CONDITION

Selective deficiency of IgA

Selective deficiency of IgA is an immune condition in which the blood has very little or no immunoglobulin A.

WHAT IT IS
Low or absent immunoglobulin A with other antibodies preserved

BODY SYSTEM
Immune system

MAIN SYMPTOMS
Often none, sinus infections, chest infections, diarrhoea

WHAT CAUSES IT
Immune-development difference, usually unknown, sometimes familial

HOW IT IS DIAGNOSED
Blood immunoglobulin tests after age four

MAIN TREATMENT
Infection treatment, vaccination, and specialist monitoring

CAN IT BE CURED?
No - no treatment reliably restores IgA

IS IT AN EMERGENCY?
Sometimes - severe allergic reaction after transfusion

LONG-TERM OUTLOOK
Most people lead normal lives with appropriate follow-up

Overview

Selective deficiency of IgA, often called selective IgA deficiency, is an immune system condition. It means you have very little or no immunoglobulin A, while other major antibody types are usually present at normal levels.

Immunoglobulins are antibodies: proteins that help the immune system recognize and respond to germs. IgA is found in the blood and in moist body surfaces, including the nose, lungs, digestive tract, saliva, and tears.

Many people with low IgA never develop symptoms. The condition may be discovered during blood tests for infections, allergies, coeliac disease, or another health concern.

For some people, having little IgA makes infections of the airways or digestive tract more

frequent. The condition is also associated with allergies and autoimmune conditions, in which the immune system mistakenly reacts against the body's own tissues.

Selective IgA deficiency is different from broader immune deficiencies. In this condition, the main missing antibody is IgA. A specialist may check whether the rest of the immune system is working normally, especially if infections are frequent or severe.

Symptoms

Most people with selective IgA deficiency have no symptoms. Those who do have symptoms can experience different patterns.

Possible problems include:

Respiratory infections may be caused by common bacteria or viruses. Some people have repeated sinus infections or pneumonia. Over time, severe or poorly controlled lung infections can damage the airways, although this does not happen to everyone.

Digestive infections can cause ongoing or repeated diarrhoea, abdominal discomfort, bloating, or weight loss. One possible cause is Giardia , a parasite that infects the small intestine. These symptoms have many other possible causes, so testing may be needed.

IgA deficiency is also associated with coeliac disease. Coeliac disease is an immune reaction to gluten that damages the small intestine. Standard coeliac blood tests that measure IgA antibodies may be falsely negative when IgA is absent, so different tests may be required.

Symptoms do not always match the IgA level. A person with almost no measurable IgA may remain well, while another person may have repeated infections.

- Repeated sinus, ear, throat, or chest infections
- A cough that returns with infections
- Diarrhoea or other digestive symptoms
- Asthma, eczema, hay fever, or other allergic conditions
- Symptoms caused by an associated autoimmune condition

Causes and risk factors

The immediate cause is a problem with the development of B cells, the immune cells that make antibodies. These cells do not fully develop into the plasma cells that produce IgA.

Why this happens is often unknown. Genetic factors appear to contribute, and the condition

can occur in more than one member of a family. However, it does not usually follow one simple pattern of inheritance.

Selective IgA deficiency can occur in families affected by common variable immune deficiency, or CVID. CVID is a broader condition involving low levels of more than one antibody type. A small number of people first diagnosed with IgA deficiency later develop CVID, which is one reason follow-up may be useful when symptoms continue or change.

Certain medicines and medical conditions can also lower IgA. Before confirming a selective deficiency, clinicians look for these secondary causes. A temporary low result, particularly in a young child, is not enough by itself to establish the condition.

Diagnosis

Diagnosis is based mainly on blood tests that measure immunoglobulins. These tests usually show a very low or undetectable IgA level with normal IgG and IgM levels.

The diagnosis is generally made after age four. Younger children can have low IgA because their immune system is still developing. Testing may also be repeated to confirm that the result persists rather than reflecting a temporary change or laboratory variation.

Assessment may include:

If coeliac disease is suspected, the total IgA level matters when interpreting the results. IgG-based coeliac antibody tests may be used instead of relying only on an IgA-based test. Sometimes further assessment, such as an endoscopy and small-bowel biopsy, is needed.

Testing for antibodies against IgA is not routinely needed for everyone. It may be considered after a serious reaction to a blood product or when a transfusion specialist recommends it.

- Repeat measurement of IgA, IgG, and IgM
- A blood cell count
- Tests of antibody responses to vaccines when clinically relevant
- Tests for infections, allergies, or autoimmune conditions suggested by symptoms
- Review of medicines and other possible causes of low IgA

Treatment and management

There is no standard treatment that reliably makes the body produce normal IgA. Management focuses on preventing avoidable illness, treating infections, and addressing associated

conditions.

People without symptoms may not need active treatment. Periodic review can check for changes in infection patterns, digestive symptoms, or signs of autoimmune illness.

Bacterial infections are treated with antibiotics like amoxicillin or doxycycline when appropriate. The choice and length of treatment depend on the infection and your medical history. If bacterial infections occur very frequently, an immune specialist may consider preventive antibiotics, but this is not needed for most people.

Vaccination can help protect against respiratory infections. Your healthcare team can review routine vaccines and whether additional assessment is needed. The response to a vaccine may sometimes be measured as part of an immune evaluation.

Immunoglobulin replacement therapy does not directly replace the IgA found on moist body surfaces. It is therefore not routinely used for isolated IgA deficiency. It may be considered in selected people who also have poor IgG antibody responses and serious recurrent infections. This requires specialist supervision because immunoglobulin products contain small amounts of IgA.

Asthma, allergies, coeliac disease, and autoimmune conditions are treated according to the condition involved. A gluten-free diet is needed for confirmed coeliac disease, not for IgA deficiency by itself.

Good dental care may also be useful because IgA contributes to protection in the mouth. Regular exercise, adequate sleep, and avoiding tobacco smoke support general respiratory health but do not correct the antibody deficiency.

Complications

Repeated respiratory infections can occasionally lead to bronchiectasis. This is permanent widening and scarring of the airways, which can cause a long-term cough, mucus production, or repeated chest infections. Persistent respiratory symptoms may lead to lung function testing or imaging.

Autoimmune conditions occur more often in people with IgA deficiency than in the general population. Associated conditions can include coeliac disease, autoimmune thyroid disease, rheumatoid arthritis, and immune-related blood disorders. Having IgA deficiency does not mean you will develop any of these.

A severe allergic reaction to a blood transfusion is a rare but important possible complication. It is most relevant to people who have developed antibodies against IgA. Previous transfusions without a reaction do not guarantee that every future transfusion will be reaction-free, but

most people with IgA deficiency do not experience anaphylaxis.

If you have had a serious transfusion reaction, your records should clearly describe it. Transfusion specialists may recommend specially prepared blood components, such as washed red blood cells or plasma from an IgA-deficient donor. Urgently needed blood should not be delayed without medical direction.

Prevention

Selective IgA deficiency cannot currently be prevented. It is usually related to immune development and genetic susceptibility rather than something you did or failed to do.

You can reduce some consequences of the condition. Keeping vaccinations up to date, avoiding tobacco smoke, and seeking assessment for repeated infections can help protect the lungs. Prompt testing of persistent diarrhoea can identify treatable infections or coeliac disease.

Antibiotics should not be taken without a clear reason. Unnecessary use can cause side effects and contribute to antibiotic resistance.

Family screening is not automatically required. It may be discussed when close relatives have repeated infections, known antibody deficiencies, or symptoms suggesting an immune condition.

Living with it and what to expect

Many people with selective IgA deficiency remain healthy and live without restrictions. Some never know they have the condition until it appears on a blood test.

For people who have symptoms, the pattern may change over time. Infections may be more common during childhood or during periods of increased exposure, such as starting school or working around young children. Others continue to have intermittent sinus, chest, or digestive infections as adults.

IgA levels often remain low. A low number by itself does not show how much illness you will have. Your infection history, response to vaccines, lung health, and levels of other antibodies are more useful for understanding the condition's effects.

Routine follow-up may include reviewing the number and severity of infections, checking for digestive or autoimmune symptoms, and repeating immunoglobulin tests when clinically useful. New frequent infections, weight loss, persistent diarrhoea, or a long-term productive

cough may justify earlier review.

It can help to keep a simple record of significant infections, antibiotics, hospital treatment, and any reactions to blood products. This provides more useful information than recording every minor cold.

Tell healthcare professionals about the condition before receiving a blood transfusion. If you have previously had a serious transfusion reaction, consider carrying medical identification that states the type of reaction and any transfusion recommendations.

When to get medical help

Arrange a routine appointment if you have repeated sinus, ear, or chest infections; diarrhoea that persists or returns; unexplained weight loss; or symptoms suggesting an allergy or autoimmune condition. Follow-up is also appropriate if infections are becoming more frequent or taking longer to clear.

Seek prompt medical assessment for a high fever with worsening illness, shortness of breath, chest pain, dehydration, coughing up blood, or a severe infection that is not improving as expected.

Call emergency services during or soon after a blood transfusion if you develop:

These can be signs of anaphylaxis, a severe allergic reaction. Transfusion staff should also be told immediately about chills, fever, back pain, chest discomfort, or any sudden change in how you feel.

- Difficulty breathing or wheezing
- Swelling of the lips, tongue, face, or throat
- Widespread hives with dizziness or faintness
- Sudden collapse or severe weakness

Common questions

Is selective IgA deficiency cancer?

No. It is an immune system condition, not a cancer. It does not mean that your body has stopped making all antibodies.

Can low IgA return to normal?

Sometimes IgA levels increase, especially when low levels were found during childhood. In

established selective IgA deficiency after age four, the level often remains low. Repeat testing can show whether the result persists.

Is selective IgA deficiency hereditary?

Genetic factors can contribute, and more than one person in a family may be affected. It is not usually inherited through one predictable pattern, and having the condition does not mean a child will necessarily have it.

Can I receive a blood transfusion?

Yes, when one is medically needed. Most people with IgA deficiency do not have a serious transfusion reaction. Tell the healthcare team about your diagnosis and any previous reaction so the transfusion service can choose suitable blood components.

Why can an IgA deficiency affect a coeliac blood test?

Common coeliac screening tests look for IgA antibodies. If your body makes little or no IgA, the result may appear negative even when coeliac disease is present. Total IgA and appropriate IgG-based tests help avoid this problem.

Do I need immunoglobulin replacement therapy?

Usually not for isolated IgA deficiency. It may be considered when someone also has poor responses involving other antibodies and significant recurrent infections. An immune specialist assesses the potential benefits and risks.

Sources

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