



Autoimmune Diseases: Characteristics, Types, Causes and its Diagnosis

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DESCRIPTION

A disorder known as an autoimmune illness occurs when a person immune system accidentally targets the body. Normally, the immune system protects the body from viruses and bacteria. It sends out an army of fighter cells to attack these foreign invaders as soon as it detects them. The immune system can typically distinguish between person own cells and foreign cells. The immune system misidentifies a portion of person body, such as person joints or skin, as align when person have an autoimmune disease. Autoantibodies, which are proteins released by the body, assault healthy cells. Some autoimmune disorders only affect a single organ. The pancreas is harmed by type 1 diabetes. The entire body is impacted by other illnesses like Systemic Lupus Erythematosus (SLE).

According to a study, 6.4 percent of women and 2.7 percent of men, respectively, are affected by autoimmune illnesses. Frequently, the illness develops while a woman is pregnant (ages 15 to 44). Specific ethnic groups are more likely to develop certain autoimmune illnesses. Lupus, for instance, affects African-Americans and Hispanics more frequently than Caucasians. Numerous autoimmune conditions, including lupus and multiple sclerosis, run in families. Although not every family member will necessarily have the same illness, they all have a propensity for autoimmune diseases. Researchers believe environmental factors like infections and exposure to chemicals or solvents may potentially play a role in the rise in the prevalence of autoimmune illnesses.

Type 1 diabetes

The hormone insulin, which the pancreas produces, aids in controlling blood sugar levels. Insulin-producing cells in the pancreas are attacked and destroyed in type 1 diabetes mellitus by the immune system. Blood vessel damage from high blood sugar levels can also affect vital organs like the heart, kidneys, eyes, and nerves.

The myelin sheath, the protective covering that covers nerve cells in person central nervous system, is harmed by Multiple Sclerosis (MS). The speed at which signals travel from person brain and

spinal cord to and from the rest of person body is slowed down by damage to the myelin sheath. The effects of this injury may include numbness, weakness, unsteadiness, and difficulty walking. A little more than half of MS patients require assistance with walking within 15 years of the disease's onset. The disease has diverse types and progresses at various rates.

Graves' disease: This condition affects the thyroid gland in the neck and makes it overproduce hormones. The body's metabolism—or how it uses energy—is governed by thyroid hormones. These hormones speed up person body's functions when person have too much of them, which can result in symptoms like anxiousness, a rapid heartbeat, heat intolerance, and weight loss. Exophthalmos, or protruding eyes, is one possible indication of this illness. It may be a symptom of what is known as Graves' ophthalmopathy, which affects about 30% of those who have Graves' disease. Many autoimmune illnesses have early signs and symptoms, including:

1. Weariness,
2. Soreness in the muscles
3. Swelling and redness, and low-grade fever.

The immune system of the body's blood cells aids in defense against dangerous chemicals. The list of examples includes blood and tissue from the outside of the body, bacteria, viruses, poisons, and cancer cells. Antigens can be found in these substances. These toxic compounds can be eliminated by the immune system thanks to the antibodies it creates in response to these antigens. Person immune system fails to discriminate between healthy tissue and potentially harmful antigens when person have an autoimmune illness. Because of this, the body starts a reaction that kills healthy tissues. Autoimmune illnesses have no known specific aetiology. According to one notion, certain medications or microbes may cause alterations that cause the immune system to become confused. People with genes that make them more susceptible to autoimmune illnesses may experience this more frequently.

Most autoimmune disorders cannot be diagnosed by a single test. To make a diagnosis the person doctor will utilize a variety of tests, discussion of person symptoms, and a physical examination.

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When signs point to an autoimmune condition, one of the first tests doctors frequently order is the antinuclear antibody test. A positive test indicates a possibility that have one of these illnesses, but it cannot identify which the one person have or whether they have it for sure. Various autoimmune illnesses create specific autoantibodies, which are the focus of other tests. In order to screen for the inflammation these diseases cause in the body, a doctor may also use non-specific testing.

Autoimmune disorders have no known treatments, however symptoms can be controlled. Each person has a unique immune

system, genetic makeup, and environment. As a result, person treatment must be special. To lessen the erratic immunological response, many people use medications. These are referred to as immunosuppressive drugs. Examples include corticosteroids (like prednisone) and no steroid medications like sirolimus, tacrolimus, azathioprine, cyclophosphamide, and mycophenolate. Some disorders can be treated with targeted medications such Tumour Necrosis Factor (TNF) blockers and interleukin inhibitors.