

Qi – Insulinoma

Qi – almost a year old



At first, in September, my daughter's 7 year old Beardie, Qi, seemed a little off, more lethargic and less excited about life. She had been spayed in April just before her seventh birthday and everything had gone smoothly. They were not living at home and I didn't see her very often. When she did come here she had rear end weakness and it seemed to be neurological in nature. I did think there was a link to her eating, but everyone else shook their heads and looked at me pityingly - except Sarah who agreed she was worse not long after she ate.

Abdominal and hip/spine X-rays were taken. We knew she has a transitional vertebra, and it looked like it could be pressing on the spinal cord and causing degenerative disc disease. Everything else seemed normal. She saw a neurologist who does Traditional Chinese Medicine as well, and she had acupuncture, massage and Chinese herbs. She didn't really improve though, and we were thinking she might need disc surgery, but then she got weak and floppy and started stumbling and falling on her face. This was worst if she was excited. Some days she seemed pretty normal still. The vet local to Sarah said syncope and maybe her heart, but no-one could hear anything off there, and it's very rare in Beardies.

I suggested rubbing corn syrup on her gums when she had an episode and it helped. So we thought she was hypoglycemic. (I kick myself as I forgot her blood glucose (BG) was a tad low when she was spayed, but we thought it was because she had fasted before I drew the blood.) The vet did a BG after fasting and it was really low. She repeated a full CBC/profile and most everything else was normal, and sent blood for an insulin panel. At this point we strongly suspected she had an insulinoma – a pancreatic carcinoma that secretes the hormone insulin - and the only other rule out for hypoglycemia was Addison's disease. Her sodium and potassium ratio was great, so it would have to be atypical Addison's. Once the blood results came back for the insulin panel showing a sky high insulin atypical Addison's was pretty much ruled out as it makes the body more sensitive to insulin but doesn't increase absolute insulin levels.

The evening of the day we got the insulin panel results she had an abdominal ultrasound. They couldn't see the tumor suggesting it was up close to the duodenum (the first section of the small intestine after it exits the stomach), but it could have been microscopic and diffuse. There was no evidence of metastases to the liver or regional lymph nodes (most common) or anywhere else. The ultrasound technician thought her adrenal glands looked small, and ran a baseline cortisol. A small post-mortem study at Guelph suggested that on average Beardie adrenal glands are smaller than for other breeds of the same size. Her baseline cortisol was normal. That was Friday.

Monday she had a pre-op appointment with the surgeon, Mike Pavletic at Angell Memorial Hospital in Boston and Tuesday very bright and early he operated. The tumor was right up by the duodenum and included blood vessels between the pancreas and duodenum. These were also removed as well as the part of the duodenum they supplied. If he'd not been able to palpate the tumor they would have done intraoperative ultrasound and an angiogram as most tumors have a rich blood supply. However, that was not necessary in Qi's case. Still there is some risk in opting for surgery that the tumor won't be found.

Insulinomas are fairly rare, although I do know of a few other Beardies that had the tumor. The biopsy confirmed the diagnosis and showed good margins and that the tumor was encapsulated. Insulinomas do have a tendency to recur, so we just have to hope Qi's doesn't. After the surgery her Blood Glucose (BG) was 188 - Mike said he's seen it go over 400! - but it started to drop and at 160 they gave her a shot of insulin which brought her BG to the normal range, then by the next day her body was keeping her glucose levels normal on its own. She was fairly out of it when we went to see her that evening as the epidural had not worn off and she was pretty disoriented and a little panicky. We reorganized her run to make her feel more secure and encouraged her to drink as her tongue was dry and she couldn't get it back in her mouth! Not unusual, but it upset Sarah to see it.

The next day, Dr. Pavletic said she looked better than any dog that had just lost part of her pancreas and part of her duodenum had any right to look. She was discharged that evening. She had no dietary restrictions, we kept her on canned meat for a few days to limit the trauma to her resected bowel, but she wouldn't eat much for the first two or three days after surgery. After that she began eating normally. She'd gained 3 lbs the week before her surgery. Excess insulin really packs on the pounds and she had gained 7 lbs since she was spayed in April. In the 9 days post op before her staples were removed she lost 2.5 lbs.

Sarah made sure she didn't overdo the jumping and running while her body healed, but she was raring to go, and thrilled that she was able to resume her barn chores. When she was ill her body had become increasingly sensitive and she didn't like to be groomed, and even nipped Sarah one time when she tried to work on her legs. For the surgery her belly and neck and three of her legs had been shaved. I cut out all the accumulated mats after surgery and she no longer resented handling. She looks a bit ragged, but her hair will grow back, and we wanted to leave her as much coat as possible for the New England winter.

There is little that can be done to prevent the tumor recurring. Sarah compiled a bucket list of Qi's favorite activities and planned that she live the rest of her life to the fullest, however long it was to be. About a month after surgery, Qi vomited undigested food and didn't seem herself. Sarah took her to her local vet for a blood glucose (BG). We were all shocked to find it was again low. After fasting the next morning, it was even lower. If there was any good news her insulin level was still in the normal range but the tumor had clearly spread. A second surgery was not an option. Qi went to see Carrie Wood, a board certified specialist in medical oncology at Angell Memorial. We learned that until Qi's symptoms become more overt no treatment is recommended beyond small frequent meals and the spice turmeric, or its active ingredient curcumin, which inhibits the growth of cancer cells. Once symptoms become obvious she will be treated with prednisone, and when this also ceases to be effective with a drug called Palladia (toceranib phosphate). Palladia was approved by the FDA in June of 2009 as the first cancer fighting drug for dogs. It was introduced to treat mast cell tumors, but has since showed some efficacy against insulinoma, with reports of 18 months remission. Carrie said she had a couple of patients 16 months out from surgery that were doing well still.

I talked to Carol-Anne Rayson and we came up with some ideas for nutrition. Sarah has never done much cooking, but cooks more for Qi than she ever did for herself. Still Qi's diet is based on grain free Orijen for cost and convenience. Carol-Anne felt canned grain free meats preferable to kibble. She recommended cooking and pureeing vegetables such as sweet potatoes, rutabagas, turnips, pumpkin and squash to freeze in small portions to add to her meals. She suggested further supplementing with cooked chicken, canned sardines and mackerel, eggs, cottage cheese and green tripe.

Qi was already getting coconut and sardine/anchovy oil (krill oil may be even better), Carol-Anne recommended adding a sea vegetation based source of vitamins and minerals – we have been using Berte's Green Blend from B-Naturals - and perhaps the ayurvedic medicine called thymoquinone derived from black cumin seed. She also thought the homeopathic remedies insulin and phosphorus might be helpful, but I admit we've not started these yet. Carol-Anne mentioned the Yahoo group for owners of dogs with insulinomas, and I found out Sarah had already joined, and was sharing experiences and recipes with others on the list. Such lists can certainly be helpful, and they seem to exist for most conditions now. The insulinoma list has been active for several years with around 200 members.

That was about 6 weeks ago. Qi still hasn't started on prednisone. Her beard is almost always yellow from turmeric. After driving herself crazy Sarah has found she can push Qi's meals a little further apart – maybe 6 hours between meals vs three. Qi was not really keen on eating so often, and had to be bribed or Sarah had to make sure her German Shepherd, Kido, had food as well in order to get her to eat. Physically she is doing quite well. Some mornings she is too weak to stand, but after she has eaten she bounces back. She can't handle long walks, although in part this is because she has become very fearful of noises and strange people. Left home without Kido, she ate the front door on one occasion and went frantic in a crate for 10 minutes Sarah was walking Kido. She is far more reactive to sounds and disturbances in her environment. Coming home here she will growl at the other dogs and not be herself for the first 30 minutes or so. It is hard to see her uncomfortable like this, but also hard to incorporate the necessary changes for her physical condition when she reacts this way. Next up then we will be trying various drugs to see if any help with her fears and separation anxiety. Her blood glucose levels will be checked regularly, and if Sarah sees any signs her condition is worsening again.

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