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Laryngeal Paralysis

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BASIC INFORMATION

Description

Laryngeal paralysis is inadequate opening of the larynx due to weakness or paralysis of the vocal folds. The disease ranges widely in severity. It can be an inherited (rare) or an acquired disease.

Although many dogs can develop the condition, most are large-breed dogs, such as the Labrador retriever, golden retriever, Afghan, Irish setter, and others.

Affected dogs are usually 9½ years of age or older, and males are affected two to four times more frequently than females. Cats rarely develop the condition.

Causes

The congenital, inherited form is seen in young dogs (usually less than 1 year of age). It occurs mostly in the Bouvier des Flandres, bull terrier, Siberian husky, and Dalmatian. The cause of the acquired form is not often known, so the condition may be called *idiopathic laryngeal paralysis*.

In these cases, it is possible that the muscle responsible for opening the larynx is diseased, or a problem may arise with the nerves that supply this muscle. The muscle eventually shrinks or atrophies. Damage to the laryngeal nerve can be a cause of laryngeal paralysis and may be associated with cancer in the neck area, damage from blunt trauma or bite wounds, and injury acquired during surgery of the neck. Hypothyroidism (low thyroid hormone levels) is present in some affected dogs.

Clinical Signs

Voice change, exercise intolerance, difficulty and noisy breathing, and panting are common signs. The dog produces a raspy, hoarse sound while breathing, especially on expiration (breathing air out). Coughing, gagging, retching, and vomiting may occur. Restlessness and anxiety may be noted.

Sometimes no obvious signs are present at rest, but the dog becomes symptomatic after exercise, excitement, or exposure to warm temperatures. The breathing rate increases rapidly when the dog becomes active, and body temperature may rise. The dog may collapse, and the gums may be blue (cyanotic) if the dog does not take in adequate oxygen.

Diagnostic Tests

A tentative diagnosis may be made based on compatible signs in an older, large dog. Definitive diagnosis is made by direct visualization of the cartilages of the voice box, which are supposed to move outwardly (abduct) on inspiration (while breathing air in). Minimal or complete lack of movement is diagnostic. The vocal cords often fall into the laryngeal opening of the airway on inspiration instead of moving away from the opening.

Other tests may be recommended to search for an underlying cause or accompanying conditions. Such tests may include x-rays or an ultrasound of the neck, thyroid tests, and other preoperative laboratory tests.

TREATMENT AND FOLLOW-UP

Treatment Options

In an emergency situation in which the animal has become stressed and overheated and is in respiratory distress, intensive care with oxygen therapy, sedation, intravenous fluids, and procedures to cool the animal may be necessary. A temporary tracheostomy may be considered in some cases. Once the animal is stable, surgery is often needed to open the airway.

The mainstay of therapy for moderate to severe cases is surgery. Several different surgical techniques may be used. One of the more popular surgical procedures (tie-back technique) consists of permanently pulling one of the laryngeal cartilages out of the airway with suture so that the size of the laryngeal opening is substantially increased.

Mildly affected dogs may benefit from temporary sedation, followed by avoidance of stressful situations and a sedentary lifestyle. The condition often worsens over time, however. Any underlying or ancillary conditions are also treated. Thyroid supplements are started in hypothyroid dogs, but even with appropriate treatment, the laryngeal paralysis remains.

Follow-up Care

A serious potential postoperative complication is aspiration pneumonia, although the incidence is relatively low. The dog may remain hospitalized for 1-2 days after surgery for close monitoring. Water is introduced first. A soft cough is common after drinking, but excessive coughing may indicate aspiration pneumonia. Food is commonly withheld for at least 12-24 hours, depending on how the animal handles water.

Occasionally, a fluid-filled swelling (seroma) develops near the surgical incision within 2-3 days, but it usually resolve spontaneously within 10-14 days. A voice change occurs with some surgical procedures. Following recovery, notify your veterinarian if coughing increases, noisy breathing or other signs return, or activity decreases.

Prognosis

Mildly affected animals may do well (and not need surgery) if clinical signs do not progress.

Most dogs that have the tie-back surgery (almost 90%) experience good results, with improved breathing and increased exercise tolerance. Some hunting and athletic dogs can resume their activities at their previous level of performance.

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