Lupus in Males

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Lecture Overview

- Discuss the potential role of hormones in the development of lupus – how does this differ from males to females?
- Discuss the expression of systemic autoimmunity in males versus females – is there a difference in what lupus looks like and how it behaves?
- Discuss the effects of medications used to manage lupus as they pertain to males

Malar Rash

Discuss the potential role of hormones in the development of lupus – how does this differ from males to females?
Gender predominance

- Female predominance of SLE would suggest a hormone effect.
- Experimental data in males suggesting an increase in 16-hydroxylated estrogenic metabolites in SLE males.
- No “expression” of these hormones in males appreciated.
- Males with lupus do not “look” more feminine...
- Other data that the relationship may be specific to genetics of maleness, the “Y” chromosome.

“Immunogenesis” of SLE

Family with Male Dominant Lupus

Studies of Impotence in SLE

(male patients with mild and moderate disease activity, not yet treated with cytotoxic or corticosteroid drugs)

- 36% of males with SLE have sexual disturbances
- Impotence develops before SLE onset
- Decreased libido and satisfactory effects of androgen therapy suggest an imbalance of sex hormones
- Impotent males with SLE have a twofold decrease in testosterone levels

Discuss the expression of systemic autoimmunity males versus females – is there a difference in what lupus looks like and how it behaves

Clinical Criteria for SLE

- Serositis
- Oral Ulcers
- Nasopharyngeal
- Arthritis
- Small joints – hands
- Photosensitivity
- Malar Rash
- Discoid Rash
- Blood dyscrasia
- HAs, low WBC, lymphs, plts
- Renal Disease
- Proteinuria, RBC casts
- ANA positivity
- Immunologic Changes
- Sm, dDNA
- False positive VDRL
- aPL serologies
- Neurologic Disease
- Seizures, psychosis
Systemic Lupus Erythematosus Affects Multiple Organ Systems

Central Nervous System
- Seizures, Psychosis, Headaches
- Cognitive dysfunction
- Neuropathies
- Depression, Low Grade Fever

Eyes and Mucous Membranes
- Ulcers in the Eyes, Nose, Mouth or Vagina
- Sjogren’s Syndrome

Heart and Lungs
- Pericarditis, Myocarditis
- Endocarditis, Pleuritis
- Pneumonitis

Gastrointestinal
- Nausea, Vomiting, Diarrhea
- Weight Changes

Musculoskeletal
- Extreme Fatigue, Arthralgia, Myalgia, Arthritis, Myositis

Blood
- Anemia, Thrombocytopenia
- Leukopenia, Thrombosis
- Circulating Antibodies and Immune Complexes

Skin
- Butterfly Rash, Cutaneous Lesions, Photosensitivity, Alopecia, Vasculitis
- Raynaud’s Phenomenon

Lupus Manifestations in Men: Latin Americans

- “cohort” of 107 Latin American males
- Higher prevalence of:
  - Renal disease (kidney involvement)**
  - Vascular thrombosis (“blood clots”)
  - Anti-double stranded DNA antibodies
- Greater use of moderate to high dose steroids
  **3 other studies confirm greater renal involvement

Lupus manifestations in Men: LUMINA study

- More “damage” early in disease
- This predisposes to increased damage later in disease

Lupus Manifestations in Male

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Females (n=200)</th>
<th>Males (n=120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin involvement</td>
<td>100</td>
<td>94</td>
</tr>
<tr>
<td>Malar Rash</td>
<td>42.5</td>
<td><em>65</em></td>
</tr>
<tr>
<td>Discoid lupus erythematosus</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Digital Vasculitis</td>
<td>18.2</td>
<td><em>33.3</em></td>
</tr>
<tr>
<td>Articular involvement</td>
<td>99.7</td>
<td>92.5</td>
</tr>
<tr>
<td>Cardiac involvement</td>
<td>87</td>
<td>79.9</td>
</tr>
<tr>
<td>Pericarditis</td>
<td>51</td>
<td>41</td>
</tr>
</tbody>
</table>
### Lupus Manifestations in Male

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Females (n=200)</th>
<th>Males (n=170)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonitis</td>
<td>22.3</td>
<td>17</td>
</tr>
<tr>
<td>Nephritis</td>
<td>58.3</td>
<td><em>75</em></td>
</tr>
<tr>
<td>CNS involvement</td>
<td>47.3</td>
<td>34.8</td>
</tr>
<tr>
<td>Peripheral nerves</td>
<td>36.1</td>
<td>18.7</td>
</tr>
<tr>
<td>Raynaud's phenomenon</td>
<td>16.6</td>
<td><em>29</em></td>
</tr>
<tr>
<td>Sacroilitis</td>
<td>N.D.</td>
<td><em>49</em></td>
</tr>
</tbody>
</table>

### Lupus Manifestations in Males

<table>
<thead>
<tr>
<th>Feature</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital vasculitis</td>
<td>33%</td>
</tr>
<tr>
<td>Livedo vasculitis</td>
<td>41%</td>
</tr>
<tr>
<td>Ulcers</td>
<td>10%</td>
</tr>
<tr>
<td>Raynaud's phenomenon</td>
<td>29%</td>
</tr>
<tr>
<td>Vascular involvement of the</td>
<td></td>
</tr>
<tr>
<td>Lungs</td>
<td>19%</td>
</tr>
<tr>
<td>CNS</td>
<td>12%</td>
</tr>
<tr>
<td>Heart</td>
<td>15%</td>
</tr>
<tr>
<td>Avascular necrosis bone</td>
<td>15%</td>
</tr>
</tbody>
</table>

### Lupus Manifestations in Men

- More common in males:
  - Serositis
  - Cutaneous manifestations
  - Discoid lupus erythematosus
  - Hepatosplenomegaly
  - Cardiovascular manifestations (hypertension)
  - vasculitis
  - Fevers / weight loss at onset

- Less common in males:
  - Arthritis
  - Peripheral nerve damage
  - Neurologic complications
  - Central nervous system (brain)

Discuss the effects of medications used to manage lupus as they pertain to males.
Medication Issues

- Studies on new medications usually require birth control in place for participants
- Concerns for issues raised in animal models
- Learn about issues in post marketing experience
  - Autoimmune diseases, such as lupus
  - Experience when used in cancer patients
  - Transplant recipients
- Health issues for males and females similar except:
  - Male with issues of sperm production (short, long term)
  - Male with issues of testosterone production (short, long term)

Therapy with Corticosteroids

- Dose related to manifestation of lupus
- Benefits balanced against side effects:
  - "moon facies"
  - Trunchal obesity
  - Mood issues – both depression and hyperactivity / sleep disturbance
  - Decreased production of androgenic hormones
  - Testosterone production decreased
  - Osteoporosis risks / avascular necrosis

Therapy with “Immunosuppressives”

<table>
<thead>
<tr>
<th>Medication</th>
<th>“birth defects”</th>
<th>“sterility”</th>
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</thead>
<tbody>
<tr>
<td>Hydroxychloroquine</td>
<td>None known</td>
<td>No effect</td>
</tr>
<tr>
<td>Sulfasalazine</td>
<td>“reversible decrease sperm count”</td>
<td>No effect</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>Possible effect while taking</td>
<td>No effect</td>
</tr>
<tr>
<td>Azathioprine</td>
<td>None known</td>
<td>No effect</td>
</tr>
<tr>
<td>Mycophenylate mofetil</td>
<td>None known</td>
<td>No effect</td>
</tr>
<tr>
<td>Cyclophosphamide</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Belimumab</td>
<td>None known</td>
<td>None known</td>
</tr>
</tbody>
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Lecture Summary

- Hormones have a potential role in the development of lupus, as does gender
- Expression of systemic autoimmunity is different in males versus females, but not enough to make us believe this is a different disease
- Medications used to manage lupus can affect males differently, and it is important to talk to your doctor about these effects so you can best cooperate in your care