

## MAGGIE'S STORY – IMHA

In January 2016, a month after our Beardie Maggie turned 3, we had just returned from our latest Beardie adventure - a short road trip to the beach. It was the first time our Beardies had been to the beach and they LOVED it! On our first day home, both dogs slept but Maggie was moving a little slow and I wondered if she had overdone it running in the sand. She wasn't interested in eating but that wasn't unusual for Maggie, especially during or after a trip. The next day was a Sunday and Maggie still wouldn't eat and she was still lethargic that afternoon. I took her temp and it was normal, but when I checked her gums they were pale and tacky. We decided to take her to the emergency clinic about an hour away rather than wait until morning to see our regular vet. We weren't that worried but didn't want to take any chances. In hindsight, I have no doubt she would not have made it through the night if we had waited.



**Maggie Enjoying the Beach  
January 2016**

The emergency vet ran blood work and told us she was severely anemic and needed a blood transfusion right away. But he couldn't tell us what had caused the anemia. We are fortunate that the clinic is about 15 minutes away from the University of Georgia Veterinary Teaching Hospital and we were sent there for the transfusion. Upon arriving at UGA, one would never have known Maggie was so sick. She trotted in like a typical beardie, wagging her tail and happy to meet everyone. The doctors didn't think these "clinical signs" were consistent with the bloodwork from the emergency clinic, so they decided to rerun the bloodwork before proceeding with a transfusion. Unfortunately, the results had gotten worse. Her PCV/HCT, which are measures of the amount of red blood cells (RBC) in the blood, was down to 9. The normal range is 37-55. And that's when we first learned about Immune Mediated Hemolytic Anemia (IMHA also referred to as AIHA).

IMHA is an autoimmune disease that causes the body to attack and kill its own RBC. RBC are made in the bone marrow and carry oxygen from the lungs to the rest of the body. When these cells are destroyed, anemia results and oxygen delivery is greatly reduced. If left untreated, it leads to death. The doctors explained to us that low RBC can result when the body loses RBC, is not making RBC, or is destroying RBC.

Maggie's blood was clotting normally so we knew she wasn't losing RBC. And because Maggie's bloodwork showed autoagglutination (the clumping of red cells created by the IMHA immune reaction), the doctors felt that her anemia was probably due to IMHA and her RBC were being destroyed. The next morning the doctors ran all kinds of tests and confirmed their initial diagnosis. IMHA can result from a primary immune system problem or be secondary to some other condition. Primary IMHA is associated with certain breeds (bearded collies are not one of them) and is presumed to have a genetic component. Secondary IMHA has been associated with cancerous, inflammatory, and infectious (including tick-borne) diseases. Vaccines have also been implicated as a possible cause, although Maggie had not been recently vaccinated. After running every conceivable test, the doctors were unable to find any underlying cause for Maggie's IMHA and determined she had primary IMHA.



**One of our daily visits. Giving lots of love and trying to help Maggie to eat.**

We were told IMHA is a treatable condition but aggressive medical care is required and most cases require a short hospitalization. The doctors warned us that not all dogs respond to treatment, that the success rate was only 50%, and that treatment was extremely costly. With primary IMHA, steroids and other immunosuppressive drugs are used to shut down the body's immune system in order to stop the body's attack on its RBC. Blood transfusions are used to treat the anemia until the destruction of the RBC can be controlled. The doctors told us it could take several days, even longer, for the drugs to start working (if they started working at all) and that more transfusions may be needed. And they warned us that for dogs that do respond and get to go home, there is an immediate and often critical risk of blood clots caused by the clumping of the RBC and there is also a high risk of relapse. Some dogs can eventually be weaned off the steroids and immunosuppressants while others must remain on lower doses of them indefinitely.

We quickly realized Maggie's case was severe. She was hospitalized for 3.5 weeks and had 6 transfusions. Her RBC count would go up after the transfusions but the numbers were still way below normal and then they immediately started to fall again. When she was admitted, they started her on steroids and the next day added cyclosporine and a few days later added mycophenolate to further suppress her immune system. She was put on blood thinners (Heparin) due to the continued clumping of her red cells and risk of blood clots. Her reticulocytes ("baby" red cells produced in the bone marrow) remained extremely low so they performed a bone

marrow biopsy which revealed that although she was capable of producing new RBC they were being destroyed in the marrow so she wasn't able to replace the mature cells being destroyed. In the beginning, we stayed optimistic because she didn't look or act sick. She would come in wagging her tail and happy to see me when I made the two hour round trip to visit her every day.

After the first week, the doctors remained optimistic and said it could be taking her longer to respond to the drug treatment because the RBC were also being destroyed in the bone marrow. But slowly her illness began to take its toll. The side effects of the drugs were awful. She was given more drugs to help with diarrhea and vomiting. She stopped eating and was losing weight and often had difficulty breathing. Her numbers would continue to drop after the transfusions but they began to drop more slowly and we tried to look at that as a positive sign. But her quality of life was deteriorating rapidly, our vet bills were astronomical, and we still had no idea IF or hopefully when she would respond to treatment. We decided to try one more transfusion (her 6th), but decided it would be her last. We waited and hoped but two days later we were dealt a huge blow. She had pneumonia. The doctors put her on medication but did not think she had the strength left to beat it. So we prepared to say good-bye.

But Maggie decided she wasn't ready to go. After two days of antibiotics, the pneumonia began to improve. And when it had finally resolved, somehow her RBC went up all on it's own for the very first time. It only reached 23, which was still way below normal and any other dog would have remained hospitalized. But given everything she had been through, the doctors determined that there was nothing more they could do and thought it might help if she went home.

She was skin and bones and down to 22 pounds. She still wasn't eating so they put in a feeding tube. I was sent home with pages of instructions and overwhelmed by all of the medications and care she required. Thankfully I was in a position to stay with her 24/7 and give her the care she needed. She was on strict bed rest and had to avoid all activity.

She was completely immunosuppressed so we tried to keep her isolated. I spent the first week lying next to her and checking her



**Happy to be home, getting better, our balding Beardie still loves to sleep on her back.**

breathing and her gums to be sure she wasn't throwing a clot or relapsing. Every other day we would make the long trip back to the hospital for blood work. And slowly her RBC count continued to go up. The medications made her recovery far from easy. The steroids caused incontinence and she lost almost all of her hair. And the immunosuppressants were extremely hard on her GI tract so there was lots of diarrhea and vomiting. After about 3 weeks, Maggie's RBC count finally hit the low end of the normal range and she hasn't looked back. Every IMHA case & treatment is different, but because of the severity of Maggie's case and the high doses of the medications she was on for such a long period of time the doctors decided to try to wean her off some of the medications. Every time the doctors lowered a dosage we held our breath and hoped she wouldn't relapse. But we took it very slow and Maggie continued to amaze us. By mid-Sept she was off of all of the steroids and immunosuppressants. She no longer takes any medications for her IMHA and we now only do blood work every 6mos or if we notice a change and feel it is needed. And a year later she is no longer bald and has the thickest beardie coat I have ever seen!

Maggie 2.0, as we now call her, is happier and sassier than ever and seems to have a whole new zest for life. She's even back to training and competing in the events she loves most - agility, herding (finished PT June 2017 and participated in a herding clinic)



and barn hunt. I often catch myself watching her and can't believe she was ever so sick. Relapses are common with IMHA and we still don't know what triggered her IMHA the first time. But dogs that do recover can go on to live long and happy lives. A quick blood test or gum check are easy ways for us to

make sure she is staying healthy. We don't take anything for granted and we keep a close eye on her.

So we are hopeful that if and when she does relapse we will catch it early and be able to treat it quickly. There's no point in worrying about tomorrow or the unknown. For now we are just so grateful to still have her with us and we enjoy each new day we have with her. Again, it is important to point out that not all cases of IMHA are as severe as Maggie's. Her length of hospitalization and number of transfusions were extreme. But we hope that by sharing Maggie's story and educating other Beardie owners about

IMHA, those facing this awful illness will have the information and hope they need for their own successful recovery.



**Maggie, July 2017**