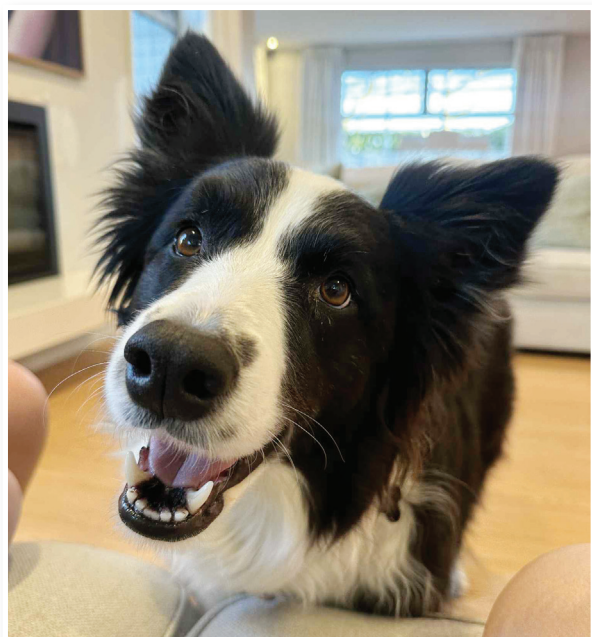


Seizures in a Border Collie

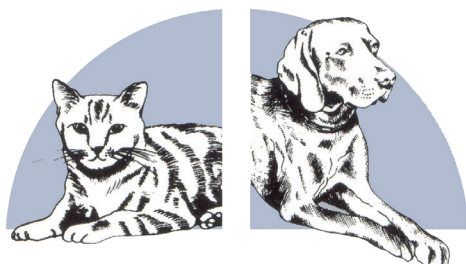
Not all cases of seizures in dogs can be blamed on Idiopathic Epilepsy or brain diseases (cancers as in meningioma or infectious/inflammatory CNS disease as in meningoencephalitis).

“Betty” an 8 year old spayed 23 kg Border Collie is evidence that sometimes you need to dig a little deeper to get your answer. Betty has been seen occasionally over the years for seizure activity, first documented seizure with us being 2.5 years ago. Due to her sugar cravings and voracious appetite, I think the first episode was blamed on eating chewing gum containing Xylitol, plus she does love the kids sweets. Three weeks later she was seizing again so we did a pretty expensive workup including a variety of blood tests, urine tests, radiographs, abdominal ultrasound, ending up doing an MRI of her brain. No rock was left unturned and all testing came back completely normal.

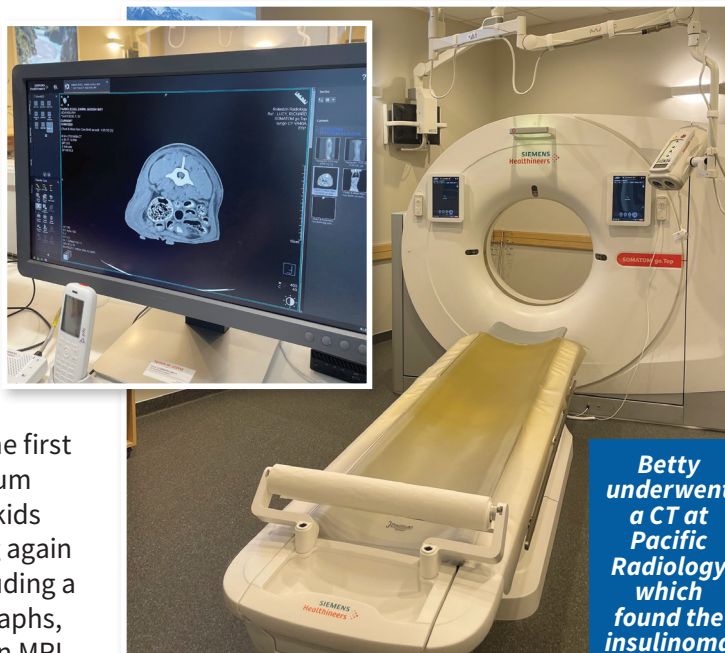


With no lead to go on, we started Betty on epilepsy medication, Phenobarbitone, in the hope we would see a decrease in her seizure activity. She still had occasional seizures on the medication but seemed really normal with excellent activity and normal behaviour in-between times. Phenobarbitone does make dogs ravenous and we had a few quick trips to the clinic and the after hours clinic as she had consumed ice cream, which contains Xylitol. Xylitol toxicity is fatal, causing low blood glucose and life threatening liver failure, therefore Betty was closely monitored for days on intravenous fluids and supportive care. Betty being Betty made another 100% recovery.

The owners decided to stop the medications last year as Betty seemed relatively normal. Most seizures could be blamed on the fact she had scrounged something she shouldn't have.



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Betty underwent a CT at Pacific Radiology which found the insulinoma

She was seen 3 months ago for another cluster of seizures and was initially seen at the after-hours clinic. Here she presented hyperactive, aggressive, excessively drooling and unaware of surroundings. She was immediately started back on seizure medication. Betty didn't pick up like she did a year ago and more seizure type activity and ataxia was noted.

Again an extensive work up was performed and this time we hit the jackpot. We noticed her blood glucose levels were dangerously low, at one point reading 1.7 mmol/L (normal being 4.11 - 7.95). Her glucose values fluctuated between 1.7 - 3.3mmol/L, but never really hitting the normal range.



We strongly suspected Betty's seizures to be caused by “low blood glucose”, due most likely to a disease called HYPERinsulinism, which is most commonly caused by INSULINOMA (pancreatic cancer). Betty fitted all the criteria including -

- Neurological signs like seizures, often precipitated by exercise or excitement
- Blood glucose lower than 3mmol/L
- High insulin blood levels
- Resolution of seizures with feeding or giving glucose (orally or intravenously). Insulinomas are functional insulin secreting tumours of the pancreas.

Betty underwent a CT at Pacific Radiology to check all possible causes of the low blood glucose. A small mass was seen within the pancreatic body, suggesting an insulinoma. It hadn't appeared to have metastasised anywhere.

Surgery, if possible, provides the best chance of long term survival. Unfortunately in Bettys case, the location of the tumour made surgery very risky so her owners decided to go with medical management which includes

- Dietary control with small frequent meals high in protein and fats, low in carbohydrates
- Exercise restriction as exercise burns through glucose as an energy source, causing sugar lows
- Prednisone increases glucose in the blood stream via gluconeogenesis
- Diazoxide, which blocks insulin secretion and stimulates an increase in blood glucose
- Palladia (chemotherapy) is recommended to increase mean survival times
- Phenobarbitone to prevent seizures when the blood glucose drops low

To date Betty is doing okay on her long list of medications (as long as we don't count her recent adventure of eating all the kids multivitamin gummies). She loves her food, loves her family more than anything but unfortunately is gaining weight due to side effects of some of her medications.

We are closely monitoring her and changing doses of drugs to achieve a steady balance. Luckily for Betty, she has the most committed, lovely family who have prioritised Betty's disease and will do anything that is required to give Betty the best life she can live.

Dr Michele McMaster, August 2025



OPEN 7 DAYS Cnr Hoon Hay & Coppel Place. Ph: 338 2534
E. reception@mcmasterandheap.co.nz www.mcmasterheap.co.nz

