

“Biomedical Breakthroughs and My Life”

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Western Washington

Not ELL

One day when I got home from school, I found out my mother had taken my sister to a doctor to get her blood drawn because she had symptoms of anemia. Then, several weeks later, not only did we get back the results but my mom decided to get her blood drawn to test for anemia too. Both my mom and my sister were diagnosed with anemia, which would explain the paleness in my sister's face and the tiredness my mom had. Anemia is a disease of the red blood cells and can be divided into three main categories out of the 400 different types of anemia. In the first category, there is not enough red blood cells in the body. In the second category, the body doesn't have enough hemoglobin, which is the protein in a red blood cell to carry oxygen. In the third category, the red blood cells are abnormal sizes.

Early reports of anemia were made in the 1900s when girls frequently would have a condition called chlorosis, also known as the green sickness, which was found later to be caused by anemia. George Hoyt Whipple discovered in the early 1900s when he experimented with dogs that were anemic that when he fed them liver, spinach or pork muscle their hemoglobin level went up, and the anemia disappeared. After this, William Murphy and George Minot found a cure for a fatal type of anemia called pernicious anemia, and they saved between 15,000 and 20,000 lives.

The way doctors or physicians test for anemia is through a CBC, or a complete blood count, and they do a red blood cell count as well as counting the hemoglobin, and the amount of vitamin B12, folic acid and other minerals that can cause anemia when their levels are low. All of the counting for the blood draw is done by a machine in a laboratory. The treatment is different for every case of anemia, but it can be just taking supplements or it could be having surgery, it depends on the cause of anemia.

In an aplastic anemic person, sometimes the bone marrow must be removed or else they could die. Aplastic anemia is a type of anemia that can be fatal and it is when is when a bone marrow stops making red blood cells all together. If that happens, then the body eventually will have no blood. If the marrow never starts again, then they will receive a bone marrow transplant, which can save one's life.

A clinical trial in India during 2010-2011 assessed how women in the villages would be affected from a twice-daily dose of iron. The type of anemia these women had was iron deficiency anemia, in which you lack iron to make hemoglobin. The study tested for a difference in hemoglobin, weight and side-effects such as red cheeks, a sign that blood is getting to the tissues. The study found that an anemic person with a twice-a-day dose of 100 milligrams of iron for three months, the difference in anemic persons dropped 40% out of the 29 women that completed the study. The patients that completed the study did have an increase of weight and hemoglobin. The result of the study was that taking 100 mg of iron a day for 90 days helps get rid of anemia.

Anemia is a strange type of condition because sometimes it can be a fatal, and in other cases it can be just something that can be cured by taking a vitamin. A condition such as anemia shouldn't be ignored just because it isn't that severe. Everyone should take conditions like anemia seriously, just as they take diseases seriously because someday when most diseases are cured, the conditions that are ignored will become the big diseases because no one paid attention to them.

Reflective Paragraph:

I liked writing about anemia because it wasn't a very large topic, like cancer or A.I.D.S. I also wanted to know a little bit more about the condition my mom and my sister have. They had talked about anemia for some time, and I couldn't quite grasp the definition of the condition and what exactly it was. Too add on, it was very interesting to know that anemia was not a disease but a condition. When I interviewed my grandpa, who is a physician, he told me a lot more than I had learned from any abstract article. For example, when I mentioned that there are three types of anemia, my grandpa told me he had some of two different types, and those two parts that he had were not very similar

My favorite piece of information that I learned through the project was aplastic anemia. I had no idea that some anemia cases could be so severe that people need to have a bone marrow transplant. It is also amazing what people like Whipple and Minot have thought up for cures. Also how people get anemia is interesting. I think the most surprising of all was that 70,000 people per year get diagnosed with anemia. I had never thought that so many people could have this condition, because I knew that only my mom, my sister and my grandpa had it. Overall, it was very interesting to research this topic.

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