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Editorial

A Brief Account on Autoimmune Disorders

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Autoimmune Disease

It is a condition in which immune system attacks your own body. Autoimmune diseases are chronic with asymptomatic preclinical period. Generally, immune system acts against the foreign bodies like bacteria and viruses. In autoimmune disease, immune system attacks your body, like joints or skin, as foreign. It releases proteins called autoantibodies which attack healthy cells in the body. Some autoimmune diseases target only one organ. Some are more common in certain ethnic groups like lupus affects more African-American and Hispanic people than Caucasians. First autoimmune diseases were described in early 1900s.

Common Autoimmune diseases are around 80 and most common type autoimmune diseases are Type 1 diabetes, Rheumatoid arthritis (RA), Psoriasis/psoriatic arthritis, Multiple sclerosis, Systemic lupus erythematosus (SLE), Inflammatory bowel disease, Addison's disease, Graves' disease, Sjögren's syndrome, Hashimoto's thyroiditis, Myasthenia gravis, Autoimmune vasculitis, Pernicious anemia, Celiac disease, Guillain-Barre syndrome, Chronic inflammatory demyelinating polyneuropathy, etc.

The cause of autoimmune disease is not yet known. Some are genetical, eg., Lupus run in families.

Symptoms includes fatigue, low grade fever, general feeling of unwell (malaise), muscle aches and joint pain, rash on different areas of the skin.

Diagnosis for autoimmune diseases is difficult to determine. Specific blood markers & in some cases, even a tissue biopsy will use to diagnose. Tests may be done to diagnose the disease antinuclear antibody tests, autoantibody tests, CBC, comprehensive metabolic panel, C-reactive protein (CRP), Erythrocyte sedimentation rate (ESR), Urine analysis.

Treatment depends on the type of disease and severity of the disease. Mostly, immunosuppressants, Nonsteroidal anti-inflammatory drugs (NSAIDs) are in use. Rarely, intravenous immunoglobulin may also be used.

Autoimmune diseases are mostly affected in women more than men. The leading causes of death among young and middle-aged women are autoimmune disease. Around 7% people are affected in the United States.

The study of animal models has clearly shown that infections may trigger autoimmune diseases.

There is no unique genetic mechanism underlying immune tolerance breakdown was identified in autoimmune diseases found by genome-wide association studies. Epigenetic therapy promises capable of controlling various autoimmune diseases.

Administration of probiotics or deliberate infection with pathogens protect from autoimmunity disease.

Environmental factors play a major role in autoimmune disease (AD) development, such as infections, UVB, and melatonin.

The course of AD is influenced by seasonally variable environmental factors.

Season of birth might increase the risk of autoimmune disease occurrence, exampled by higher MS in the spring or T1DM in the summer.

Melatonin reaches a nadir in the spring, a finding corresponding to higher risk of IBD and MS exacerbations.

Vitamin D levels which reach a nadir during late winter and early spring is correlated with increased disease activity.

Infections mount to autoimmune diseases through pro-inflammatory cytokine release and human antigen mimicry.

In addition, higher Rotavirus infections during the winter precede type 1 diabetes mellitus. Consideration of seasonal variation patterns of ADs can possibly provide clues to diseases pathogenesis and lead to development of new approaches in treatment and preventative care.

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