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“Ainu” - Myasthenia Gravis



"Ainu" is a spayed female Akita. She came to us with a history of decreased exercise tolerance, generalized weakness, most noticeable in the rear legs, quivering and muscle shakes for at least two weeks. She ate and drank normally, had no history of vomiting or diarrhea, but had lost 2.5 lbs. in that two-week period. Sometimes her shaking was very exaggerated, but not considered seizures or convulsions. Her neurologic exam was normal, but her owners said she appeared to struggle to get up sometimes.

Her radiographs showed normal heart and lungs, no signs of arthritis or bone or joint problems in her hips or spine, and an unremarkable abdomen. Her blood tests were all essentially normal,

except for a very low thyroid test. At this point, we suspected a condition called myasthenia gravis.

Myasthenia gravis can be inherited or acquired. It affects the neurotransmitter receptor sites for acetylcholine, the substance that helps potentiate nerves to stimulate muscles to contract. The test for myasthenia gravis is very specialized and is available locally only at the Comparative Neuromuscular Laboratory at the University of California, San Diego. It tests for antibodies against the acetylcholine receptor sites.

Ainu's test result was more than double the accepted normal level! Myasthenia gravis is also exaggerated by hypothyroidism (low thyroid levels)...which Ainu had. The conclusion was that Ainu had an immune-mediated, acquired myasthenia gravis: Her body was attacking her neuromuscular receptor sites, causing her weakness. Fortunately, this is a potentially treatable condition.

Ainu was treated with thyroid supplements, two drugs to help suppress her immune system from attacking her receptor sites, and a drug (Mestinon) to help increase the amount of acetylcholine at her neuromuscular junctions.

Ainu did much better after starting this treatment regime. The anti-immune drugs were decreased almost to discontinuance. Her last "specialized myasthenia gravis test" was normal, indicating that the body was no longer attacking her sites actively. Ainu became much more active, did not tire or show nearly as much weakness as she did before treatment, and became much more playful.