AUTOIMMUNE DISEASES

Systemic VS Organ-specific Diseases

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Read on to learn about the natural course, causes, symptoms, subtypes and treatment of autoimmune diseases.

What are Autoimmune Diseases?

Autoimmune disease is a term that encompasses more than one hundred distinct disorders that originate in the immune system. The immune system is a network of organs and cells, including the bone marrow, white blood cells, tonsils, and spleen, which work together to defend the body against infection, pollens, and toxins.

Autoimmune disorders develop when the immune system cells err in their efforts to defend us from these potentially harmful agents. In autoimmune disease, the immune system is weak and ineffective. It fails to move along on its normal cause, which is to launch an immune response that destroys proteins that are foreign to the body.

In autoimmune disease, the ill-functioning immune system organs and cells fail to work together as they should. Instead, the immune system acts erratically, targeting and attacking our body's own protein particles rather than those of viruses, bacteria and pollen. In autoimmune diseases, our body's organs and cells become victims of a wayward immune response.

Systemic and Organ-specific Disorders

Autoimmune diseases may be systemic, meaning that they affect multiple organs, or they may be organ specific, targeting one particular organ. Systemic autoimmune disorders often affect joints although they may also affect the skin, kidneys, heart, lungs and red blood cells. An example is systemic lupus erythematosus (SLE).

Organ specific diseases primarily target one specific disorder. For example in both autoimmune hypothyroidism (Hashimoto's thyroiditis or atrophic thyroiditis) and autoimmune hyperthyroidism (Graves' disease) the thyroid gland is primarily affected. However, when thyroid function is impaired, other bodily systems, such as the nervous system, the muscular system, and the heart, may be subsequently affected. In only rare instances are other organs directly attacked in patients with autoimmune thyroid disorders. Examples are the rare condition of Hashimoto's encephalopathy, a central nervous system disorder that may progress to dementia, which can occur in Hashimoto's thyroiditis and an immune complex mediated kidney disease similar to that seen in SLE, which rarely occurs in patients with Graves' disease.
The Autoimmune Response

In what becomes an autoimmune response directed against the body, white blood cells cluster together causing inflammation. These cells also initiate a series of steps that result in the production of immune system chemicals known as cytokines and autoantibodies, which are protein molecules capable of reacting with and destroying their intended bodily cells. As an example, antinuclear antibodies (ANA), which are seen in several different autoimmune disorders, react with the cell nucleus of specific tissue cells found within the skin, lungs, kidneys, and heart.

Causes of Autoimmune Disease

Autoimmune diseases are caused by a combination of genetic and environmental factors. That is, autoimmune diseases develop in people who have certain immune system and organ specific genes that cause them to be susceptible to autoimmune diseases. Autoimmune diseases develop when these individuals are exposed to certain environmental triggers, including stress. Stress is known to worsen symptoms in nearly all of the autoimmune disorders because of its detrimental effects on white blood cells. Most autoimmune disorders are associated with specific triggers. For instance, excess dietary iodine is known to trigger autoimmune thyroid disease, and silica exposure is known to trigger scleroderma.

Symptoms

Symptoms in autoimmune disease tend to wax and wane, sometimes disappearing completely for years only to return with a vengeance at a later time. Some autoimmune disorders, such as Graves' disease, are self-limiting and known to spontaneously resolve after they've run their course. Other autoimmune diseases may run a more progressive course, particularly in certain age groups. An example is SLE, which is more likely to be fatal in younger patients.

Treatment

Treatment in autoimmune disease initially aims to reduce symptoms. For instance, in type I diabetes, insulin and other glucose-lowering agents are used to reduce elevated blood sugar levels. Symptoms may also be addressed by using agents such as corticosteroids that slow down the immune system. Natural therapies and alternative medicine focus on supplements and lifestyle changes that support immune system health.

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