

AUTOIMMUNE DISORDERS

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ABSTRACT

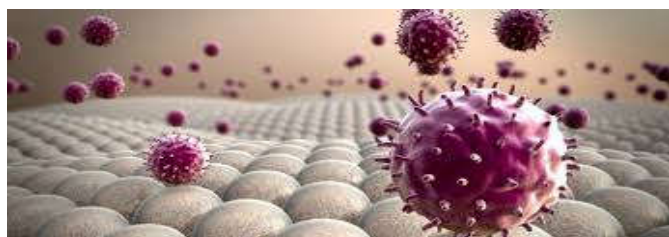
An autoimmune disease is a condition arising from an abnormal immune response to a normal body part. Some common diseases that are generally considered autoimmune include celiac disease, diabetes mellitus type 1, Graves' disease, multiple sclerosis, rheumatoid arthritis and Myasthenia Gravis. The diagnosis can be difficult to determine.

Treatment depends on the type and severity of the condition. Non-steroidal anti-inflammatory drugs (NSAIDs) and immuno suppressants are often used. Intravenous immunoglobulin may also occasionally be used. While treatment usually improves symptoms, they do not typically cure the disease.

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INTRODUCTION

An autoimmune disease is a condition arising from an abnormal immune response to a normal body part. When the immune system functions normally, it produces a response intended to protect against harmful or foreign substances like bacteria, parasites, and cancerous cells. The response may include specific immune cells and/or antibodies. Autoimmune diseases arise when the immune system attacks one or more of the body's normal constituents as if they were invaders.



Causes

The exact cause of autoimmune disorders is unknown. One theory is that some microorganisms (such as bacteria or viruses) or drugs may trigger changes that confuse the immune system. This may happen more often in people who have genes that make them more prone to autoimmune disorders.

An autoimmune disorder may result in:

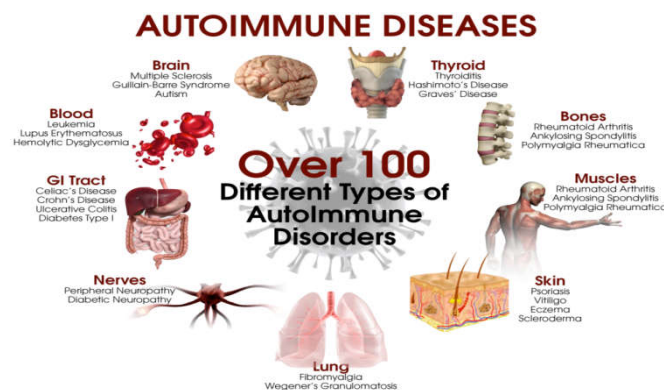
- The Destruction of body tissue

- Abnormal growth of an organ
- Changes in organ function

An autoimmune disorder may affect one or more organ or tissue types. Areas often affected by autoimmune disorders include:

- Blood vessels
- Connective tissues
- Endocrine glands such as the thyroid or pancreas
- Joints
- Muscles
- Red blood cells
- Skin
- A person may have more than one autoimmune disorder at the same time.

Common autoimmune disorders include



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Addison disease

Addison's disease, also known as primary adrenal insufficiency and hypocortisolism, is a long-term endocrine disorder in which the adrenal glands do not produce enough steroid hormones.

Celiac Disease - Sprue (Gluten-Sensitive Enteropathy)

Celiac disease is a serious autoimmune disorder that can occur in genetically predisposed people where the ingestion of gluten leads to damage in the small intestine.

Dermatomyositis

Dermatomyositis is an autoimmune muscle disease that involves inflammation and a skin rash. It is a type of inflammatory myopathy.

Graves Disease

Graves' disease is an autoimmune thyroid disease which causes the thyroid gland to produce excessive hormones.

Hashimoto Thyroiditis

Hashimoto's thyroiditis is a chronic inflammatory autoimmune thyroid disease in which the immune system attacks and destroys the thyroid gland. The thyroid then produces too little hormone and metabolism is slowed.

Multiple Sclerosis

Multiple sclerosis (MS) is a nervous system disease that affects brain and spinal cord. This damage slows down or blocks messages between brain and body, leading to the symptoms of MS.

Myasthenia Gravis

Myasthenia gravis is disease that causes weakness in the muscles under control. It happens because of a problem in communication between nerves and muscles.

Pernicious Anemia

Pernicious anemia (PA) is a decrease in red blood cells that occurs when the intestines cannot properly absorb vitamin B12. Red blood cells provide oxygen to body tissues.

Reactive Arthritis

Reactive Arthritis is a form of autoimmune arthritis or joint inflammation, that occurs as a "reaction" to an infection elsewhere in the body. Inflammation is a characteristic reaction of tissues to injury or disease and is marked by swelling, redness, heat, and pain.

Rheumatoid Arthritis:

Rheumatoid arthritis (RA) is a form of arthritis that causes pain, swelling, stiffness and loss of function in your joints. It can affect any joint but is common in the wrist and fingers.

Type I Diabetes:

Type 1 diabetes – Diabetes means your blood glucose, or blood sugar, levels are too high. With type 1 diabetes, your pancreas does not make insulin.

Diagnostic Tests

- ANA (Antinuclear Antibody) Test
- Immunoglobulin A (IgA)
- C-Reactive Protein (CRP) Test
- Erythrocyte Sedimentation Rate (ESR)
- Pharmacogenetic Tests
- Serum Protein Electrophoresis
- Complement (Antigen, Functional or Activity)

Treatment for Autoimmune Disorders

Autoimmune disorders in general cannot be cured, but the condition can be controlled in many cases. Historically, treatments include:

- **Anti-inflammatory drugs** – to reduce inflammation and pain
- **Corticosteroids** – to reduce inflammation. They are sometimes used to treat an acute flare of symptoms
- **Pain-killing medication** – such as paracetamol and codeine
- **Immunosuppressant drugs** – to inhibit the activity of the immune system
- **Physical therapy** – to encourage mobility
- **Treatment for the deficiency** – for example, insulin injections in the case of diabetes
- **Surgery** – for example, to treat bowel blockage in the case of Crohn's disease
- **High dose immune suppression** – the use of immune system suppressing drugs (in the doses needed to treat cancer or to prevent the rejection of transplanted organs) have been tried recently, with promising results. Particularly when intervention is early, the chance of a cure with some of these conditions seems possible.

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