

Myasthenia Gravis

Myasthenia gravis is a neuromuscular disease in which weakness is the primary sign. This disease is caused by an inability of the certain nerve receptors (nicotinic acetylcholine receptors (AChRs) to function properly. This prevents the stimulus for muscles to contract which leads to the weak appearance. This disease occurs congenitally in some dog breeds. Jack Russell terriers, springer spaniels and smooth fox terriers are affected. It can also occur as an acquired problem in older dogs. In this case, it is thought to be an immune mediated disease. In older dogs, the first sign of problems may be megaesophagus -- enlargement of the esophagus due to the muscular weakness, leading to problems swallowing. This can cause regurgitation and lead to inhalation pneumonia.

Myasthenia gravis can be very variable in the way it looks. Only a few muscle groups may be affected or the dog may be nearly immobile. A dog can be almost normal after a rest and then lose strength very rapidly when it exercises at all.

Whenever megaesophagus is diagnosed, myasthenia gravis (MG) should be suspected. Conversely, whenever myasthenia gravis is diagnosed, chest X-rays should be done to evaluate the esophagus, in case megaesophagus is present.

MG can be presumptively diagnosed by a rapid response to injection of edrophonium hydrochloride (Tensilon). Dogs usually show an immediate improvement in muscle strength that is of short duration. Specific lab tests for this disease are available to confirm the diagnosis.

Dogs that acquire MG later in life usually have a fairly good prognosis with treatment. It is important to prevent aspiration pneumonia, so dogs should be fed from elevated food bowls and encouraged to remain standing for 10 minutes or so after eating. Anticholinesterase medications are very helpful. Pyridostigmine bromide (Mestinon syrup) is the most commonly used medication. If it is not effective, injections of neostigmine (Prostigmin) will sometimes work. In severe cases, corticosteroids may be necessary. It is very important to make sure that there are no other illnesses and no aspiration pneumonia signs prior to using corticosteroids.

Dogs can be maintained well for a long time with this disease. The more attention paid to prevention of aspiration pneumonia, the better the long term prognosis. In addition, many other medications interfere with the actions of the anticholinesterase drugs, so careful thought must be given to the choice of medications to treat other problems in dogs affected with myasthenia gravis.

A number of dogs with acquired MG will have remissions from the disease. Therefore, it is very important to monitor the antibodies to anticholinesterase receptors prior to treatment and at regular intervals during treatment. Recurrences of the disease after remission can occur, so vigilance is required throughout the lifespan of affected dogs.

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