Madison Veterinary Specialists

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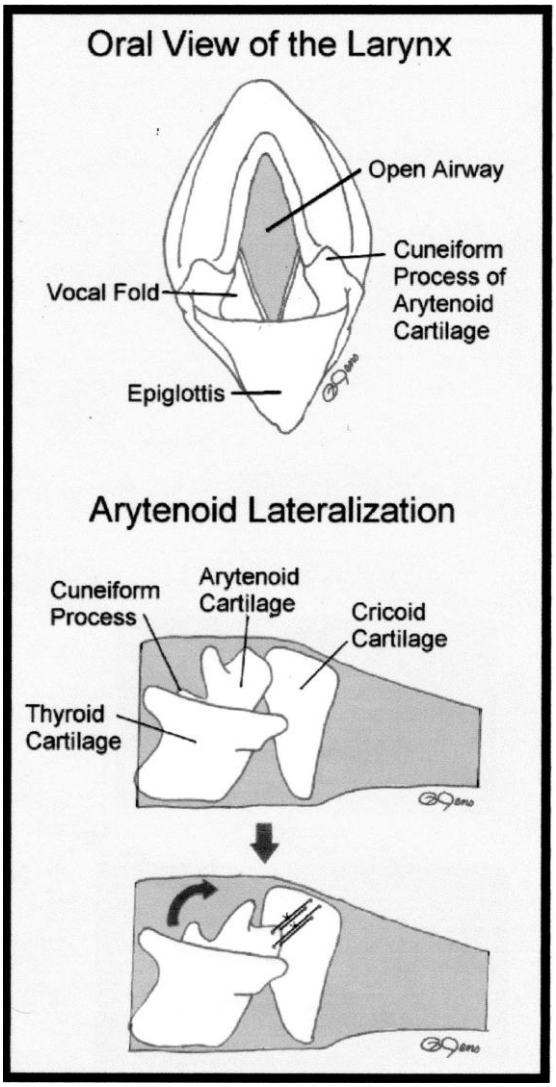
Laryngeal Paralysis (LAR PAR)

What is Laryngeal Paralysis?

Laryngeal paralysis is defined as the inability to open the entrance of the voice box (larynx). This is due to paralysis of small muscles that separate the arytenoid cartilages and attached vocal folds during inspiration. The inability to open the entrance to the upper airway eventually progresses to periods of severe respiratory distress especially during hot, humid weather. Breathing with laryngeal paralysis would be similar to constantly breathing through a narrow straw. Laryngeal paralysis can be inherited in breeds such as Bull terriers, Huskies and Dalmatians, although seen most often in older Labrador retrievers. The underlying cause is almost always unknown (idiopathic), however LAR PAR can be secondary to systemic neurological conditions, neck or chest cancer or neck, chest or head trauma including previous surgery. Abnormal laryngeal function also predisposes animals to aspiration of food into their airway during swallowing because the opening to the airway is not functioning normally.



Clinical Signs & Diagnosis

Early signs of laryngeal paralysis include voice (bark) changes, exercise intolerance and noisy (goose honking) breathing. Progression of the condition tends to be very slow often taking more than 6-12 months before animals are severely affected. The condition usually involves one of the paired arytenoid cartilages initially, but progresses to bilateral paralysis over time. When only one arytenoid is involved clinical signs tend to be subtle, but as both arytenoids become paralyzed the degree of dysfunction progressively gets much worse. Severely affected patients can have difficulty breathing even at rest and can easily be pushed into a life-threatening respiratory crisis. Definitive diagnosis is made by visual inspection of the arytenoid cartilages under very light sedation to see if they are functioning normally. Addition tests are often performed to ensure there are no underlying causes such as cancer or lower airway disease.

Treatment

The surgical treatment of choice is a unilateral arytenoid lateralization or “tie-back” procedure. By “tying back” one of the arytenoid cartilages the opening to the upper airway is increased by 240% on average. This procedure usually results in good long-term function including much quieter breathing and increased exercise tolerance especially in hot weather. Complications include failure of the procedure to maintain the enlarged opening, incisional infection and aspiration pneumonia. Surgery cannot restore the airway to its normal function, though it affords a permanently enlarged opening that allows for normal breathing. Patients will always be more susceptible to aspiration of food into their away, which can lead to life threatening aspiration pneumonia. It is therefore recommended to feed post-op patients smaller meals and to not allow them to gulp large volumes of water.

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