Myasthenia Gravis: A closer look

Erin L. Ricker

Otterbein University, erin.ricker@otterbein.edu

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Myasthenia Gravis: A closer look
Erin L. Ricker, BSN, RN
Otterbein University, Westerville, Ohio

Introduction
Myasthenia gravis (MG) is a rare, chronic autoimmune disease that affects the body’s voluntary muscles by blocking the transmission of nerve impulses to muscle cells. The symptoms of MG can range from mild to severe and are caused by the production of antibodies against a muscle cell protein called acetylcholine receptor (AChR) (Abbott, 2010). Cases of MG have shown a familial predisposition, and women are often affected more than men (Koch et al., 2013). MG is generally diagnosed in patients over fifty years of age (Weeks, 2012). There are two main clinical categories of MG: generalized MG which affects skeletal muscles in the body, and ocular myasthenia gravis which is limited to the eyes and extracranial muscles (Abbott, 2010). Patients with MG continue to produce AChR antibodies as a result of thymus damage, which is an autoimmune disease caused by a virus or bacteria (Cufi et al., 2012). The thymus is an organ located in the neck and is responsible for producing T cells, which are a type of white blood cell. T cells help the body fight off infections by attacking and destroying infected cells (Cufi et al., 2012). The thymus is also responsible for producing antibodies that target the AChR, which is a protein found on muscle cells (Weeks, 2012). These antibodies attach to the AChR and prevent the release of the neurotransmitter acetylcholine, which is responsible for transmitting nerve impulses to muscle cells (Koch et al., 2013). When the AChR is blocked, the muscle cells are unable to contract and the patient experiences muscle weakness and fatigue (Koch et al., 2013). This process can lead to muscle weakness and fatigability, which are characteristic symptoms of MG (Koch et al., 2013).

Case Study
A 59-year-old Caucasian male was seen by his primary care provider (PCP) with complaints of blurred vision and increased difficulty raising his upper arms. Upon further questioning, the PCP learned that the patient had recently retired from a job that involved a lot of computer work. While on duty, the patient stated that he developed a bad cold with symptoms of extreme fatigue, watery eyes, and congestion. Symptoms progressed throughout the week with the patient eventually requiring his two sons to drive him to his doctor’s appointment and his wife to go to the store. Both the patient’s sons came back with a cold, and the patient stated that his right eye was worse than the left eye. Upon returning home, the patient was first seen by his ophthalmologist who referred him to his primary care provider (PCP). The patient developed eye strain and difficulty reading. He was referred to an ophthalmologist for a second opinion. After an opthalmologic consultation to rule out other causes of eye strain, the patient was diagnosed with ocular myasthenia gravis (MG) (Abbott, 2010). The patient was referred to a neurologist for further evaluation (Abbott, 2010). The neurologist performed further evaluation by his PCP and recommended a comprehensive review of systems and a comprehensive examination. The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010).

Case Study Cont’d
The patient was seen for an immediate magnetic resonance image (MRI) with suspicion of a thymoma. The results of the MRI were normal. The patient was referred for a neurologist for additional testing. After an opthalmologic consultation to rule out other causes of eye strain, the patient was diagnosed with ocular myasthenia gravis (MG) (Abbott, 2010). The patient was referred to a neurologist for further evaluation (Abbott, 2010). The neurologist performed further evaluation by his PCP and recommended a comprehensive review of systems and a comprehensive examination. The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010).

Clinical Features
There are two main clinical categories of MG: generalized MG affects skeletal muscles and ocular myasthenia gravis affects the eyes and extracranial muscles (Abbott, 2010). Generalized MG affects multiple muscles, including the diaphragm, bulbar, limb, and respiratory muscles and is more severe than ocular myasthenia gravis (Abbott, 2010). Generalized MG is more common in men, whereas ocular myasthenia gravis is more common in women (Abbott, 2010). Generalized MG is diagnosed in patients over fifty years of age (Abbott, 2010). In the case study, the patient presented with symptoms of MG, including ocular symptoms (Koch et al., 2013). The patient was diagnosed with MG after further evaluation by his PCP and recommended a comprehensive review of systems and a comprehensive examination. The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010). The patient was referred to a specialist for further evaluation and treatment (Abbott, 2010).

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Epidemiology
MG occurs in all races and affects both males and females (McCance, Huether, Brashers, & Rote, 2014). Cases show a familial predisposition and women are often affected more than men (Koch et al., 2013). MG affects approximately 20,000 to 70,000 Asians, compared to other ethnic groups (Koch et al., 2013). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010).

Pathophysiology
MG occurs in all races and affects both males and females (McCance, Huether, Brashers, & Rote, 2014). Cases show a familial predisposition and women are often affected more than men (Koch et al., 2013). MG affects approximately 20,000 to 70,000 Asians, compared to other ethnic groups (Koch et al., 2013). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010). MG is usually diagnosed in patients over fifty years of age (Abbott, 2010).

What causes Myasthenia Gravis? What is Myasthenia Gravis? Myasthenia Gravis: A closer look
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