

Student's Name

Autoimmune Disease

Course

Professor's Name

Date

## Autoimmune Disease

### Introduction

A human body is composed of a complex network of cells and organs that assist in the performance of various functions. Each organ performs a specific task. If the organs and cells cannot protect themselves against disease-causing bacteria, it results in an autoimmune disorder (Crow et al. 375). Autoimmune disease is a condition whereby the human immune system accidentally attacks the body cells, preventing protection against bacteria and viruses.

The human body defense system can detect any foreign cell apart from the body cells. Upon detection of a bacteria or a virus, it releases antibodies that help in fighting invaders. However, in certain conditions, these antibodies attack healthy body cells instead of invading bacteria and viruses (Marrack et al. 899). Examples of autoimmune diseases include Type 1 diabetes, rheumatoid arthritis, sclerosis, inflammatory bowel disease, Graves' disease, and Hashimoto thyroiditis, among others.

### Cause of Symptoms in Autoimmune Diseases

The roots of autoimmune diseases are yet to be established. According to a study, an autoimmune disease occurs more often in women than in men at a ratio of 2:1, with women having a percentage of 6.4 versus men at 2.7. The disorder mostly occurs during child-bearing years (15 to 44 years) (Whitacre 777).

Some autoimmune diseases are indigenous to certain ethnic groups. For instance, systemic lupus erythematosus (SLE) can be observed more in African-Americans and Hispanics than in Caucasians. Also, certain autoimmune conditions are inherited genetically, such as sclerosis. If a parent is affected by one of these disorders, then the offspring is also susceptible to that disorder (Gallucci et al. 298). Poverty, especially during childhood, usually results in a poor education, which in turn can result in a history of smoking and drug abuse, thus causing an autoimmune disease such as rheumatoid arthritis.

There are other causes, as well. For instance, when a hidden or unexposed substance in the body is suddenly released into the bloodstream, it can cause autoimmune conditions. An example would be when someone punches another person's eye, it might lead to the release of

fluid from the eyeball into the bloodstream (Crow et al. 381). That fluid then could trigger a response from the immune system, which might identify the eye as a foreign entity and attack it later.

Another cause of an autoimmune disease is diet. Food with high fat and sugar content causes inflammation (Somers et al. 220), which results in an immune response. However, the results of a study on this is yet to be finalized.

Additionally, researchers suspect that environmental factors such as exposure to chemicals and infectious substances have led to the incidence of autoimmune disease (Davidson and Betty 40). For instance, exposure to direct sunlight may result in dermatomyositis, a condition associated with skin rashes and muscle weakness.

Also, vaccinations among children can result in non-exposures to disease-causing germs. Lack of exposure to certain bacteria is likely to lead to an overreaction of the immune system to harmless entities, causing an autoimmune disorder.

### **Consequences of Autoimmune Disease**

The noticeable symptoms of autoimmune disease include fatigue, muscle ache, fever, swelling and redness in some parts of the body, hair loss, skin rashes, troubled concentration, tingling, and numbness in hands and feet (Dominguez-Villar and David 665). However, individual diseases such as Type 1 diabetes have symptoms such as weight loss, fatigue, and extreme thirst.

Patients with autoimmune disease are likely to get cancer due to dysregulation of the immune system. Some cases of lung cancers are associated with autoimmune disorders such as lupus and rheumatoid arthritis. Cancer is one of the fatal diseases seen across the world (Davidson and Betty 349). The cost of treatment is high, which many people cannot afford. Also, it renders many people miserable. One of the consequences of succumbing to cancer is that it can leave many children as orphans.

## Cure

Once an autoimmune disorder symptom is identified, the patient can be diagnosed by a doctor through either a blood test or an evaluation (Gallucci et al. 301). A blood test can indicate the presence of a trigger-causing substance to ascertain the existence of an autoimmune disease.

An autoimmune disease is treated by using immunosuppressants such as azathioprine, cyclosporine, mycophenolate, methotrexate, or chlorambucil. These drugs are often administered by mouth and are taken for long periods of time. However, these drugs increase the risk of infections as well as cancer.

Autoimmune disorders such as thyroid and sclerosis are treated with drugs without using any immunosuppressants (Somers et al. 202). Each disease has its own treatment or medication. Once diagnosed, the doctor can prescribe a medication or immunosuppressant depending on the symptoms.

The purpose of white blood cells is to protect against infections. Consumption of new drugs tends to target white blood cells, thereby acting as an autoimmune catalyst (Davidson and Betty 346). For example, a drug called Abatacept, which is prescribed for rheumatoid arthritis, tends to block white blood cells.

## Conclusion

Autoimmune disease affects people of different genders, ages, races, and genetic constitutions. Therefore, care should be taken at an early stage to cure or prevent the disease. The triggering factors, such as the environment, should be regulated to ensure that a lesser number of people are affected. The government and other health organizations should ascertain ways to control the disease (Davidson and Betty 27). Also, research should be done to identify the causes of autoimmune diseases as well as to develop a cure for the disease associated with it.

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