Glaucoma, cataracts
- Psychological disorders

Well-Established Benefits

- Anti-inflammatory
- Immunosuppressive

*In patients with adrenal insufficiency.
Belimumab: BLISS-76 Results

*Primary efficacy endpoint: Responders on the Systemic Lupus Erythematosus Responder Index (SRI).


SRI responders at week 52
- 10 mg/kg: 43.2% ($P = 0.017$)
- 1 mg/kg: 40.6% ($P = 0.089$)
- Placebo: 33.5%

Safety Findings
Adverse events, serious adverse events, laboratory abnormalities, and infections occurred at similar rates across groups.
Medication Non-Adherence Is a Problem in SLE

- US Medicaid data, 2000-2006\(^1\)
  - New users of HCQ or immunosuppressive agents
  - Non-adherence rates (based on proportion of days covered < 80%)
    - 79% of HCQ users
    - 83% of immunosuppressant users
- Nonadherence ↔ higher risks of ED visits, hospitalizations
- 2017 systematic review\(^2\)
  - Overall up to 33% of patients discontinue treatment after 5 years

<table>
<thead>
<tr>
<th>Method for Assessing Nonadherence</th>
<th>Percent Nonadherent</th>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic monitoring device(^3)</td>
<td>75</td>
<td>Not specified</td>
</tr>
<tr>
<td>Pharmacy refill data(^4,5)</td>
<td>51, 43</td>
<td>HCQ, other immunosuppressants</td>
</tr>
<tr>
<td>Self-report(^6,7)</td>
<td>48, 68</td>
<td>HCQ, MTX, MMF</td>
</tr>
</tbody>
</table>

Why Do Patients Not Take Their Medications?

- Fear of potential side effects or becoming dependent on the medication
- Cost/lack of insurance coverage
- Misunderstanding of what to expect (or not)
- Too many medications, too many pills, or too many doses/day
- Lack of symptoms
- Depression
- False hope that the disorder is gone
Helping to Ensure Medication Adherence in SLE

Patient education before starting treatment is key

- Convey benefits vs risks
- Emphasize the importance of achieving the best control possible to optimize short and long-term outcomes

Consider strategies known to improve adherence in chronic disease

- Motivational interviewing\(^1\)
- Teach-back method\(^2\)
- Shared decision-making\(^3\)

Felicia: Next Steps

• Treatment selected
  − Acute management: Prednisone, 10 mg/d short term*
  − Maintenance treatment: HCQ 200 mg/day (weight-based)
  − Sunscreen (broad-spectrum*/SPF ≥ 30)\(^1,2\)

• Baseline tests
  − Bone density
  − EKG
  − Chest x-ray
  − Serum lipids
  − TSH
  − Ophthalmology exam

• Education to reinforce need for adherence to treatment and follow-up appointments

*The PCP can prescribe a corticosteroid with a presumptive SLE diagnosis

Managing and Monitoring Patients With SLE

Patient

TREATMENT PLAN

Other Specialists As Needed
- Nephrologist
- Cardiologist
- Endocrinologist
- Ophthalmologist

Primary Care Clinician

Rheumatologist
Rheumatology Care: SLE Monitoring

Lifelong monitoring is crucial for limiting flares and associated damage

- Complete ROS of potentially affected organs/systems
- Symptoms (e.g., fever, weight change, fatigue)
- Lab: CBC, platelets, urine protein: creatinine ratio, UA
- Adherence/side effects with medications

Follow-up

- Active disease: Q2-3 weeks
- Quiescent disease: Q6 months
- As needed for flares, drug monitoring, etc

### Primary Care: General SLE Management

- **Education, counseling, support, reinforce rheumatologists’ messages**

- **Lifestyle:** exercise, diet, smoking cessation

- **Sunscreen (broad spectrum\(^*\)/**≥ 30 SPF\(^1,2\)**

- **Vaccinations to help avoid infections**

- **Health maintenance:** routine gynecologic visits, dental care, ophthalmology exams\(^\dagger\)**

- **Monitoring for lupus comorbidities**

- **Frequency of follow-up if stable:** Q6 months; stagger w/Q6-month rheumatology visits

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*Defined as a sunscreen that blocks both UVA and UVB irradiation; \(^\dagger\)Especially for patients on HCQ or CS.


Labs Commonly Ordered for Lupus Monitoring in Primary Care

- CBC: particularly for leukopenia, anemia, thrombocytopenia
- CMP: particularly for renal and hepatic function
- ESR and CRP
  - Inflammation markers correlate with flares/disease activity
- dsDNA, C3/C4 levels
  - Levels correlate with flares
- Periodic urine protein: creatinine measurement
- ANA, anti-Sm have NO utility for monitoring
Case 2: Meet Trina

- 38-year-old Asian-American woman diagnosed with SLE 5½ years ago
- Currently on HCQ 400 mg/day
- Had been doing well; last routine visit with her rheumatologist was 4 months ago
- Reports extreme fatigue and intermittent inspiratory right-sided chest pain
- Worried about a flare because she and her husband had been trying to get pregnant
Trina: Physical exam

- BMI = 26 kg/m²
- Temperature: 98.9°F
- Blood pressure = 140/85 mmHg
- Heart rate: 106 bpm
- Friction rub heard on auscultation
What is the best next step for Trina?

Add methotrexate

Switch to azathioprine

Start a short course of low-dose oral CS

Consult with her rheumatologist
Primary Care Visit

• Trina’s new symptoms could indicate a lupus flare
• Check adherence
  – Consider checking medication refills
  – Consider testing HCQ levels
• Potential labs:
  – CBC, CMP, ESR
  – ESR/CRP
  – Complement levels
  – D-dimer
  – EKG
• If provisional diagnosis is SLE flare, start a short course of prednisone
Follow-up 2 Weeks Later

- Rash has improved
- Pleuritic chest pain remains
- New symptom: joint pain
- Labs significant for:
  - Elevated dsDNA, ESR, CRP
  - Low C3/C4
  - Urinalysis: no protein

Time to refer for rheumatology care
Conversation With the Rheumatologist

• Assess adherence to HCQ
  – Pregnancy-related issues

• MMF – may cause fetal harm (boxed warning)

• Azathioprine
  – Pregnancy category D
  – Increasing data to support safety in pregnancy

• Cyclosporine
  – Pregnancy category C

• Biologics
  – Belimumab – risks in pregnancy uncertain
  – Rituximab – can cause fetal harm
Primary Care Monitoring for Trina

<table>
<thead>
<tr>
<th>General Care</th>
<th>Because of repetitive prednisone bursts, monitor bone mineral density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Routine ophthalmology exams</td>
</tr>
<tr>
<td></td>
<td>Consider vitamin D and Ca(^{2+}) supplementation (debated)</td>
</tr>
<tr>
<td></td>
<td>Recommend broad-spectrum sunscreen (SPF ≥ 30)</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Fatigue</td>
</tr>
<tr>
<td>Cardiovascular Issues</td>
<td>Perform out-of-office BP monitoring (home or automated BPM)</td>
</tr>
<tr>
<td></td>
<td>Nonpharmacologic (eg, diet, exercise, weight management)</td>
</tr>
<tr>
<td></td>
<td>Pharmacologic–lipid management, optimum BP</td>
</tr>
</tbody>
</table>
Ongoing Care and Monitoring of SLE

• All patients require ongoing education, counseling, support

• Patients with mild disease can be monitored in primary care

• *Lifelong monitoring* is crucial for limiting flares and associated damage
  – History: fever, weight change, fatigue, rash, alopecia, chest pain, joint pain/swelling, adherence to treatment, side effects from treatment
  – Physical exam: joints, skin, mucous membranes, fundus, edema
  – Labwork: CBC, platelets, creatinine, urinalysis

• Frequency of monitoring depends on SLE activity, severity, extent, response to treatment, type of treatment

Key Messages

• Lupus manifests in multiple ways and disease progression is heterogeneous
• Well-coordinated multidisciplinary health care is essential
• Education/communication is needed to support adherence to medication and other interventions
• Goals of treatment are disease remission or low-disease activity
• Patient communication is critical
  – Discuss treatment efficacy/safety
  – Assess adherence: Medications that are not taken will not work
  – Monitor possible side effects
  – Pregnancy may impact the treatment plan
  – Manage the whole patient
• All patients require lifelong monitoring
Posttest Question #1: Which of the following anti-nuclear antibody (ANA) patterns almost always indicates systemic lupus erythematosus (SLE)?

- Nucleolar
- Peripheral or rim
- Speckled

I’m not sure which is correct.
Posttest Question #2: On the basis that American College of Rheumatology criteria are met, which of the following patients would you refer to a rheumatologist for confirmation of an SLE diagnosis?

A patient with joint disease, malar (butcherfly) rash, and a positive ANA

A patient with serositis, lymphopenia, and low complement (C3) levels

A patient with oral ulcers, joint disease, serositis, and leukopenia

I’m not sure which is correct.
Just 2 more questions, almost done!
Posttest Question #3: In a study by Manzi and colleagues, how much more likely were women ages 35-44 years with SLE to have a myocardial infarction compared to age-matched controls?

2 times
5 times
25 times
50 times
Posttest Question #4: In the BLISS-76 clinical trial of belimumab, what percentage of patients on the 10 mg/kg dose were responders on the Systemic Lupus Erythematosus Response Index (SRI)?

- 28.6% A
- 38.5% B
- 44.8% C
- 61.1% D
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