

A Beautiful Life Prolonged

I grew up with my cousin Allison being different. She was born with microcephaly. From a young age she was taught basics like a few words of sign language, and she developed different ways of communicating. Sometimes she would bring her mom something from the pantry if she was hungry or would sneak out the door and run to the park if she wanted to play. She never did learn to read, write or speak. Her mental abilities didn't change much at all after about age 2 or 3. I remember thinking as I got older that we were just about a year apart in age but were never near the same mentally.

Microcephaly is a condition that causes children to be born with smaller heads than expected. This can happen for a number of reasons. One is that the baby's brain doesn't develop normally during pregnancy. The other is that the baby's brain stops growing after birth. Most recently it has been discovered it can be caused by the Zika virus. Hearing about in the news so much has been weird. I know it as what made Allie Allie. Hearing about it as a tragedy was hard. I know no one wants a baby to have birth defects, but for my family, Allie was a treasure not a tragedy.

Doctors don't know why Allie was born with microcephaly. But the signs were prominent when she was first born. She didn't roll over or sit up when other babies were. The doctors had all sorts of theories. Some predicted she would live for months, others years or some thought she would have normal life span. It was completely unpredictable. She lived to be 15 years old. She died two years ago.

The symptoms for Allie were extensive, and it's safe to say many of the treatments that made her more comfortable and prolonged her life were the result of research that included animals.

One that I remember well was that she frequently had low platelet counts. This is called Thrombocytopenia and it can be caused by many things including microcephaly. Her parents first noticed it when we were visiting and she had a bunch of bruises on her body. They couldn't figure out what had happened and asked me if Allie had fallen. I was only 7 or 8 and didn't understand at the time. When there was no explanation, my aunt and uncle took Allie to the doctor and found out she had low platelets in her blood.

She needed IVIG treatments to keep her from bleeding to death if she fell or got into a car accident. IVIG is short for Intravenous Immune Globulin. It is a collection of antibodies separated from blood plasma. It takes thousands of donors to make one dose of IVIG. The IVIG treatments brought Allie's platelet counts back up to normal. Some children only need one treatment and then their bodies do the job. Not so for Allie. She needed them frequently. After she would get her treatment she had tons of energy and would be bouncing off the walls!

IVIG would not have been so helpful for Allie and many like her or with platelet problems without animal testing. According to Blood Journal, the success in using IVIG to increase platelets in children was initially proven by scientists who used animals in their studies in 1981. A later study that used rats for research found that IVIG was especially effective for treating Allie's condition, Immune Thrombocytopenia. In 2012, a study found that IVIG can also help

with Obsessive Compulsive Disorder in children and teens. Researchers found that strep-related antibodies could attack parts of the brain and cause problems. According to the National Institute of Mental Health, “Previous human and animal research suggested mechanisms by which strep-triggered antibodies mistakenly attack specific brain circuitry, resulting in obsessional thoughts and compulsive behaviors.”

I am grateful that IVIG treatments were so helpful to my cousin Allie. Unfortunately Immune Thrombocytopenia was just one of many conditions she dealt with. Toward the end of her life, she had a rare seizure disorder that really reduced her quality of life. Scientists have a long way to go in finding cures for diseases and birth defects, and I know that these breakthroughs will not be possible without animal research. I hope that animal testing continues to be researched and utilized to help those in need and to help prolong lives like it did for my Allie.

Bibliography

"Facts about Microcephaly." *Centers for Disease Control and Prevention*. Centers for Disease Control and Prevention, 07 Dec. 2016.

Scheinfeld, Noah S. "Intravenous Immunoglobulin." *Overview, Uses of Intravenous Immunoglobulin, Pharmacology and Monitoring*. MedScape, 06 Jan. 2017.

"New IVIG Trial Can Reduce OCD Symptoms in Children with PANDAS." *News-Medical.net*. National Institute of Mental Health, 19 Mar. 2013.

Hansen, Ryan J. "Effects of Intravenous Immunoglobulin on Platelet Count and Antiplatelet Antibody Disposition in a Rat Model of Immune Thrombocytopenia." *Blood Journal*. American Society of Hematology, 15 Sept. 2002.