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2022 PSBR High School Essay Contest

Finalist

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Factor V Leiden is a genetic mutation of a blood clotting factor. Those with this mutation are more likely to develop spontaneous blood clots. While not common in everyone that is diagnosed with the mutation, some people can have very dangerous and abnormal clots. My father is part of this uncommon group. Furthermore, I may be part of this uncommon group. However, thanks to the marvels of modern medicine and the knowledge granted through medical animal research, this condition can be easily treated through regular usage of prescribed medication.

One of the most popular medications for this disorder is warfarin. The history of warfarin is based soundly in animal testing, dating back to the early years of the 20th century. In the 1920's, many cattle in both America and Canada mysteriously died after eating moldy sweet clover hay. Veterinarians discovered that the cause of death amongst nearly all the cattle was internal hemorrhaging. Scientists in the 1930's and 40's were then able to synthesize a chemical called dicoumarol from this hay, which was determined to cause these cases of internal bleeding. The Wisconsin Alumni Research Foundation (abbreviated as WARF) funded the research and development to produce variations of this chemical that could be used as rat poison. The most efficient of all of these variations was then called warfarin, an act to pay homage to the organization that created it.

Warfarin took off as a commercial rodenticide in 1948, but in 1951, a US Army recruit attempted suicide through consumption of the common rat poison. Thankfully, he was quickly treated and brought back to full health. During his treatment however, doctors made an amazing realization: If taken in a regulated dosage, warfarin can be used as a therapeutic anticoagulant. It became so trusted in the newly discovered role that even the President of the United States, Dwight D. Eisenhower was prescribed to regularly take warfarin in 1955, just 4 years after this breakthrough.

Thankfully, warfarin isn't reserved just for the President of the United States. My father regularly takes warfarin to deal with his case of Factor V Leiden. Due to being part of the uncommon group that gets abnormal and dangerous clots, he will take this drug for the rest of his life, or until a better alternative is found. My father learned this bittersweet truth when he was around 37 years old.

It seemed like it was going to be just a regular day for my dad, but when he was trying to fall asleep, he felt several spots of stabbing pain in his chest. Never one to try to cause a scene, he refused the advice of my mom, who was a nurse, to go to the hospital. But in the morning, the pain persisted and my father changed his tone. My mom insisted upon taking him straight to the emergency room and my dad did not put up much of a fight. When he arrived,

his attending physician immediately ordered a scan of my father's chest. The results looked like a death sentence. My father's lungs were so filled with blood clots that the doctor described the scan as looking like a black and white photo of fireworks in the night sky. He was immediately treated for this condition that kills most in this state. After this harrowing event, he was prescribed a drug he had never heard of before. Something called warfarin. I was only 8 years old when this happened, but I vividly remember this event. I remember the fear I felt, the fear my mother felt, but I also felt the collective relief of my family when we learned a simple medication could treat this condition with virtually no major side effects.

I will openly admit that I am scared of potentially having Factor V Leiden. After living through the near death experience of my father from it, I think it is very understandable why I feel this way. However, I know that this condition can be treated. While it cannot be cured, it can be dealt with, all just with a little pill called warfarin. And warfarin only exists because of the studies done on cattle that consumed a chemical that would be refined into it. For years, when being developed as a rodenticide, thousands of rats were used to study this drug. Thanks to all of these animals, my father can live a healthy and normal life, and if I have Factor V Leiden, I will be able to as well.

Works Cited

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