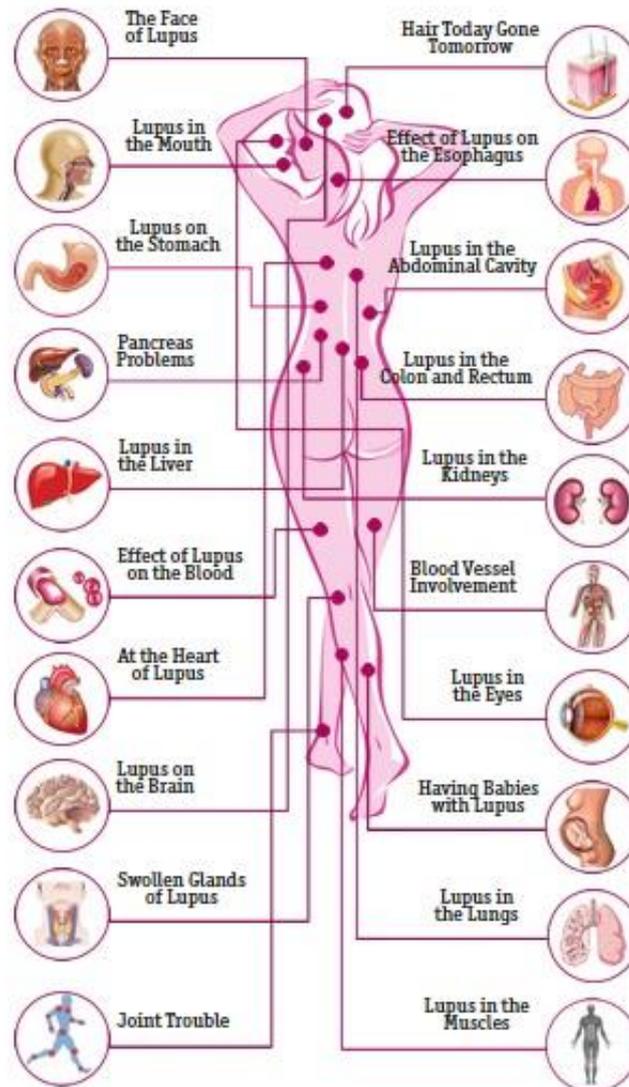


Lupus: Symptoms and Diagnoses



Fatigue

This is one of the most common and certainly one of the most prominent features of lupus. Patients often describe it as an "unnatural fatigue". Its causes are not well understood. Often it precedes the diagnosis by months or years and only when treatment has been successfully started does the patient realise how major a feature it had been.

Aches and pains

The majority of lupus patients suffer at some stage from joint and muscle pains. In many patients this presents as "pain all over". In acute flares of lupus the symptoms are often described as being "flu-like". Unlike other rheumatic diseases such as rheumatoid arthritis, there is often very little to see in the way of joint swelling. It is not just the joints that are affected but the tendons and muscles as well. In the majority of cases the joint inflammation does not progress to permanent damage.

Fevers

Fever is usually a feature of a flare of the disease. Fever is unusual when the disease is in a quiet phase: thus in an adult or a child known to have lupus who develops fever the possibility that a separate diagnosis - infection - might be present always needs consideration.

Rashes

A wide variety of skin rashes occur in lupus. Traditionally these are sun-sensitive ("photosensitive") but this is not always the case. The commonest rashes are on the cheeks (the "butterfly" rash across the nose and cheeks), on the elbows, on the palms and soles and on the V-neck area. The rashes vary from pinkish discolouration through to blisters and small pinpoint "blood spots" (purpura). Most rashes in lupus have a tendency to come and go.

Hair loss

Hair loss is one of the most important features of active lupus. It may be the first manifestation of the disease and is often first noticed by the patient as hair on the pillow. In some cases hair loss is patchy and even extreme. Fortunately, in the vast majority of patients the hair re-grows after successful treatment, though hair regeneration is often notoriously slow.

Headaches

Headaches are a major feature of lupus. In some patients a history of headaches or "a typical migraine" go back to the patient's teens and pre-date the diagnosis by many, many years. There is almost certainly a variety of causes

of headaches in systemic lupus. One specific and important cause is "sticky blood" caused by the presence of antiphospholipid antibodies (see the fact sheets on Lupus and Blood Disorders and Lupus and Associated Conditions).

Depression

Depression is an important feature of lupus. It is sometimes simply attributed to being "unwell" or having tiredness and pain. However, in many patients it is far more important than this and is a primary feature of the disease. It sometimes responds well to management of the lupus itself and is clearly a central feature of the lupus process. In some patients the return of depression is a tell-tale sign that the lupus is flaring.

General symptoms

As almost every organ in the body may be affected at some time, the symptoms and signs are legion and can include irritation of the eyes (sometimes associated with dry eyes), mouth ulcers, chest pain (pleurisy is, for example, important in active lupus), weight loss and ankle swelling. Some of these features will be discussed in other fact sheets when individual organs are being reviewed.

Diagnosis

The diagnosis of lupus is usually made on clinical grounds. The combination of some of the features described above, especially the skin rashes, usually but not always makes the diagnosis clear. Unfortunately, in many patients, especially those who do not have the classical tell-tale rashes, the diagnosis is missed. This is particularly true for those with more "vague" symptoms such as fatigue, depression or headaches. Often the patients are given the wrong diagnosis such as "ME" or "atypical" multiple sclerosis. Diagnosis is critical and any individual in whom lupus is suspected (or for that matter the relative or offspring of any individual with lupus in whom the diagnosis is a consideration) should have the simple blood tests performed.

Lupus blood tests

Lupus is now almost invariably diagnosed by blood tests. One of the most typical features of lupus is the presence of particular antibodies in the blood. Antibodies are proteins which recognise and bind to other molecules (usually proteins) in the body. They are usually produced in response to infection. However, instead of getting rid of an unwanted foreign protein (which is what normal antibodies do), the antibodies in lupus recognise components of our own cells (usually DNA or proteins). These antibodies are therefore called auto-

antibodies. Why these auto-antibodies are made in lupus is complex and still not fully understood. Binding of the auto-antibody to its target can interfere with the normal function of the target molecules, the cells containing the molecules, or can result in the formation of complexes containing the antibody and its target molecule (called immune complexes) which become trapped in blood vessels and the kidney and cause inflammation and damage. This damage is often due to the activation of a series of proteins called complement (also normally involved in clearing infections from the body). Thus laboratory tests in lupus are performed in order to assess the activity of the disease (for example the type and amount of autoantibodies and complement in the blood), and the effects of the disease and certain drugs used to treat lupus on blood cell counts and blood chemistry. These involve a small amount of blood and are extremely sensitive. There are five major blood tests carried out on the blood sample.

a. Antinuclear antibody (ANA)

ANA stands for anti-nuclear antibody. This test detects a group of antibodies directed against components of nucleus of the cell, such as DNA and ribonucleoproteins (RNP). The individual antibodies include anti-DNA antibodies and the various anti-ENA antibodies (see below). The ANA test is used as a screening test for these auto-antibodies which may then be identified individually by other tests. The ANA test is positive in 95% of people with lupus but only about 5% of healthy people. It can also be positive in people with related autoimmune conditions (sometimes called connective tissue diseases) such as dermatomyositis, polymyositis, and systemic sclerosis (scleroderma). It is sometimes positive in people with other types of disease such as chronic infection or certain malignancies (cancers). It is therefore not diagnostic of lupus, but it is important supporting evidence when other features (symptoms, signs and other laboratory tests) suggest lupus.

b. DNA antibodies

This is the highly specific test for lupus. For some unknown reason the presence of antibodies against double-stranded DNA is the hallmark of lupus. It is very specific for this disease and rarely found in any other condition. Strongly positive anti-DNA antibody tests provide almost total proof of the diagnosis. The level or titre of the antibodies provides a rough guide to disease activity and is used by physicians to monitor the ups-and-downs of the disease.

c. ENA

The term "extractable nuclear antigens" applies to a battery of other antibodies which are found in lupus variants such as "Sjögren's syndrome" and "mixed connective tissue disease"- these will be discussed in a separate fact sheet.

d. Antiphospholipid antibodies

These tests are associated with the important problem of "sticky blood". Patients with high levels of antiphospholipid antibodies have an increased tendency to clotting both in the veins and arteries and in pregnant women with these antibodies there is a risk of thrombosis of the placenta leading to miscarriage. It is now recognised that many women with recurrent miscarriages have antiphospholipid antibodies and that successful pregnancies are possible when the patient with "sticky blood" is treated either with aspirin or with an anticoagulant.

e. Complement

This is a term used for a group of proteins in the blood which are involved in the immune process. In active lupus the levels of complement (usually measured as "C3" and "C4") are low and these often provide a clue to the degree of disease activity.

General blood tests

In addition to the specific blood tests, the physician usually requests a full blood count and biochemistry. The blood count in lupus can show low white cells, low red cells and low platelet counts. Biochemical tests are important, especially the creatinine and urea which are raised if there has been evidence of kidney disease. Two blood tests, the ESR and the C-reactive protein (CRP) are used as "barometers" of disease activity.

Urine tests

Testing the urine is vital in lupus patients and it is the practice in some lupus clinics to teach all patients how to test their own urine. The simple test uses a "dip-stick" to check for protein - often the earliest clue to the presence of kidney disease. More precise urine tests are performed on a "MSU" (mid-stream urine - a sample of urine sent to the laboratory for microscopic analysis). Under the microscope, the presence of white cells, red cells or clumps of cells -

"casts" - is recorded - all possible signs of kidney disease. Finally, all urine sent to the laboratory is tested for bacterial infection.

More complicated tests

The lupus patient may require specialized tests to look for more widespread organ involvement. These will include echocardiograms, brain scan (NM), kidney scans and, if there is evidence that the kidney is inflamed, possibly a kidney biopsy. Having said this, for the majority of lupus patients attending routine lupus clinics, a simple blood test and urine test are the basic requirements. From these two analyses a broad picture of the degree of lupus activity can be readily obtained.