

SYSTEMIC LUPUS ERYTHEMATOSUS **(SLE)**

Systemic lupus erythematosus (SLE) is a chronic, inflammatory autoimmune disorder. It may affect the skin, joints, kidneys, and other organs.

Causes, Incidence, and Risk Factors

SLE (lupus) is an autoimmune disease. This means there is a problem with the body's normal immune system response. Normally, the immune system helps protect the body from harmful substances. But in patients with an autoimmune disease, the immune system can't tell the difference between harmful substances and healthy ones. The result is an overactive immune response that attacks otherwise healthy cells and tissue. This leads to chronic (long-term) inflammation.

The underlying cause of autoimmune diseases is not fully known. Some researchers think autoimmune diseases occur after infection with an organism that looks like certain proteins in the body. The proteins are later mistaken for the organism and wrongly targeted for attack by the body's immune system.

SLE may be mild or severe enough to cause death. SLE affects nine times as many women as men. It may occur at any age, but appears most often in people between the ages of 10 and 50 years. African Americans and Asians are affected more often than people from other races. SLE may also be caused by certain drugs.

Symptoms

Symptoms vary from person to person, and may come and go. The condition may affect one organ or body system at first. Others may become involved later. Almost all people with SLE have joint pain and most develop arthritis. Frequently affected joints are the fingers, hands, wrists, and knees.

Inflammation of various parts of the heart may occur as pericarditis, endocarditis, or myocarditis. Chest pain and arrhythmias may result from these conditions.

General symptoms include:

- ❑ Fever
- ❑ Fatigue
- ❑ General discomfort, uneasiness or ill feeling (malaise)
- ❑ Skin rash - a "butterfly" rash over the cheeks and bridge of the nose affects about half of those with SLE. The rash gets worse when in sunlight. The rash may also be widespread.
- ❑ Sensitivity to sunlight
- ❑ Joint pain and swelling
- ❑ Arthritis
- ❑ Swollen glands
- ❑ Muscle aches
- ❑ Nausea and vomiting
- ❑ Pleurisy (causes chest pain)
- ❑ Pleural effusions
- ❑ Seizures
- ❑ Psychosis

Additional symptoms that may be associated with this disease:

- ❑ Blood in the urine
- ❑ Coughing up blood
- ❑ Nosebleed
- ❑ Swallowing difficulty
- ❑ Skin color is patchy
- ❑ Red spots on skin
- ❑ Fingers that change color upon pressure or in the cold
- ❑ Numbness and tingling
- ❑ Mouth sores
- ❑ Hair loss
- ❑ Abdominal pain
- ❑ Visual disturbance
- ❑ Blood disorders, including blood clots

Signs and tests

The diagnosis of SLE is based upon the presence of at least four out of eleven typical characteristics of the disease. The doctor will listen to your chest with a stethoscope. A sound called a heart friction rub or pleural friction rub may be heard. A neurological exam will also be performed.

Tests used to diagnose SLE may include:

- ❑ Antinuclear antibody (ANA) panel including anti-DNA and anti-Smith antibodies
- ❑ Chest x-ray showing pleuritis or pericarditis
- ❑ Urinalysis to show blood, casts, or protein in the urine
- ❑ CBC
- ❑ Kidney biopsy

This disease may also alter the results of the following tests:

- ❑ WBC count
- ❑ Serum globulin electrophoresis
- ❑ Rheumatoid factor
- ❑ Urine protein
- ❑ Serum protein electrophoresis
- ❑ Mononucleosis spot test
- ❑ ESR
- ❑ Cryoglobulins
- ❑ Coombs' test - direct
- ❑ Complement component 3 (C3)
- ❑ Complement
- ❑ Anti-thyroid microsomal antibody
- ❑ Anti-thyroglobulin antibody
- ❑ Anti-mitochondrial antibody
- ❑ Anti-smooth muscle antibody

Treatment

There is no cure for SLE. Treatment is aimed at controlling symptoms. Your individual symptoms determine your treatment.

Mild disease that involves a rash, headaches, fever, arthritis, pleurisy, and pericarditis requires little therapy. Nonsteroidal anti-inflammatory medications (NSAIDs) are used to treat arthritis and pleurisy. Corticosteroid creams are used to treat skin rashes. An anti-malaria drug called (hydroxychloroquine) and low dose corticosteroids are sometimes used for skin and arthritis symptoms.

You should wear protective clothing, sunglasses, and sunscreen when in the sun.

Severe or life-threatening symptoms (such as hemolytic anemia, extensive heart or lung involvement, kidney disease, or central nervous system involvement) often require treatment by a rheumatologist and other specialists in the specific area. Corticosteroids or medications to decrease the immune system response may be prescribed to control the various symptoms. Some health care professionals use cytotoxic drugs (drugs that block cell growth) to treat people who do not respond well to corticosteroids or who must use high doses of corticosteroids.

Prognosis

The outcome for people with SLE has improved over recent years. Many of those with SLE have mild illness. Women with SLE who become pregnant are often able to carry the pregnancy safely to term and deliver normal infants, as long as there is no severe kidney or heart disease present and the SLE is being treated appropriately. The presence of anti-phospholipid antibodies may increase the possibility of pregnancy loss.

The 10-year survival rate for lupus patients is greater than 85%. People with severe involvement of the brain, lungs, heart, and kidney do worse than others in terms of overall survival and disability.

Complications

Some people with SLE have deposits of antibodies within the cells (glomeruli) of the kidneys. This leads to a condition called lupus nephritis. Patients with this condition may eventually develop kidney failure and require dialysis or kidney transplantation.

Other complications include:

- ❑ Infection
- ❑ Thrombocytopenia
- ❑ Hemolytic anemia
- ❑ Myocarditis
- ❑ Seizures

Additional Information

- Lupus Foundation of America -
<http://www.lupus.org/newsite/index.html>
- Interactive Tutorial (NIH) -
http://www.nlm.nih.gov/medlineplus/tutorials/lupus/htm/_no_50_no_0.htm

*Source: NIH
Reviewed 8/2007.*

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