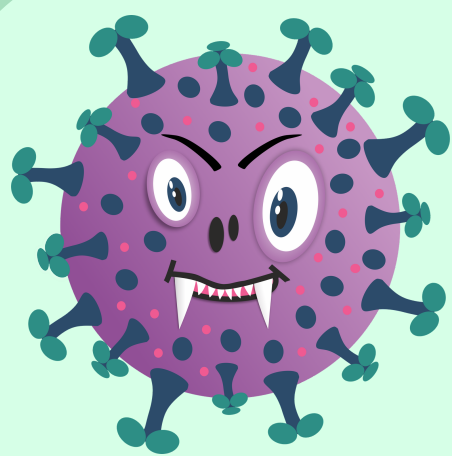


Systemic Lupus Erythematosus



Systemic lupus erythematosus, or SLE, is a chronic autoimmune disease in which the immune system mistakenly attacks healthy tissues and organs, causing inflammation and damage throughout the body¹

Etiology

Genetic Factors

- HLA-DR2 and HLA-DR3 genes²
- Family history
- Complement(C1q, C2, and C4) deficiencies³

Environmental Triggers

- Ultraviolet light
- Viral infections⁴
- Certain drugs
- Smoking & Stress⁵

Hormonal Factors⁶

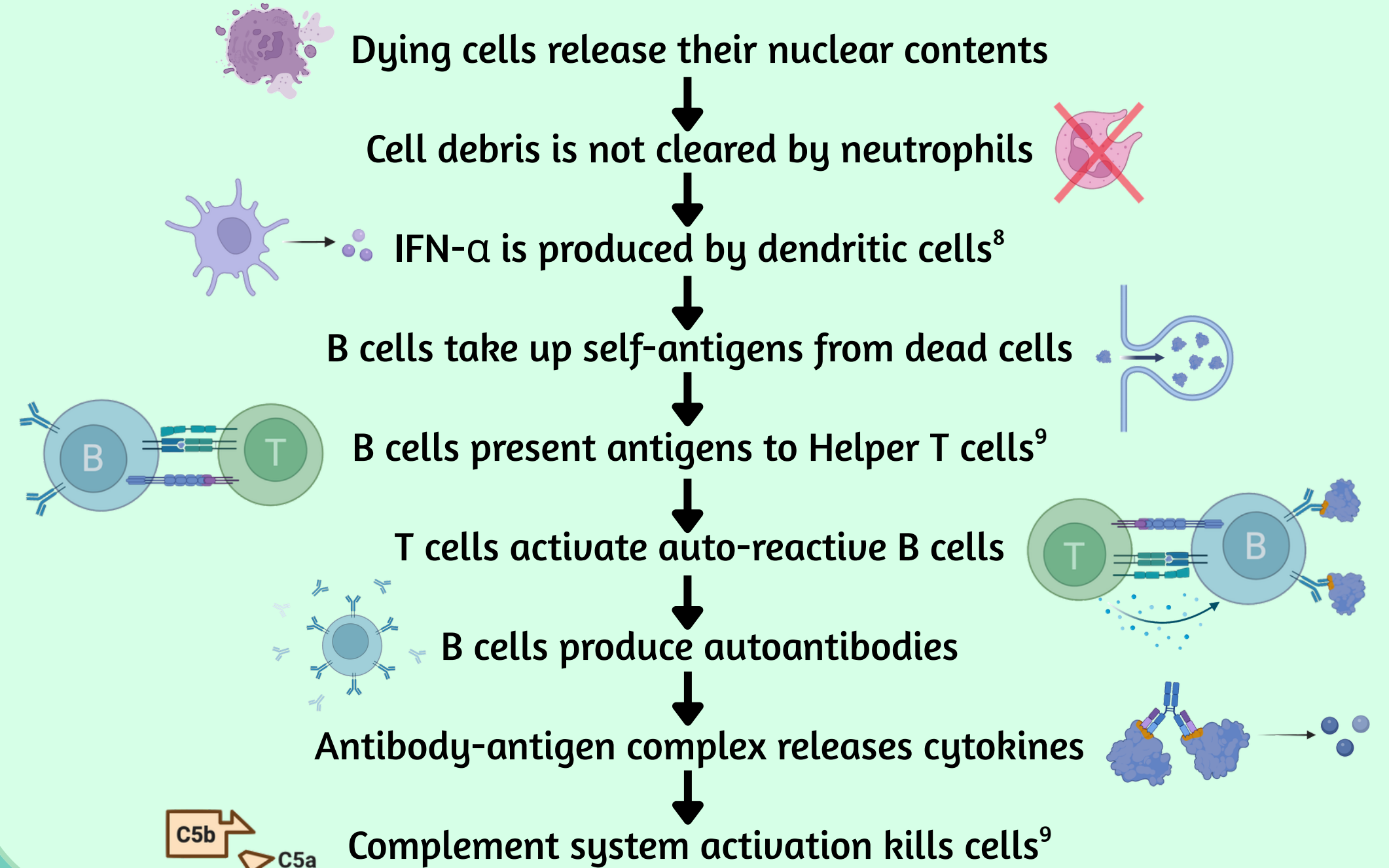
- Estrogen
- Men < Women

Immune System Abnormalities

- Over reactive B & T cells⁷
- Formation of immune complexes³

Pathogenesis

Cycle that involves the Innate & Adaptive Immune Systems⁸



Signs and Symptoms of SLE

Signs^{8,10}

- Hallmark - Malar (Butterfly) rash
- Photosensitivity (skin)
- Alopecia (Hair loss)
- Fever
- Fingers or toes turning purple/white when cold

Symptoms^{8,10}

- Joint pain
- Arthritis (Asymmetric)
- Stiffness
- Protein/Blood in urine
- Seizures
- Hallucinations
- Chest pain

Diagnosis and prognosis

1. Process of Identification

- Autoimmune disease¹²
- Body makes autoantibodies¹³
- Immune complexes form¹⁴
- Affects many organs⁹

2. Methods of Evaluation

- Check autoantibodies in blood¹³
- Check organs for inflammation¹⁵
- Skin, kidneys, joints common¹³
- Look for flare pattern¹²

3. Tests to be Run

- autoantibody tests¹³
- Organ tests:
 - 1.Kidney (urine function)¹⁵
 - 2.Skin (rash)¹²
 - 3.Joints (pain, swelling)⁹

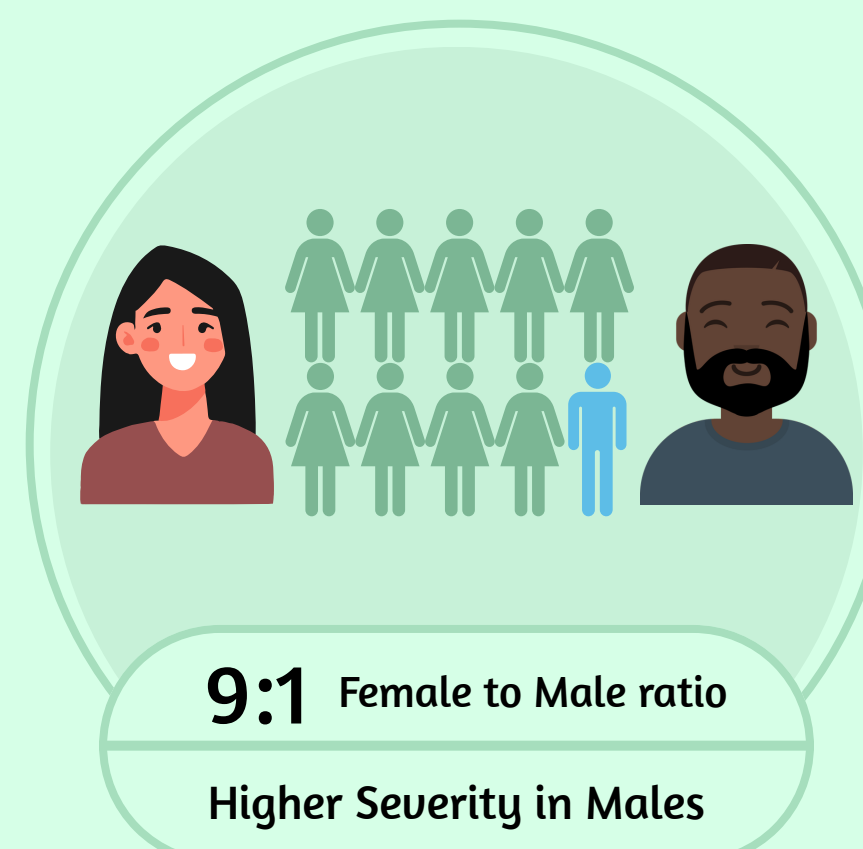
4. Clinical Findings

- Rash, joint pain¹²
- Kidney problems¹⁵
- Blood vessel inflammation¹⁴
- Symptoms vary⁹

Epidemiology

SLE affects over 3.4 million people worldwide.

It predominantly affects women of reproductive age (9:1 female-to-male ratio) and disproportionately impacts Asian, Black, Hispanic, and Indigenous populations, who often experience more severe disease¹¹.



Management & treatment

Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease with no cure. Treatment focuses on reducing immune activity, lowering inflammation, and preventing organ damage. Treatment reduces auto antibody production, immune complex formation, and inflammation in affected tissues.

Antimalarial Drugs

Example: Chloroquine (CQ), Hydroxychloroquine (HCQ)

- ✓ reduce immune activation
- ✓ lower cytokine signalling
- ✓ prevent flares

Glucocorticoids

Example: prednisone (PDN), Methylprednisolone (MP)

- ✓ reduce inflammation
- ✓ decrease cytokine production
- ✓ limit immune cell movement

