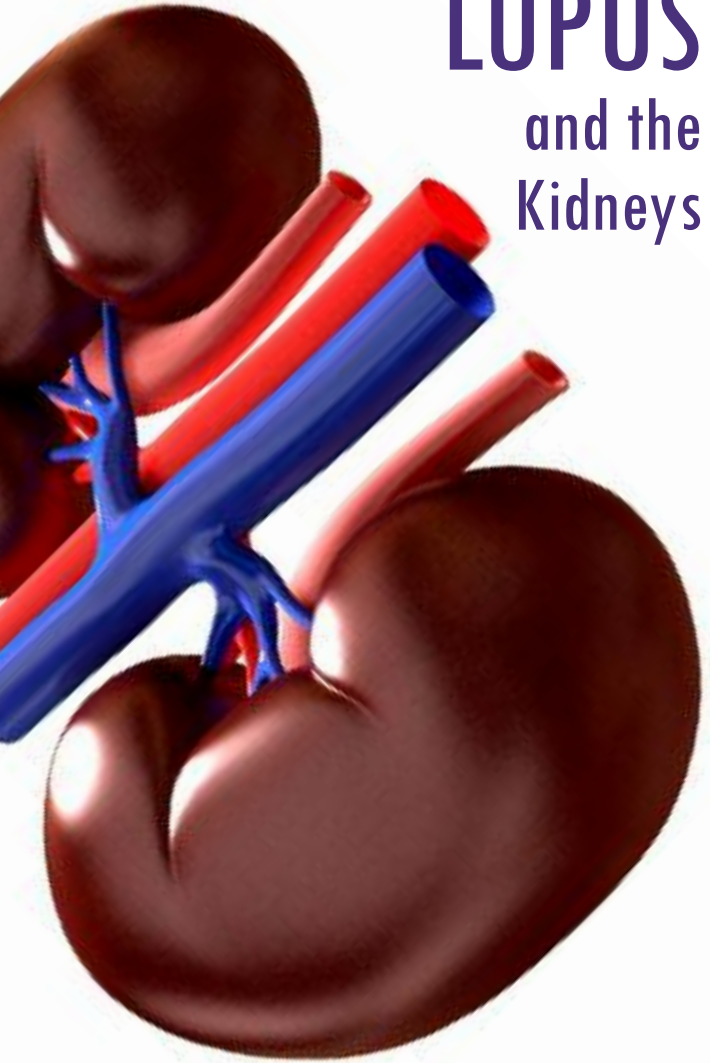


LUPUS

and the
Kidneys



LUPUS and the Kidneys

This factsheet gives general information about how Systemic Lupus Erythematosus (SLE) can affect the kidneys as well as the symptoms, tests and treatments for the lupus patient with kidney involvement.



How does lupus affect the kidneys?

You have two kidneys which are bean shaped and each about the size of a fist. Within each kidney there are about a million 'nephrons' which filter the blood. Blood is filtered to get rid of extra water and waste products. The filtered fluid forms urine. The kidneys are also involved in blood pressure control and in other aspects of health including producing vitamin D and maintaining a normal blood count (preventing anaemia).

When lupus affects the kidneys, it is usually referred to as 'lupus nephritis'. In most cases treatments are effective and kidney function is preserved. Most often this causes no symptoms and is detected by testing the urine or blood for abnormalities. It is important to recognize since in severe cases, it can lead to permanent kidney damage. If lupus nephritis causes very large amounts of protein to leak from the kidneys, swelling ('oedema') in the legs or more generally may develop.

For some patients, damage caused by scarring in the kidney means that less nephrons are able to work properly and this is referred to as chronic kidney disease or CKD. After successful treatment of lupus nephritis, 'flares' or 'relapses' can still occur, sometimes years after the original diagnosis.

For patients who develop permanent kidney damage due to lupus nephritis, this usually happens gradually over a period of years, but there may be a sudden deterioration if the nephritis flares up. When it becomes clear that someone has kidney damage that can't be improved with medication, help is given to plan ahead in the same way as with patients who have advanced chronic kidney disease due to other causes.



How frequent is kidney involvement?

About one in three people with lupus develop kidney disease. Most often this happens within the first five years after diagnosis and commonly lupus nephritis is detected at the same time as the diagnosis of lupus is made but in other patients, nephritis may develop later on. Younger patients and those from certain ethnic groups (including black and Asian patients) are more likely to develop lupus nephritis.



Symptoms and Signs

Lupus nephritis may cause high blood pressure or swelling around the ankles, legs, fingers or face. However, often there are few or no symptoms and a diagnosis is made from various tests.



Urine testing

Blood (haematuria) or protein (proteinuria) in the urine is a sign of kidney damage. These are the earlier and most important signs of lupus nephritis. Urine should be routinely tested when people with lupus are seen in clinic.

Blood tests

The kidneys remove waste products from the blood. If the blood contains high levels of waste products, the kidneys are not working properly and kidney function is deteriorating. Levels of creatinine in the blood are used to measure your kidney function and this is often converted into 'eGFR' which allows medical practitioners to calculate an approximate percentage of how well your kidneys are working. Creatinine levels are often normal in people with active lupus nephritis and an abnormal result usually indicates that kidney damage is already severe. The goal is to investigate and start treatment before this happens.

A kidney biopsy

A biopsy is a procedure to obtain a small piece of kidney tissue so it can be looked at under a microscope. This biopsy shows how much inflammation there is and whether there is any scarring to the kidneys. A kidney biopsy allows the doctor to look at the kidney tissue and decide on the best treatment for the patient. Lupus nephritis is split into different categories from Class 1 (one) to Class V (five). The higher the class the more powerful the treatment required.



The aim of treatment

The aim of treatment is to dampen down the inflammation and stabilise or improve kidney function. For lupus nephritis (especially class III, IV or V), 'immunosuppressive' drugs are used. Common immunosuppressive drugs include steroids, mycophenolate mofetil, rituximab and cyclophosphamide. Hydroxychloroquine is another important part of treatment for many patients with lupus. These drugs are also used to treat other features of lupus such as arthritis but often the diagnosis of lupus nephritis means that treatment needs to be increased to control the inflammation.

Steroids

Steroids for lupus nephritis can either be given as intravenous injections directly into a vein over 1-3 days or as tablets (prednisolone) taken daily. Sometimes a combination of injected and tablet steroids is used.

Mycophenolate

Mycophenolate is a tablet given on a daily basis. The dose of the Mycophenolate is built up over a few weeks and then monitoring blood tests are needed to check that the drug is not causing any side effects.

Rituximab

Rituximab is a newer biological drug which is given by intravenous injection into a vein. It works by removing B cells which are involved in producing autoantibodies which cause inflammation in lupus.

Cyclophosphamide

Cyclophosphamide is a powerful medication used for reducing inflammation and is also usually given intravenously into the vein. Your doctor will explain how many doses of cyclophosphamide you are likely to need. These are usually given every fortnight over a period of three months. Antibiotics may be prescribed for six months after the start of Cyclophosphamide to reduce the risk of getting infections during and straight after the treatment.

How long does treatment last?

Most treatment can be given as an out-patient and tablets will need to be continued for a period of years (often three years minimum and sometimes lifelong). Immunosuppressive drugs, like any other drug, can cause side effects and your doctor and lupus nurse will talk to you about these.

Monitoring progress

Regular blood tests, urine tests and blood pressure checks are carried out to look at kidney function, levels of inflammation, response to treatment and to monitor for side effects from treatments. These results will be discussed with you at clinic appointments.

A further kidney biopsy may be needed to look at the response to treatment or if the inflammation becomes active again.

Lupus and dialysis

In general, people with lupus do as well on dialysis as those with kidney failure due to other causes. There is some added risk of infection from immunosuppressive drugs when someone is on dialysis; however, this is carefully monitored. Usually, lupus becomes less active at this stage and it is often possible to gradually reduce and sometimes stop immunosuppressive drugs once someone with lupus is on regular dialysis treatment.

Lupus and kidney transplant

Overall, people with lupus do very well after a kidney transplant. The risks of lupus recurring in a transplant kidney are very low (less than 5%) and in general, transplant medications also keep other lupus symptoms under control. Some patients with lupus also have an increased risk of clotting. Your kidney doctor will discuss with you whether this might affect a transplant kidney and what steps can be taken to help.

Pregnancy

Many women with lupus, including those with nephritis, have successful pregnancies. There are, however, increased risks of complications and it is very important to discuss this with your kidney doctor or rheumatologist before considering pregnancy. It is important that your lupus is in remission before pregnancy

If you require further information about kidney involvement and lupus, this can be found in the LUPUS UK booklet 'Lupus and the Kidneys'.

The LUPUS UK Range of Factsheets

A range of factsheets are available as follows:

1. LUPUS Incidence within the Community
2. LUPUS A Guide for Patients
3. LUPUS The Symptoms and Diagnosis
4. LUPUS The Joints and Muscles
5. LUPUS The Skin and Hair
6. LUPUS Fatigue and your Lifestyle
7. LUPUS and Pregnancy
8. LUPUS and Blood Disorders
9. LUPUS and Medication
10. LUPUS and the Kidneys
11. LUPUS and Associated Conditions
12. LUPUS and the Brain
13. LUPUS The Heart and Lungs
14. LUPUS The Mouth, Nose and Eyes
15. LUPUS and Light Sensitivity
16. LUPUS and the Feet
17. LUPUS and Men
18. LUPUS and Mixed Connective Tissue Disease

LUPUS UK is the registered national charity caring for people with lupus and has over 5,500 members who are supported by the Regional Groups.

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Please contact our National Office should you require further information about the sources used in the production of this factsheet or for further information about lupus. LUPUS UK will be pleased to provide a booklist and details of membership.

LUPUS UK is certified under the requirements of the Information Standard.



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