Kelsey Lee

Mrs. Heidenreich

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**Alzheimer’s Disease**

 No one ever wants to lose memories of their wonderful life. To have your whole life be erased from you, but yet be constantly reminded by your family because they still remember everything even though you can’t. Life is supposed to be a wonderful time spent making memories with family and never forgetting until your time on Earth is done. That doesn’t happen to all people, some aren’t that lucky my great grandma is one of those people. We started noticing her early signs of Alzheimer’s disease eight years ago, and she was eighty-three years old at that time. Alzheimer’s disease is a common form of dementia that has no known set cause or cure, a disease that is linked to organ failure or malfunctions in the brain (Bright Focus Foundation). Alzheimer’s has affected many people and families, there is a wide range of what could be done to help the cause of the disease.

 In 1906, Dr. Alzheimer saw changes in a patient’s brain tissue once she had died from a mental illness (National Institute on Aging). He had found clumps and bundles of fibers in her brain, and so Alzheimer’s disease was named after Dr. Alois Alzheimer (National Institute on Aging). People with Alzheimer’s live on an average of eight years with the disease, some may survive up to twenty years (Alzheimer’s Association). Everyday life with Alzheimer’s can be challenging for the individual along with family and friends. By 2050 it is to believed that more than five million Americans to have Alzheimer’s (Bright Focus Foundation). Every sixty-seven seconds someone in American develops Alzheimer’s and every four seconds someone in the world develops a new case of dementia (Bright Focus Foundation). Many people with mild genitive impairment eventually develop Alzheimer’s disease (National Institute on Aging).

 There are many symptoms of Alzheimer’s disease that can be easily recognized. You might notice changes in yourself before anyone else does (Mayo Clinic). With my great grandma we could tell that she was forgetting things and having a hard time doing her every day routine. The most common symptoms are memory loss, confusion, impaired judgment, personality changes, disorientation, and the inability to communicate correctly (Bright Focus Foundation). Having memory loss that disrupts daily life like misplacing things is challenging for a person, who then gets frustrated with themselves (Health and Nutrition Letter). The rate at which they worsen depends on the person and the environment that they live in (Mayo Clinic). Elderly people usually have a routine they do every day and not being able to do it gets them aggravated easily.

While reading and writing comes easily for most people, it becomes harder with Alzheimer’s disease because of loss of communication from your hands and brain (Mayo Clinic). The biggest change from this disease is people’s behavior, it changes drastically because they become upset not being able to do the things they once have done (Mayo Clinic). For example, my great grandmother’s behavior changed drastically. She was easily frustrated by the littlest things like where she had placed things but couldn’t remember unless she accidentally found it. Whenever we went to visit her we could tell that the symptoms kept getting worse. One day she didn’t recognize who we were even though there are pictures of all of us in her room. We had to explain to her who we were, it was tough knowing her our whole lives then all of a sudden she had completely forgotten us. She can remember her husband and what he looked like thirty years ago but she doesn’t always recognize him now when he comes to visit. Usually people with Alzheimer’s can remember stuff about their lives when they were young but it gets fuzzier as they try to remember recent things. The disease targets your short term memory first, which is what has recently happened to you in your life or family.

Another example is the book “The Notebook”, Allie has Alzheimer’s and her husband Noah, reads her the story of their lives together. She becomes aggressive because she does not know what is going on and thinks Noah is a stranger. She has good days where she could recognize Noah and asks about their children, but also has bad days where she had no idea who he was or what he was doing there. An interesting part of the movie is that Allie doesn’t remember where she is but yet she can still remember how to play the piano perfectly throughout all these years. Doctors do not have a reason to as why some people can only remember certain tasks perfectly yet they cannot go through everyday life normally and forgetting things.

 Doctors can diagnose this disease by using different tests and methods. Blood and urine tests can be taken, but doing a brain scan or a magnetic resonance imaging gets the best results (National Institute on Aging). The brain scans and magnetic resonance imaging are able to tell if it’s symptoms of Alzheimer’s or if it’s other causes as in a stroke, tumor, or Parkinson’s disease (National Institute on Aging). Early diagnosis is beneficial and important for any disease, it helps even more with a disease so there can be something done to slow down the symptoms. Once we noticed my great grandmas’ symptoms getting worse my grandma had gotten her an appointment with a specialist. From then on she has been on medicine to help slow down the process, but unfortunately the disease caught up with her.

There is a lot of pressure and responsibility put on a family with a member that has Alzheimer’s disease. Early diagnosis can help the family plan for the future and make the appropriate arrangements (National Institute on Aging). It is just as emotionally draining for the family members as it is for the person with the disease. The right kind of care needs to be provided for the person with Alzheimer’s disease. Your loved one may need constant supervision depending on what stage they are in. When we had to think about my great grandma and how to care for her, we decided that being in a home for Alzheimer patients only was the best option. We still would go and visit her regularly with it being so close to home. She was in that home for four years but has since moved into a nursing home to fit her needs best and still remains there today.

 Scientists think the disease is caused by a complex series of events that take place in the brain over a long period of time. There are three different stages of Alzheimer’s disease, each stage leads up to the other as it progressively gets worse. Mild Alzheimer’s disease is when people are first diagnosed and start to notice the symptoms. Moderate Alzheimer’s disease is the second stage when a person could have hallucinations, paranoia, and have impulsive behavior problems. Severe Alzheimer’s disease is the worst stage of the disease, a person could be in bed all time because their body is shutting down and not able to function right (National Institute on Aging).

The reason for these stages could possibly include a mix of genetics, environmental, and lifestyle factors (National Institute on Aging). Everything that we do in our time of age will have an impact on us when we grow older. From where we live to what we eat every day, there will always be things that will increase the risk of getting a disease while others lower the risk. Having high blood pressure, heart disease, diabetes, or high cholesterol can all raise your risks for having health problems.

My great grandma didn’t have any of those problems, so something had to have triggered the disease. Familial Alzheimer’s disease is an early-onset Alzheimer’s - it is inherited and rare (Bright Focus Foundation). This disease is caused by gene mutation on chromosomes one, fourteen, and twenty-one (Bright Focus Foundation). The two other genes that scientists believe to have influence in any kind of Alzheimer’s disease are located on chromosomes nine and eleven (Bright Focus Foundation). If this disease is hereditary then someone in your immediate family could possibly get Alzheimer’s but no one would be able to know until it happens or unless scientists find out the specific cause.

Alzheimer’s disease leads to nerve cell death and tissue loss, causing the brain to shrink affecting all of its normal functions (Alzheimer’s Association). Our brain is a complicated organ, therefore everything that we do goes through the brain. Not being able to use our brain correctly is a major disadvantage. The tangles in the brain destroy a vital cell transport system made of proteins (Alzheimer’s Association). These proteins we need from our brain are important in everything we do. There could be a way to cure the disease someday, but it will take a lot of tests to find out a specific cause for it. This disease is irreversible from what we know of it now (National Institute on Aging). With my great grandma it is hard to keep a conversation going without her forgetting what we are even talking about. Her brain doesn’t have its normal functions so her memory and attention span is smaller, just in the way that her brain has been shrinking. We have to have plenty of patience with her otherwise it would do no good to make her more confused than she already is.

 The prevention of Alzheimer’s disease may be possible, but we won’t know that for sure unless there are multiple studies done throughout people’s lifetime. Studies suggest that how we eat and diet could have a possible effect on if we are being at risk for getting Alzheimer’s or not (Bright Focus Foundation). Making a healthy lifestyle for yourself is key no matter what, you are only benefitting yourself. By dieting and exercising you are protecting the heart from failure (Health and Nutrition Letter). The head and heart are connected if your heart is healthy then your head should be healthy. That’s not always the case but most of the time there’s a good chance that is.

Researchers have an idea that the Mediterranean diet can help prevent the disease by slowing down the time of aging. The diet focus mostly on plant-based foods, such as fruits and vegetables, whole grains, and nuts. It also replaces butter with healthy fats like olive oil, and using herbs instead of salt for flavor in your food. The Mediterranean diet is supposed to help you keep a high level of energy while getting all the healthy nutrition you’ll need, along with daily exercise in your routine (Bright Focus Foundation). When you have plenty of energy it will keep you active stimulating your mind while being healthy and not lazy. Some of this research and medication has been performed on animals’ studies that have come out positive (Bright Focus Foundation). Studies that have been done on animals are not all that accurate, but this way we don’t permanently harm humans if something goes wrong.

Research led by Dr. David Bennett from the Rush Alzheimer’s Research Center, located in Chicago Illinois, has studied neuroplasticity in adults. Neuroplasticity refers to changes in neural pathways and synapses due to changes in behavior, environment, neural processes, thinking, emotions, as well as changes resulting from body injuries (Bright Focus Foundation). Being mentally active and social keeps your brain healthy. Living in a bad environment while being stressed is not a healthy way of living. My great grandma had stress in her life just like everyone else, but nothing out of the ordinary. By learning new things and new activities this helps exercise peoples brains to build up important connections, it also makes you think quicker (Bright Focus Foundation). Doing exercises for your brain can be fun and easy that is challenging your brain to think in a different way. There are television shows now that try to play tricks on your brain but then once you figure them out your brain gains new information. Even the simplest cross word puzzle is still a help to exercising your brain.

The U.S Food and Drug Administration has approved five drugs to help treat the symptoms of Alzheimer’s disease (Alzheimer’s Association). Donepezil and Rivastigmine, also called Aricept and Exelon, are the only two drugs approved for all stages of Alzheimer’s. Galantamine and Tacrine, also known as Razadyne and Cognes, are only approved for mild to moderate Alzheimer’s. Memantine also called Namenda is only approved for moderate to severe Alzheimer’s. There are many small connections in our brain that help us to function in everyday life. To fully understand how the drugs work is hard unless you are the doctor prescribing it. No one person is the exact same, everyone that is on medication will react to it differently. Neurons connect and communicate with synapses where neurotransmitters, which are small bursts of chemicals, carry information from one cell to another. Neurons in the brain are the main cells destroyed by Alzheimer’s disease. These medicines slow down the process that breaks down a key neurotransmitter and help regulate the activity of glutamate, which involves learning and memory (Alzheimer’s Association). Some of the drugs are only approved for certain stages, and too much of one medicine can be a bad thing. Since these medicines are only proven to help slow down the disease they do not cure it, eventually the disease will catch up with the person.

 Alzheimer’s is a disease that can take someone’s life over as well as their families. With the support of doctors and family there is much that can be done to help overcome this disease. It is important to know the signs and symptoms in order to have your loved one properly diagnosed. From that point, then medications can be determined and treatment could be considered. Through educating the family members, they will be able to properly care for their loved one in the home, or if need be, find a place for that person to live in a safe and encouraging environment. It is sometimes hard to understand why Alzheimer’s disease happens, all anyone can do is be able to notice the symptoms and get treated as quickly as possible.

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