

# Hemangiosarcoma

## *A Ticking Time Bomb*

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***“Canine hemangiosarcoma is among the most challenging and mysterious diseases encountered in veterinary practice.” Jaime F. Modiano, VMD, PhD***

*It’s a morning pretty much like any other. Up early, let the dogs out, feed and clean up, make the to-do lists for the day. Nothing seems out of the ordinary or unexpected. But without warning, this day will turn out to be anything but ordinary.*

*At 9 AM, I notice that my healthy, 10-year-old bitch Rosa has vomited her breakfast. Not in itself an unusual thing for Scotties that tend to graze on anything they find in the yard. But still, not a common occurrence for Rosa. By 10 AM, Rosa is increasingly uncomfortable, panting, then weaker, lethargic, moving slowly. By 10:30 AM I am in the car racing to the vet, certain at this point that something is terribly wrong. But by noon, Rosa is gone.*

Gone! This is the stuff that nightmares are made of. Any dog owner who has experienced a scenario as described above is all too familiar with the terrible shock and inability to understand what has happened so quickly to their beloved pet. *How can this happen? There was no warning! She was just fine this morning! There was no time to prepare... no precious time to say goodbye.*

Hemangiosarcoma (HSA) is deep and silent and deadly. The term “haeme” is Latin for blood; “angio” is vessel; and sarcoma means cancer of the deeper connective tissues. Put it all together and you have HSA, an incurable tumor arising from the cells that line blood vessels. Most commonly, HSA starts to grow in the spleen or the right atrium of the heart. It can also be located right below the skin, but the more critical forms are deeper in the body. There, HSA grows out of sight, not announcing its presence, causing no pain or obvious symptoms, spreading aggressively to other organs. As with any tumor, a source of nutrition is essential for growth, and so HSA produces its own blood vessels. But these vessels can be tortuous, malformed, and prone to clots and

rupture. Small ruptures result in blood loss, but the body can recover and vessels will heal over time. Large ruptures, however, are catastrophic, leading to massive blood loss into the abdomen or into the sac around the heart. The ability to clot is overwhelmed in the face of this massive bleed. The dog goes into shock and bleeds to death internally. Treatment is usually of little use since HSA is diagnosed so late in the course of the disease. Sadly, many times the diagnosis is made postmortem.

Hemangiosarcoma is a relatively common canine cancer. It is estimated that HSA accounts for 5-7% of all tumors diagnosed in dogs, which translates to @ 2 million dogs in the United States. Certain breeds (Golden Retriever, Portuguese Water Dog, Boxer, Skye Terrier, German Shepherd, Boston Terrier among others) are at higher risk for the development of this cancer. The estimated lifetime risk for the development of HSA in a Golden Retriever is one in five, a staggering statistic.

But Scotties are not exempt.

Stuart was a healthy, happy, busy 9-year-old Scottie, the master “snoopervisor” for all the yard work in his owner Nan Johnson’s home. He took long walks, visited his buddies in the neighborhood, and checked for new smells around the lake. His life was good. On a Monday in November, he was fine. Within 24 hours, Stuart was fighting for his life in the ICU of a specialty veterinary practice. Stuart had cardiac HSA, where the tumor in the right side of his heart had ruptured. As blood filled the sac around the heart, Stuart’s heart grew weaker, unable to beat properly, squeezed by pressure in the fluid filled sac encasing it.

But amazingly Stuart held on, and in another 24 hours, Nan decided to take him home. Come what may, she and her husband knew that the next bleed would probably be Stuart’s last. But for a month, life was good. Stuart went back to his daily routines and enjoyed his days. Until his last day came, when he slipped painlessly away in his owner’s arms.

Nan and her husband were fortunate in the sense that they had a small amount of time to prepare themselves and dedicate those last few days to Stuart. Every hour of every day was a gift. But the shock, the loss and sadness remain. *“The grief was life changing for us. Losing Stuart at all – let alone so abruptly after he’d had a complete physical only months earlier – wasn’t only unexpected, but unexplainable. How did this happen? Why was there no test? No sign? No treatment?”*

There is hope in this sad story and promise for the future. Researchers have learned a lot about hemangiosarcoma in the past 2 decades, and their work continues. Thanks to the generous support and dedication of several national breed clubs with assistance from the AKC Canine Health Foundation and the Morris Animal Foundation, funds have been provided for several major investigations into HSA. These days the canine world is blessed with some of the best minds in genetics and cancer research, using the newest technology available to identify the source and biological behavior of HSA, to investigate cutting-edge, more effective treatments, to seek ways to detect HSA in its earliest stages, and even to prevent this deadly disease in the first place. There is little doubt that one day soon, hemangiosarcoma will give up its secrets.

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Nan Johnson made the decision to honor Stuart's memory and to contribute with a positive step forward. She established Stuart's Fund at the Virginia-Maryland College of Veterinary Medicine in Blacksburg, Virginia. There, Dr. Nikolaos Dervisis, DVM, PhD, DACVIM (Oncology) is looking into new therapies that have the potential to target specific, unique areas of certain tumors, hemangiosarcoma among them. Stuart's Fund is in place to support Dr. Dervisis' work in the hope that one day, no one will have to suffer the loss and heart break that Nan experienced. We can all help by reading more about Stuart's Fund and contributing whatever we can.

Read more about Stuart's Fund and hemangiosarcoma research at the following sites:

<https://stuartsfund.com/stuarts-hsa-story/>

<http://www.modianolab.org/index.shtml>

<http://www.goldenretrieverfoundation.org/index.html>

<http://www.vetmed.vt.edu/clinical-trials/current-studies/>

<http://www.akcchf.org/research/our-research/>

[www.morrisanimalfoundation.org](http://www.morrisanimalfoundation.org)

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