Laryngeal Paralysis & Polyneuropathy

Geriatric onset laryngeal paralysis and polyneuropathy (GOLPP) is a common disease of older large and giant breed dogs, and a rare problem in cats and small dogs. It is a disease of the nervous system, characterized by the slow but progressive degeneration of some of the longer nerves in the body. It results in partial paralysis of the larynx (i.e. voice box), esophagus and hind limbs. Unfortunately, we do not know the cause of GOLPP and there is no cure for it. However, there are many things you can do to reduce the problems associated with this disease.

What Are The Symptoms?

Clinical signs of GOLPP can include any of the following:

- Increased respiratory effort and “voice change”. These signs relate to partial paralysis of the muscles that control the vocal cords of the larynx (i.e. laryngeal paralysis). As a result, the vocal cords permanently block the trachea (i.e. wind pipe) and make it difficult for dogs to catch their breath. Reduced vocal cord movement is also responsible for a change in the sound of a dog’s bark.
- Hind limb weakness and instability. Affected dogs will lose thigh and back muscle mass, scuff the tops of their paws as they walk, have trouble pushing off from their hind end as they climb stairs or try to get into the car or up on furniture, and be easily unbalanced in their back end.
- Pronounced/repeated swallowing or coughing/hacking after eating, as well as increased drooling and lip licking. These signs relate to partial paralysis of the muscles responsible for moving food from the throat to the stomach (i.e. esophageal dysfunction). As a result, food, liquids and saliva are regurgitated back into the throat where they may be coughed out or inhaled into the lungs.

Dogs may initially only show signs related to breathing. But within 12 months, all dogs afflicted by GOLPP will have hindlimb problems. And 70% of dogs diagnosed with laryngeal paralysis show esophageal dysfunction.

What Will Happen to My Dog If She/He Has GOLPP?

Unfortunately, GOLPP is a progressive disease. Symptoms will worsen with time. Without therapeutic intervention, the following can occur: respiratory collapse and sudden death from suffocation; inability to rise or walk without falling; inhalation of food/liquids and secondary pneumonia (i.e. aspiration pneumonia). Luckily, there are many ways you can help reduce the chance of these tragic outcomes.

How Is GOLPP Diagnosed?

We can usually diagnose GOLPP based on changes you have noticed in your dog’s breathing, movement, and eating habits, as well as physical exam findings. These findings include: loud, wheezy breathing with excitement, hindlimb muscle wasting, and lack of awareness of rear paw location.
Sometimes, we need to test for and rule out other problems that have symptoms similar to GOLPP. These include: laryngeal tumors or inflammation (ruled out by sedated laryngeal exam); low thyroid hormone levels that can compromise larynx function (ruled out by blood testing); lung/airway tumors and congestive heart failure that can cause respiratory signs (ruled out mostly by chest x-rays); other causes of esophageal dysfunction (such as congenital megaesophagus or myasthenia gravis, which may be ruled out through a combination of x-rays and blood testing); and spinal damage (such as a slipped disc and spinal arthritis, which may be evaluated by x-rays and/or seeing a neurologist).

If surgical correction of laryngeal paralysis is likely (more about this below), we will recommend a sedated laryngeal exam to confirm the condition. Your dog will be lightly sedated while a veterinarian observes the movement of his or her vocal cords through the breathing cycle) and fluoroscopy (it’s like an x-ray “movie”) to evaluate how well the esophagus works.

**Treatment options**

Unfortunately, there is no therapy that stops or reverses the nerve degeneration of GOLPP. Treatment focuses on limiting or adapting to the consequences. There are a variety of treatment options for each system affected by GOLPP

- **Laryngeal paralysis.** Many dogs do well with environmental modification alone. This involves avoiding situations that will make your dog breath hard. Avoid heat and humidity, intense exercise, and exciting situations. If your dog is easily excited, we will recommend having a sedative on hand to use in anticipation of exciting events. More severely affected dogs might benefit from a surgical procedure called arytenoid cartilage lateralization (aka tie back surgery). This involves permanently fixing one or both of the vocal cords in an open positive so that they cannot interfere with air flow. This procedure can provide severely affected animals with considerable relief and be life-saving. However, these animals are at a greater risk of pneumonia following surgery.

- **Hindlimb weakness and instability.** Physical therapy— including underwater treadmill and at-home exercises — focus on helping your dog regain their thigh and back strength, as well as improving their hindlimb balance.

- **Esophageal dysfunction.** If you notice any increase in licking, drooling or swallowing, we need to focus on helping your dog’s food and water travel quickly down their esophagus to the stomach. We will recommend feeding your dog with their front feet and head elevated and medications that increase forward movement in the esophagus.

**Prognosis**

GOLPP is a progressive disease and affected dogs can succumb to respiratory collapse, debilitating hindlimb weakness and pneumonia. But there are many things you can do to prevent these possibilities.