CONDITION

IgA nephropathy

IgA nephropathy is a condition in which immune protein deposits inflame the kidneys and may reduce kidney function.

WHAT IT IS
Kidney inflammation caused by IgA deposits

BODY SYSTEM
Kidneys and urinary system

MAIN SYMPTOMS
Blood in urine, foamy urine, swelling, high blood pressure

WHAT CAUSES IT
Abnormal immune response; exact trigger unknown

HOW IT IS DIAGNOSED
Kidney biopsy, supported by urine and blood tests

MAIN TREATMENT
Kidney-protective medicines and selected immune-targeting treatment

CAN IT BE CURED?
No - kidney risk can persist

IS IT AN EMERGENCY?
Sometimes - very little urine or breathing difficulty

LONG-TERM OUTLOOK
Many remain stable; some develop kidney failure

Overview

IgA nephropathy is a condition that affects the kidneys' filtering units. It is sometimes called Berger disease.

IgA, short for immunoglobulin A, is an antibody made by the immune system. Antibodies normally help defend the body against infection. In IgA nephropathy, altered IgA collects in the tiny filters inside the kidneys. These filters are called glomeruli.

The deposits can trigger inflammation and allow blood and protein to leak into the urine. Over time, inflammation may cause scarring and reduce how well the kidneys remove waste and extra fluid from the blood.

The condition affects people differently. Some have only small urine-test changes and keep

normal kidney function for many years. Others gradually develop chronic kidney disease. A smaller group reaches kidney failure and needs dialysis or a kidney transplant.

Regular monitoring matters because kidney damage may progress without obvious symptoms. Urine protein, blood pressure and kidney function help show whether the condition is stable or needs more treatment.

Symptoms

Many people have no symptoms when IgA nephropathy is first found. It may be discovered during a urine test for another reason.

Blood in the urine is a common sign. Sometimes it can only be detected by a laboratory test. At other times, the urine may look pink, red, brown or cola-coloured. Visible blood can appear during or soon after a respiratory infection, such as a cold or sore throat.

Protein leaking into the urine can make it look persistently foamy or frothy. Foam alone does not prove that protein is present, because urine speed and cleaning products can have the same effect.

Other possible symptoms include:

These symptoms can have many causes. A urine test is needed to check for blood and protein.

- Swelling around the eyes, feet, ankles or lower legs
- High blood pressure
- Tiredness, especially if kidney function has fallen
- Passing less urine than usual
- Aching in the side or lower back during an episode of visible blood

Causes and risk factors

The exact cause is not fully understood. The condition appears to begin when the immune system makes IgA with an unusual sugar structure. The body may form antibodies against this altered IgA, creating clusters that become trapped in the kidneys.

Respiratory or digestive infections can trigger episodes of visible blood in the urine. This does not mean an infection directly enters the kidneys, and IgA nephropathy is not contagious.

Genes probably influence risk, but the condition usually does not follow a simple inherited pattern. Having an affected relative does not mean you will develop it. Family members are not

automatically tested unless they have symptoms, abnormal urine results or another reason for kidney screening.

IgA deposits can occasionally occur alongside another condition, including chronic liver problems, inflammatory bowel conditions or coeliac disease. Your assessment may include looking for these if your history or test results suggest them.

Features linked to a greater risk of kidney function declining include ongoing protein loss in the urine, high blood pressure, reduced kidney function and substantial scarring on a biopsy. These factors help guide monitoring and treatment; they do not predict exactly what will happen to one person.

Diagnosis

Urine and blood tests can show that the kidneys may be affected, but a kidney biopsy is usually needed to confirm IgA nephropathy.

Urine testing checks for blood and measures protein. Protein is often reported as an albumin-to-creatinine or protein-to-creatinine ratio. These ratios estimate protein loss without requiring a full 24-hour urine collection.

A blood test measures creatinine, a waste product filtered by the kidneys. The result is used to estimate the glomerular filtration rate, or eGFR. This is an estimate of overall kidney filtering function.

Blood pressure is checked because high pressure can both result from kidney damage and make it progress more quickly. Other blood tests may help rule out different causes of kidney inflammation.

During a kidney biopsy, a clinician uses a needle to remove a very small sample of kidney tissue, usually with ultrasound guidance and local anaesthetic. The sample is examined for IgA deposits, inflammation and scarring. Biopsy results can confirm the condition and provide information about future risk.

A biopsy can cause bleeding, so its benefits and risks are considered carefully. It may not be appropriate in every situation.

Treatment and management

Treatment aims to reduce protein loss, control blood pressure, protect kidney function and lower inflammation when needed. The plan is based on kidney function, urine protein, biopsy

findings and other health conditions.

Kidney-protective care is central to treatment. This may include an angiotensin-converting enzyme inhibitor like lisinopril or ramipril, known as an ACE inhibitor, or an angiotensin receptor blocker, known as an ARB. These medicines can lower blood pressure and reduce pressure inside the kidneys' filters. Blood tests are used to monitor kidney function and potassium after starting or changing them.

An SGLT2 inhibitor may be offered to some people with chronic kidney disease, including some who do not have diabetes. This type of medicine can reduce the risk of further kidney decline, although suitability depends on kidney function and other factors.

Helpful self-management measures may include limiting excess salt, avoiding smoking, being physically active and working toward a weight that is healthy for you. Ask before using anti-inflammatory painkillers such as ibuprofen or naproxen regularly, because they can reduce kidney blood flow.

If protein loss and the risk of progression remain high despite supportive care, a kidney specialist may discuss treatment aimed more directly at the immune or inflammatory process. Options can include a targeted-release corticosteroid or, in selected cases, systemic corticosteroids. Other pathway-specific medicines may be available depending on the country, kidney function and current approvals.

These treatments can have important side effects, including infection risk and changes in blood sugar, blood pressure, fluid balance or liver tests. The likely benefit must be weighed against those risks.

If kidney failure develops, treatment options include dialysis and kidney transplantation. IgA deposits can return in a transplanted kidney, but this does not always cause major damage or transplant failure.

Complications

Possible complications are related to ongoing kidney inflammation, protein loss and scarring.

Chronic kidney disease means kidney function remains reduced or there are persistent signs of kidney damage. It may be stable for long periods or gradually worsen.

High blood pressure is both a complication and a driver of further kidney damage. Chronic kidney disease also raises the long-term risk of heart and blood vessel problems.

Heavy protein loss can cause low blood protein, raised blood fats and widespread swelling. This group of findings is called nephrotic syndrome, although it is less typical of IgA nephropathy

than blood in the urine.

Some people develop a sudden drop in kidney function during a severe episode of visible blood or inflammation. This is called acute kidney injury. Kidney function may recover, but prompt assessment is important.

Advanced kidney failure can cause fluid overload, anaemia, mineral and bone problems, itching, nausea and severe tiredness. These complications are monitored and treated as part of kidney care.

Prevention

There is no proven way to prevent IgA nephropathy from developing. The abnormal immune response cannot currently be prevented through diet, supplements or avoiding ordinary infections.

You can reduce some risks that contribute to further kidney damage. This includes taking prescribed kidney-protective medicine, keeping follow-up appointments, controlling blood pressure, avoiding smoking and discussing non-prescription medicines or supplements before using them.

A special "IgA diet" has not been shown to remove kidney deposits. Dietary changes should be based on your kidney function, blood pressure, potassium levels and degree of protein loss. Severe food restriction without professional guidance can cause nutritional problems.

Living with it and what to expect

IgA nephropathy usually requires long-term monitoring, even when you feel well. Follow-up often includes blood pressure checks, urine protein measurements and blood tests for kidney function. How often these are needed is based on your results and treatment.

Small amounts of blood may continue to appear on urine testing. Some people have repeated episodes of visible blood during infections. These episodes can be upsetting, but visible blood does not by itself show how much lasting kidney damage has occurred.

Urine protein, blood pressure and changes in eGFR over time are more useful for judging progression. A single abnormal result may need to be repeated, especially during illness, dehydration or after a medication change.

Many people continue with work, education, exercise, relationships and family life. Treatment and appointments may become more involved if protein loss increases or kidney function falls.

Pregnancy is possible for many people, but kidney function, blood pressure and medicines should be reviewed before conception because some kidney medicines are unsafe during pregnancy.

The course cannot be predicted with certainty. Some people remain stable for decades, while others experience gradual loss of kidney function. Regular follow-up allows changes to be identified and addressed as early as possible.

When to get medical help

Arrange a routine appointment if you notice persistent foamy urine, new ankle swelling, repeated reddish-brown urine or higher blood pressure readings. These findings are not always caused by IgA nephropathy, but they should be assessed.

If you already have the condition, contact your kidney team promptly if swelling, urine output, blood pressure or weight changes noticeably. Also seek advice during vomiting, diarrhoea or another illness that may cause dehydration, particularly if you take blood pressure medicines or an SGLT2 inhibitor.

Seek urgent medical assessment for visible blood in the urine with clots, severe side or back pain, fever, or a clear reduction in urine output.

Get emergency help for:

These symptoms can indicate severe fluid, kidney or electrolyte problems and should not wait for routine follow-up.

- Severe difficulty breathing
- Very little or no urine with rapidly increasing swelling
- Chest pain, fainting, confusion or a seizure
- Severe weakness with a very fast or irregular heartbeat

Common questions

Is IgA nephropathy cancer?

No. It is an immune-related kidney condition, not cancer. The IgA deposits cause inflammation rather than uncontrolled cell growth.

Can IgA nephropathy go away?

Urine abnormalities may improve, and some people enter long periods of remission. However,

IgA deposits or the risk of future kidney problems can persist, so follow-up is still important.

Does blood in my urine mean my kidneys are failing?

Not necessarily. Visible or microscopic blood is common in IgA nephropathy and can occur while kidney function is normal. Kidney function is assessed with blood tests, urine protein measurements and changes over time.

What foods should I avoid with IgA nephropathy?

There is no single diet for everyone. Reducing excess salt is often helpful for blood pressure and swelling. Restrictions on protein, potassium or phosphorus are only needed in certain situations and should be based on your test results.

Can I exercise with IgA nephropathy?

Most people can remain active, and regular exercise can support blood pressure and heart health. During severe swelling, visible blood with pain or an acute illness, ask for advice about temporarily changing your activity.

Can IgA nephropathy come back after a kidney transplant?

Yes. IgA deposits can recur in a transplanted kidney, but their effect differs from person to person. Recurrence does not always lead to major loss of transplant function.

Sources

- National Institute of Diabetes and Digestive and Kidney Diseases: IgA Nephropathy
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- National Kidney Foundation: IgA Nephropathy
- Kidney Disease: Improving Global Outcomes: KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease