UNDERSTANDING CANINE EPILEPSY

WHAT IS EPILEPSY?

Epilepsy is a symptom of an underlying neurologic dysfunction occurring within the brain. Toxic substances, metabolic or electrolyte abnormalities or imbalances cause an uncoordinated firing of the neurons located within the section of the brain known as the cerebrum. These episodes of uncoordinated firing manifest themselves in the form of convulsions or seizures in which the dog may experience mild tremors to severe thrashing movements. Epilepsy may occur secondary to many diseases such as distemper, brain tumors, liver or heart failure, diabetes, or as a result of exposure to toxic substances or trauma. However, “true” epilepsy as that which occurs in hereditary syndromes within certain breeds of dogs manifests as a symptom of primary neurologic dysfunction of which the cause is still unknown. As such, from a clinical standpoint, in cases of true epilepsy, only the symptom is treatable.

WHAT ARE THE SIGNS OF EPILEPSY?

There are three components of an epileptic seizure. The first is termed the “aura” in which certain signs indicative of an oncoming attack include restlessness, nervousness, whining, shaking, salivation, affection, wandering and hiding. These indications may persist only for a few seconds or for several days, thus they may or may not be noticed by the owner. The second stage is termed the “ictus” at which point the seizure occurs. The attack may endure only for a few seconds or for several minutes. During an episode, the dog usually falls on its side and there is involuntary motor response demonstrated as kicking or paddling motion. The dog will salivate excessively and lose bladder and bowel control. He will be unaware of his environment or his actions. Some clinicians may classify seizures in terms of their severity as either Petite Mal or Grande Mal, the latter being the more severe form. However, the occurrence of Petite Mal seizures, as determined by electroencephalographic diagnosis (an EEG which records and detects irregular brain activity) have not truly been established in animals. Immediately following the ictus stage is the “postictal phase” characterized by a period of confusion, disorientation, salivation, pacing, wandering, restlessness, unresponsiveness and in some cases transient blindness. This condition is believed to result because the neuronal cells are exhausted and cannot utilize required metabolites. The endurance of this stage is dependent on the severity of the ictal episode and may last for days.

AT WHAT AGE DOES EPILEPSY OCCUR?

Seizures can occur at any age, however, true epilepsy does not usually present until the dog is around 2 years or older.

HOW IS TRUE EPILEPSY DIAGNOSED?

When a dog first experiences a seizure, no matter what the age, it is essential to rule out causes other than true epilepsy. As previously stated, this is because many other diseases or disorders can result in seizures. Therefore, blood tests, radiographs (x-rays), physical examination, and history leading up to the seizure are necessary for accurate diagnosis. When, and only when, the clinician finds no identifiable cause of the seizure based on clinical evaluation, then the dog is considered to have true epilepsy.

WHAT IS THE TREATMENT FOR EPILEPSY?

Many times, dogs having true epilepsy experience short, infrequent, non-violent attacks which do not require anticonvulsant therapy. However, when the seizures become more severe, longer in duration, or more frequent, or if the dog initially experiences severe attacks then the necessity for therapeutic intervention is indicated. There are several anticonvulsant drugs available for treatment of epilepsy which work to sedate the neurons of the brain. The following are some of the most commonly used anticonvulsant drugs and their advantages and disadvantages.

Dilantin

indication uses: generalized major motor seizures
advantages: absence of sedation, high rate of effectiveness, absence of side-effects
disadvantages: poorly absorbed in dogs, rapidly cleared from blood, increase in thirst and urination

Phenobarbital

indication uses: generalized major motor seizures
advantages: high efficacy, rapid action, can be administered by several routes, most effective drug in status epilepsy
disadvantages: long-term sedation, restricted drug, increased thirst and urination, irritability and restlessness

Primidone

indication uses: generalized major motor seizure
advantages: high efficacy, rapid action
disadvantages: severe sedation, great variability in dose tolerances, only tablets available

Valium

indication uses: control of exacerbation of seizures, control of status epilepsy
advantages: effective at stopping status epilepsy, rapid action, safety
disadvantages: short action, cannot control violent status epilepsy, restlessness, irritability.

CAN EPILEPTIC SEIZURES BE PREVENTED?

The purpose of using anticonvulsants is to completely stop occurrence of seizure activity. However, actual success of treatment is often dependent upon many exogenous, as well as, endogenous factors. For example, though the actual events which bring on an epileptic seizure are unknown, episodes can be initiated by periods of stress or excitability. It is, therefore, recommended that dogs afflicted with the disorder abstain from sources of stress which may include sporting competition events and breeding. In regard to breeding, because physiological changes such as hormonal fluctuations in a bitch during her seasonal cycle or during pregnancy, or stress in the male during mating may bring on episodes of seizure activity, spaying and neutering of epileptic dogs is recommended.

IS TRUE EPILEPSY AN INHERITED DISORDER?

Because epilepsy has been found to occur in related individuals and with preponderance in certain bloodlines, it is considered to be a genetic disorder. However, the mode of inheritance is still unknown. Some breeds of dogs such as the German Shepherd Dog, Beagle, St. Bernard, Irish Setter and Poodle have a higher incidence of the disorder than other breeds. Though the Labrador

Retriever is not among the highest ranking breeds for risk, epilepsy does occur within the breed. Currently, there is no method for screening potential carriers of the disorder, however, breeders seeking to produce physically sound puppies should not breed dogs known to be afflicted with true epilepsy.

WHEN SEIZURES DO OCCUR, WHAT SHOULD THE OWNER DO?

On the average, with the exception of status epilepsy, an epileptic seizure is not life-threatening to the dog. During the episode, the dog will not be aware of its owner or its surroundings. Though viciousness is uncommon, to avoid personal injury the owner should not attempt to intercede or move the dog. However, if the dog is in danger of injuring itself on furniture, objects, etc., then the owner should remove those items in the immediate area of the dog. Many veterinarians will ask that the owner keep a record of the date and length of time of the seizure in order to make judgements regarding treatment doses and frequency. Once the seizure has ended, the dog will usually seek out the owner. It is at this time when the owner should provide comfort and assurance. In the case of status epilepsy (a condition in which a seizure progresses for more than 5 minutes or the dog experiences two or more seizures within a short period of time for which the dog never regains full consciousness between each seizure) immediate emergency medical attention must be provided. In such an instance the owner will need to transport the dog to the veterinary hospital. Because a seizuring dog will often thrash about, a large blanket can be fashioned into a stretcher upon which the dog can be laid. Two people will be needed to hold the blanket by the corners at either end, creating a sling-like stretcher. In this manner, the dog can be carried into the car and into the hospital.

COPING WITH EPILEPSY: A FAMILY PERSPECTIVE

To an adult, an epileptic seizure occurring in the family pet can be a very unnerving experience; to a child, the episode can be terrifying. Fortunately, when seizures do occur they frequently do so during the night and may go unnoticed by younger members of the family. However, seizures may also occur during the day and in the presence of children. In cases where the owner can detect the “aura” stage and know that a seizure is imminent, then she may have the opportunity to distract the child or separate the child from the dog. At some point, however, a child will probably witness their pet seizuring. If the child is three years or older, an explanation may help to calm the child’s fears. For instance, one of the reasons that witnessing a seizure is so frightening is because the child will know that something bad is happening and fears that he may lose his beloved pet. Telling the child that his dog will be sick sometimes and there will be times when his dog will behave oddly, rolling about and twitching, and although it may be scary to watch, the dog will be okay after awhile but will need a lot of love and comfort, may arrest these fears. Many children when assured that their pet will be okay, deal very well with the situation. However, in situations where a dog owner feels uncomfortable having an epileptic dog around the children, the breeder or a breed rescue service may assist in finding a placement home for the epileptic dog.