

Seizure discussion (my usual client schpiel)

Basics:

There are three phases to seizures.

1. The first phase that may indicate signs of an oncoming seizure called an “aura” which occurs 10 to 30 seconds prior to a seizure, may include slight changes in mentation or abnormal anxiety. You as the owner know your pet’s normal behavior and it is important to pay attention to any changes in behavior preceding or following a seizure.
2. The second and most obvious phase is the active seizure referred to as the “ictal” phase. A grand mal seizure is characterized by loss of consciousness, paddling or tremoring of the limbs, rigid limbs, hypersalivation, extended neck, chattering or chomping of the jaws, and/or loss of control of the bowels and bladder.
3. The third phase, the seizure itself is often followed by a period called the post-ictal phase, where the pet may appear to be blind or dazed. They may stumble around, have aimless pacing, some pets may act excessively hungry or thirsty, others may seem distressed and anxious without apparent cause. It is important to recognize a seizure as well as the signs following a seizure. Some owners will come home and find their pet in the “post-ictal” and be able to determine that a seizure occurred without actually witnessing the event.

Causes:

Intermittent seizures fall into various categories depending on the age of the dog. For instance, seizures in puppies or dogs under 6 months, we always worry about congenital or structural abnormalities. Seizures in old dogs over 10 years, we worry about brain tumors. Seizures that start in dogs between 1-5 years of age, usually end up in the "idiopathic epilepsy" category. We can't find a reason for them on bloodwork, so we put the patient on anticonvulsants for life when they fit specific criteria (more on this later).

Other differentials for dogs having seizures may include liver shunts, hypoglycemia (low blood sugar), ingestion of toxins (bromethalin rat bait, ivermectin), meningitis (infectious or autoimmune), trauma, parasites (toxoplasma, neospora, herpes), etc. Also, syncope (cardiac disease) can mimic seizures, but dogs don't have a post-ictal phase after collapsing.

We typically run bloodwork to have baseline information about the dog. In some cases, we will find reasons for seizures when we do this.

Some breeds are more prone to epilepsy, especially herding dogs.

When to consider medications for suspected idiopathic epilepsy:

Our rule of thumb for when to start medication, are 1) more than 2 seizures in 24 hours, 2) more than 1 seizure per month, 3) seizures lasting more than 5 minutes, 4) seizures that require treatment at a veterinary clinic to stop the seizure, or 5) seizures that stop and restart without the patient returning to normal. It is important to treat patients that fit these criteria, because repeated seizures cause brain damage. A seizing brain likes to seize, meaning each seizure makes it more likely they will have another one.

It is unlikely that a pet will pass away during a *short* seizure. However, multiple seizures in a short period of time can cause a life-threatening elevation in body temperature, and/or indicate an underlying life-threatening disease process.

Medication choices for epilepsy:

We have multiple options for medical treatment of seizures (mainly talking about idiopathic epilepsy here, obviously we would treat the cause if toxin ingestion, meningitis, liver shunt etc). The most common is Keppra, which is very safe and has minimal to no side effects. We do not have to do bloodwork to monitor patients on Keppra. Other options include Phenobarbital, which does require monitoring of liver values (because all medication is metabolized through either liver or kidneys), and some clinics want monitoring of phenobarb levels. It has some side effects such as sedation, which usually improves in a few weeks as the patient adapts to the medication. Another option is Potassium Bromide, which requires monitoring, and the patient's diet has to be very carefully managed. KBr is a salt, so any changes in diet can affect the ability of KBr to control seizures. There are others out there including Zonisamide.

Personally, I usually start patients on Keppra, and add Phenobarbital if a second medication needs to be used. Some neurologists use Phenobarb first and add Keppra, so this is somewhat personal preference. Keppra as a first line anticonvulsant has worked really well for me, unless the patient presents in status epilepticus (in which case I always include phenobarb). About 70-75% of patients will be controlled with one anticonvulsant medication; the rest may need a second or third medication.

These medications are all dosed in mg/kg, so any changes in body weight will affect our ability to manage your pet's seizures.

Prognosis:

Many dogs live a normal life with idiopathic epilepsy, as long as they are kept on medication. Dogs that have a poorer prognosis are those that start having seizures young

(eg 9 month old puppy with the first seizure vs 3 year old dog), and those that continue to have breakthrough seizures on 2 or 3 medications or require repeated hospitalization visits to stop seizures.

Conclusions:

In general, 95%+ of idiopathic epilepsy patients can be managed in general practice. The few that continue to have breakthrough seizures on two medications, or who do not respond to common treatments for common problems, need to visit a neurologist for consult +/- MRI.

I recommend baseline exam and bloodwork after the first seizure. If your dog is currently “normal,” it can wait until the next available appointment with your veterinarian. After that, I recommend keeping track of all seizures on your calendar so you know how frequently they occur. Your vet should start medication if/when your dog meets the criteria described above.

Once your dog is on medication, it is also important to monitor for breakthrough seizures and update your veterinarian if any occur, so they know whether to change medications, add medications, or increase medications.

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(mostly my own writing, but parts taken from MedVet discharge paperwork)

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