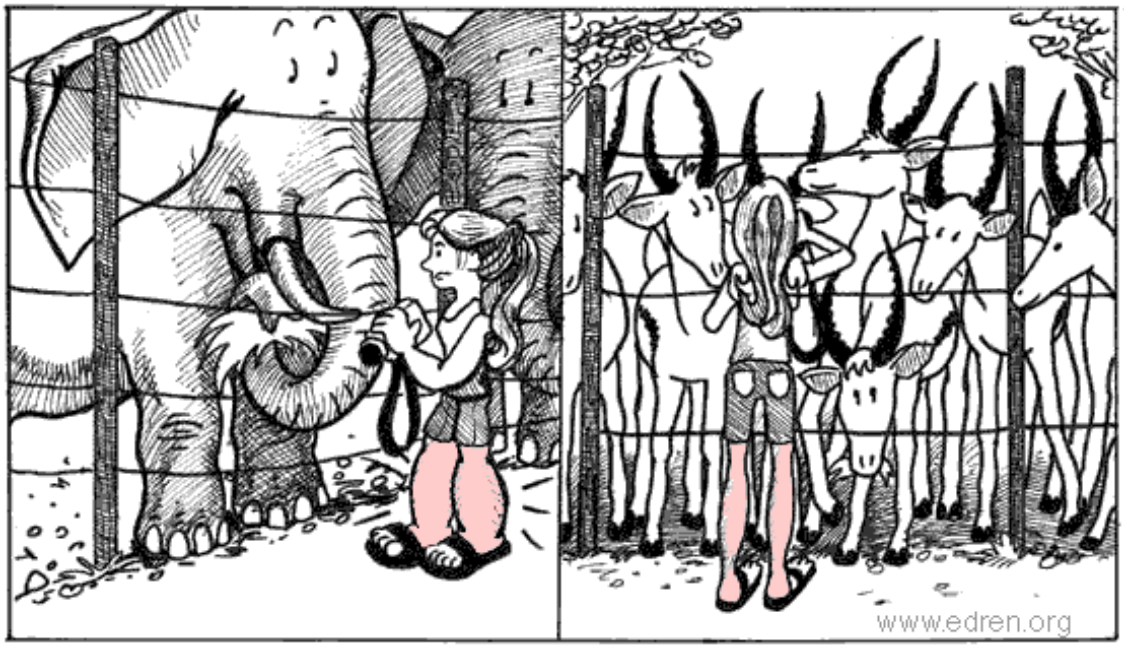
Nephrotic syndrome



Severe swelling of the ankles in nephrotic syndrome ... and after treatment. Cartoon by Beth Shortt, copyright www.edren.org. Contact us about re-use

What is nephrotic syndrome?

It is the name given to a condition when large amounts of protein leak out into the urine. Normal urine should contain almost no protein. In nephrotic syndrome the leak is large enough so that the levels of protein in the blood fall. This is a short page about it. There is another page with more detailed information.

What trouble does it cause?

The most obvious symptom is usually swelling of the ankles and legs. Extra fluid may also accumulate in the abdomen and around the face, especially overnight. In children and young adults the ankles may be less affected and the abdomen and face more affected.

Most ankle swelling is caused by other things nephrotic syndrome is a rare cause. Urine tests and blood samples are required to prove the diagnosis of nephrotic syndrome.

The protein leak can sometimes make the urine frothy. Some people feel tired.

There can also be some other serious effects:

- Increased risk of infection
- Raised blood cholesterol
- Increased risk of blood clotting

What tests are necessary?

Lots of blood tests are useful. The most important test however is a renal biopsy. This test is designed to take a small piece of kidney to look at under the microscope. A scanner is used to find the kidney so the test is done in the X-ray department. Using local anaesthetic a needle is placed into the kidney through the back. This requires a brief hospital admission.

What causes nephrotic syndrome?

It is divided into a number of types according to the appearances of the kidney under the microscope. Some have known causes such as rare allergic reactions to medicines, infections like Hepatitis B, and diabetes. In most cases though, we don’t know the cause. The different types respond to treatment differently, and may mean different things for your future health.

Can I do without a biopsy?

There are many possible explanations for nephrotic syndrome, making a renal biopsy important, with only a few exceptions. In longstanding diabetes nephrotic syndrome can occur, and a biopsy may not be essential if there is strong evidence that it is likely to be related to diabetes. In children the syndrome is nearly always caused by a condition that responds easily to treatment, so treatment is usually started first, and the biopsy only done if the protein leak is not cured.

Are there any long term complications?

In some cases there are. Some people with severe disease do not respond to treatment. After years of heavy protein leakage, the kidneys can fail, and some people will progress onto kidney failure with the need for dialysis or a transplant to keep them well. The renal biopsy and other tests help to predict the likelihood of this.

What treatment is available?

The effects of **fluid retention** are managed by diuretic tablets that force the

kidney to put out more salt and water in the urine. This is helped by restricting the amount of salt in the diet and by avoiding excessive fluid intake. If a lot of fluid has been retained, it is important that diuretic treatment is carefully controlled by regular blood tests and weighing. Some patients may require to be admitted to hospital.

Control of blood pressure (often high in people with kidney disease) is important in all patients. A type of blood pressure drug known as an ACE inhibitor has been proven to be particularly good at protecting kidney function and reducing the amount of protein in the urine. You are very likely to be prescribed one of these.

Special treatment to **prevent the complications** mentioned above (infection, high cholesterol, thrombosis) is also important, especially if the nephrotic syndrome is likely to last for a long time.

Treatment for the disease itself. According to the type of kidney disease shown by the biopsy, treatment to control the cause of nephrotic syndrome may be recommended. Your doctors will discuss this with you.

Further information

More information is available from EdRenINFO. The following may be particularly relevant:

- More detailed information on nephrotic syndrome
- Immunosuppressive drugs in renal disease
- Kidney biopsy
- High blood pressure and the kidneys

Key points

- Nephrotic syndrome is caused by a protein leak from the kidney. Its major effect is fluid retention.
- It has a number of causes. A kidney biopsy is usually needed to find out which one is responsible.
- Excess fluid can usuallly be controlled by tablets and by control of salt and fluid intake.
- Blood pressure control is very important, sometimes using ‘ACE inhibitor’

medicines.

- It is unusual for nephrotic syndrome to lead to kidney failure but it needs careful medical supervision.

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