



UPSTATE VETERINARY SPECIALTIES PLLC

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ENCEPHALITIS

Encephalitis by definition, means inflammation of the brain. Encephalitis is not a specific disease as inflammation of the brain can occur from different causes which could include bacterial, viral, fungal, or parasitic. All of these are examples of infectious causes but more often than not, we see inflammation from a malfunctioning immune system (an immune-mediated cause). The triggers of immune-mediated encephalitis in dogs is poorly understood, but the two most common varieties we encounter are Granulomatous Meningoencephalitis (aka GME) and Necrotizing Encephalitis (NME). Usually, these diseases are seen in smaller breeds that are younger to middle aged. Encephalitis is seen less commonly in cats and is more often infection related.

The signs commonly noted can include (but not limited to):

- Seizures
- Disorientation
- Behavioral changes
- Weakness
- Circling
- Loss of balance
- Spinal pain (particularly of the neck)
- Sometimes a fever

Diagnosing immune-mediated encephalitis is done by process of exclusion. Routine lab testing is most often normal for most varieties of encephalitis, so imaging, such as MRI, is usually recommended along with a spinal fluid (CSF) tap in which analysis of the fluid can tell us if the brain and its enveloping tissues (meninges) are inflamed or not, or whether infection is present. Once infection is ruled-out to the best of our ability, immune-mediated encephalitis is presumed. The only way to definitively diagnose encephalitis is by biopsy of the inflamed part(s) of the brain, but this is difficult, requiring special skill and equipment, and also comes with surgical risks.

Treatment for encephalitis depends on the underlying cause. For example, antibiotics are used for bacterial encephalitis while anti-fungal medications may be used for fungal encephalitis. For immune-mediated causes, we use medications that suppress the immune system which can include steroids, oral medications, and even chemotherapy agents. There are many options for treating immune-mediated encephalitis as no single medication or even specific combination of medications has





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yielded overwhelming success. This is why there are many different medications and protocols used to treat immune-mediated encephalitis. Encephalitis can be rapidly life threatening and is best if diagnosed and treated as soon as possible.

Prognosis is variable depending on the underlying cause. In general, the prognosis for immune-mediated encephalitis is guarded. Approximately 1/3 of cases respond well to therapy, make a full recovery and go into complete remission. However, they often require long-term or even life-long therapy. Another 1/3 of cases partially respond to therapy and go into a partial remission. Sadly, the final 1/3 of cases do not respond, continue to get worse and either pass away of the disease or require euthanasia. We will not fully know which category each patient will fall into until we start therapy.