**Multiple Sclerosis**

Mary Burzinski

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**Abstract**

The following medical literature review analyzes the condition, Multiple sclerosis and its causes. Multiple sclerosis is a degenerative health condition where the body's immune system attacks itself. In addition, myelin sheath within the nervous system deteriorates, leading to many unwanted symptoms. Also included within this paper is case study about a 25 year-old female who complains of abnormal symptoms that result in a Multiple sclerosis diagnosis. There are many modifiable factors to aid in coping with being diagnosed with the condition.

**Objective**

The goal of this project is to revise a previous Short Paper 1 assignment on a medical case study. This assignment is fulfilling an extra credit opportunity for BBH411W.

**Disclaimer**

The purpose of the writing is to fulfill course requirements for BBH411W and to stand as a personal writing sample, but the findings should not be treated as generalizable research.

 The health condition discussed within this medical literature review is multiple sclerosis. Multiple sclerosis is a condition where the body’s immune system attacks itself by damaging the myelin sheath that covers the nerves. The purpose of the myelin sheath is to protect the nerve. Due to the loss of myelin in those who have Multiple sclerosis, it causes a reduction in signal transmission, which prevents the brain from communicating effectively with the rest of the body (Mayo Clinic, 2015). People who have this condition have symptoms of blurred vision, problems with balance, numbness, and weakness in the extremities. It is then diagnosed through tests such as MRI and a spinal tap (Web MD, 2015). As one can see, the nervous system is greatly impacted in patients who have Multiple sclerosis. Characteristics of this system include conducting messages between the brain and the body via nerves and multiple sclerosis deteriorates it. There is no treatment for this condition (Mayo Clinic, 2015).

The etiology of this disease is not fully known. Multiple sclerosis may be caused by a combination of genetic and environmental factors. There is; however, a link between multiple sclerosis and a cluster of genes on the sixth chromosome. These genes are responsible for proper immune system functioning, which fight diseases. MS patients are not able to fight infections or other medical conditions as easily as others. Some environmental factors include geographical location, toxins, vitamin deficiencies, and even infectious organisms. It has been found that this condition is typically found in places farther away from the equator (University of Maryland, 2015). In addition, there has not been a direct correlation between infectious causes and multiple sclerosis, however this claim is still under investigation. It is thought that agents such as the Epstein-Barr virus, human herpes virus 6, and other retroviruses might cause multiple sclerosis due to spreadable infection (Giovannoni, 2006). There is not one specific factor that causes this condition alone, however diving deep into genetic and environmental factors can aid in explaining the etiology behind multiple sclerosis.

 The following is a case study of an individual diagnosed with multiple sclerosis. A 25 year-old active, Caucasian female had been complaining about numbness and tingling in both of her legs and also lack of balance for about three weeks. She was advised by a friend to see a physician as soon as possible. When she went to her appointment, her doctor wanted her to get an MRI and also get her spinal fluid tested. As expected, there were lesions located on her cerebellum and brain stem. She then was diagnosed with multiple sclerosis. She had no known family history with the condition; however, she underwent genetic testing and there seemed to be mutations found on her sixth chromosome, which is where proper immune functioning genes should be occurring. She never had any problems with health in the past and did not have any specific behaviors that would cause her to have multiple sclerosis. She currently takes immune suppression medication and is involved in physical therapy to help her cope with her medical condition since it is an incurable disease.

 The prognosis for multiple sclerosis varies from patient to patient. The condition is not curable so it is something that the patient will have to deal with the rest of his/her life. The nervous system deteriorates over time more and more. Patients usually will take medication that impacts the immune system in order to treat what they can. Also, physical therapy can be done to prevent as much decline in health as possible. Females, those with a young age of onset, near normal MRI results, and less lesions within the brain are usually given a better prognosis compared to others (Fernandez, 2013). The woman in the case study has a better prognosis than a typical patient with this condition. The fact that she is a Caucasian female who was diagnosed at a relatively young age, her prognosis is more positive. Vascular comorbidities occur with multiple sclerosis. Research has shown that individuals, who were overweight during childhood and with a high BMI, are more at risk at developing multiple sclerosis (Tettey, 2014). This disease does negatively influence quality of life. Cognitive, as well as physical functioning will decline with the disease (Llufriu, 2014).

 Some modifiable factors for positively impacting prognosis include adhering to treatment, not smoking, eating a healthy diet, exercise, and taking vitamins A and D supplements. It is important to lead an active lifestyle in order to prevent a worse prognosis of the disease (Fragoso, 2014). In the case study, the female patient lives a healthy lifestyle, but she can implement exercise more into her daily schedule in order to better improve her overall health. If she were to do this, her disease would not be as life threatening. Although multiple sclerosis cannot be cured, taking precautions to better her health will positively impact prognosis and quality of life.

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