New Therapies for the Management of Lupus

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Presentation Objectives

By the end of this presentation, the participant will be able to:

- Identify the pathophysiology and symptoms of SLE.
- Discuss new treatment modalities for SLE.

Forms of Lupus

- Systemic Lupus Erythematosus
- Cutaneous Lupus Erythematosus
- Drug-Induced Lupus Erythematosus
- Neonatal Lupus
CDC: Burden of SLE

- 322,000 – 1,000,000 people affected
- One-third of all deaths for men and women occur before age 45 years;
- SLE is 3X more common in black women than caucasian women;
- Black and Hispanic/Latina women develop symptoms at an earlier age
  – Black women have more significant organ involvement, especially the kidneys

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Background: SLE

- Prototypical autoimmune disease;
- Primarily a disease of young women;
- Occurs throughout the lifespan: peak occurrence 15-40 years of age;
- Female to male ratio approximately 10:1
- Most cases are sporadic although do see familial aggregation;

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Background, cont.

- May occur with other autoimmune diseases;
- Diagnosis may be difficult;
  – American College of Rheumatology – standard classification scheme
- Accelerated atherosclerosis leads to premature mortality.

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Pathophysiology Overview: Autoimmune Basis

- Proposed defect in apoptosis
- Generation of antibodies
  - Serum antinuclear antibodies (ANA)
- Antigen-Antibody complexes formed
- Multisystem, microvascular inflammation

Defect in Apoptosis

- Increased incidence of cell death
- Disturbance in immune tolerance
  - Lymphocyte signaling, interferon response, complement and immune complex clearance, DNA methylation

Serum Antinuclear Antibodies

- Antibodies act against the body’s own cells
- Antibodies are markers for SLE
- Indication of immune system abnormalities leading to clinical manifestations
Multisystem, Microvascular Inflammation

- Chronic inflammation results
- Not contagious, infectious, or malignant
- Varies in severity to severe resulting in potentially fatal vital organ damage
- Characterized by exacerbations (flares) and remission (periods of improvement)
  - Some show continuous, chronic activity

Pathophysiology Overview (continued)

- Genetic predispositions
- Gene-environment interactions
- Deficiencies in Vitamin D

ACR Criteria for Classification

- Malar rash
- Discoid rash
- Photosensitivity
- Oral ulcers
- Arthritis
- Serositis
ACR Criteria, cont

- Renal disorder
- Neurological disorder
- Hematologic disorder
- Immunologic Disorder
- Abnormal ANA titer

Management of SLE
Symptoms

- Early symptoms may be vague and nonspecific;
- Symptoms may be transient or prolonged;
- Symptoms may occur as a group of individually;
- Symptoms not always correlated to laboratory data.

Symptoms of SLE

- Fatigue
- Arthralgia
- Arthritis
- Fever (>100°F)
- Skin rashes
- Anemia
- Edema
Symptoms, cont.

- Pleurisy
- Facial rash
- Photosensitivity
- Alopecia
- Raynaud’s phenomenon
- Seizures
- Mouth or nose ulcers

Treatment Modalities

- Physical and psychological rest
- Protection from direct sunlight
- Diet and nutrition
- Treatment of infections
- Surgery
- Immunizations
- Medications

Medications for SLE

- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Antimalarials
- Corticosteroids
- Immunosuppressives
- Immunomodulators
- Others
### NSAIDs
- Ibuprofen
  - Advil, Motrub IB, Addaprin, Ibu, NeoProfen
- Naproxen
  - Anaprox, Naprelan, Naprosyn
- Diclofenac
  - Voltaren XR, Cataflam

### Antimalarials
- Hydroxychloroquine
  - Plaquenil

### Corticosteroids
- Methylprednisolone
  - A-Methapred, Medrol, Solu-Medrol, Depo-Medrol
- Prednisone
## Immunosuppressants

- Cyclophosphamide
- Methotrexate
  - Trexall, Rheumatrex
- Azathioprine
  - Imuran, Azasan
- Mycophenolate
  - CellCapt, Myfortic

## Immunosuppressants, cont

- Cyclophosphamide
  - Cytoxan
- Chlorambucil
  - Leukeran
- Cyclosporine
  - Sandimmune

## Immunomodulators

- Belimumab
  - Benlysta
- Rituximab
  - Rituxan
Plasmaphoresis

- Filtering blood to remove antibodies and other immune substances
- Functions to suppress immune functioning – immune responses

Role of the Infusion Nurse

- Administration of selected medications
- Correlation of medication administration to symptom presentation
  - Exacerbations and remissions
- Participation in clinical trials
- Nutrition therapy
- Patient teaching

Resources

- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
- National Institute of Nursing Research
Resources, cont.

- American College of Rheumatology’s Association of Rheumatology Health Professionals
  - http://www.rheumatology.org
- Arthritis Foundation
  - http://www.arthritis.org
- Lupus Foundation of America (LFA)
  - http://www.lupus.org
  - http://www.lupusny.org (SLE)

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Thank You

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