IgA Nephropathy

National Kidney and Urologic Diseases Information Clearinghouse

NIDDK
NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

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What is IgA nephropathy?

IgA nephropathy is a kidney disorder that occurs when IgA—a protein that helps the body fight infections—settles in the kidneys. After many years, the IgA deposits may cause the kidneys to leak blood and sometimes protein in the urine.

Many people with IgA nephropathy leak blood in the urine, but this leakage does not mean they will have long-term problems. Others leak both blood and protein in the urine. If too much protein leaks into the urine, the hands and feet can swell. After 10 to 20 years with IgA nephropathy, the kidneys may show signs of damage. About 25 percent of adults with IgA nephropathy develop total kidney failure. Only 5 to 10 percent of children develop total kidney failure. Symptoms of kidney failure include swelling in the hands and feet, nausea, fatigue, headaches, and sleep problems. By the time these symptoms occur, total kidney failure is near. Total kidney failure means the kidney damage is permanent. People with kidney failure need dialysis or a kidney transplant.

How do people know that they have IgA nephropathy?

In the early stages, IgA nephropathy has no symptoms. This disease can be silent for years, even decades. The first sign of IgA nephropathy may be blood in the urine. The blood may appear during a cold, sore throat, or other infection. At times, blood in the urine can only be detected by a doctor or nurse using special tests. If the amount of blood increases, urine may turn pink or the color of tea or cola. People who have blood in their urine should see a doctor or nurse, but the condition is not always a sign of a serious disease. For example, heavy exercise can cause blood in the urine.

Who is at risk for IgA nephropathy?

IgA nephropathy can occur at any age, even in childhood. More men are affected than women. Although found all over the world, IgA nephropathy is more common among Caucasians and Asians. It is one of the most common diseases of the kidney, other than those caused by diabetes or high blood pressure.

What causes IgA nephropathy?

Scientists do not know what causes IgA deposits to form in the kidneys. IgA nephropathy may run in families or be related to respiratory infections. No consistent trigger for the disease has been found.

How is IgA nephropathy diagnosed?

A urine test called urinalysis usually provides the first clues. In a urinalysis, the doctor or nurse dips a special strip with chemicals into the urine sample. The strip changes color when blood or protein is present in the urine. If the test strip is positive, the urine will then be examined with a microscope to look for red blood cells. The red blood cells may be clumped together to form little tubes. These tubes are called casts because they are formed or molded inside the kidneys' tiny draining structures. If casts are found, it usually means the kidney filters are damaged.

Blood tests measure the waste products in the blood that the kidneys usually get rid of. Two examples are creatinine and blood urea nitrogen (BUN). If the BUN and creatinine levels are high, it means the kidneys are not working well. If the creatinine level is high at the time of diagnosis, the patient is more likely to develop kidney failure.

If there is kidney damage, the doctor will probably recommend a kidney biopsy. In this procedure, a needle is used to retrieve a small piece of kidney tissue for examination with different microscopes. Only a biopsy can show the IgA deposits in the kidney filters. The biopsy can also tell how much kidney damage has already occurred. The biopsy results can help the doctor determine the best treatment. Once a diagnosis of IgA nephropathy is established, a person should have regular blood tests to monitor kidney function.

How is IgA nephropathy treated?

Kidney disease usually cannot be cured. When the kidneys are damaged, they cannot be repaired. Treatment focuses on slowing the disease and preventing complications.

One complication is high blood pressure, also called hypertension. Hypertension damages the kidneys. Two types of blood pressure medicines called angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) protect kidney function. These medicines not only lower blood pressure but also decrease the loss of protein into the urine. Because of this effect, they are often used in IgA nephropathy to protect the kidneys. They are good medicines but have certain side effects. Pregnant women should not take ACE inhibitors or ARBs because they can damage the unborn baby.

People with IgA nephropathy may develop high cholesterol. By watching their diet and taking medicine, they can help lower their cholesterol level. Lowering cholesterol may help slow kidney damage.

Medicines such as prednisone may help treat IgA nephropathy. Prednisone belongs to a class of medicines called corticosteroids, which can have harmful side effects. In research studies, fish oil supplements containing omega 3 fatty acids also slowed kidney damage in some patients. Vitamin E may help lower protein in the urine but not blood. One of the newer immunosuppressive agents called mycophenolate mofetil (MMF) is also being tested in treating IgA nephropathy.

Hope through Research

In recent years, researchers have learned much about kidney disease. The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) sponsors several programs aimed at understanding kidney failure and finding treatments to stop its progression.

The NIDDK's Division of Kidney, Urologic, and Hematologic Diseases (DKUHD) supports basic research into normal kidney function and the diseases that impair normal function at the cellular and molecular levels, including diabetes, high blood pressure, glomerulonephritis, and other diseases marked by protein in the urine.

Researchers sponsored by the DKUHD are studying families in which IgA nephropathy is prevalent in order to understand genetic factors that may influence the disease. Other researchers are working to understand how the polyunsaturated fatty acids found in fish oils may work to reduce inflammation in diseases like IgA nephropathy and rheumatoid arthritis. Clinical trials are under way to test the effectiveness of MMF in reducing protein in the urine and slowing the progression of kidney disease in people with IgA nephropathy.

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This fact sheet is also available at *www.kidney.niddk.nih.gov*.

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