



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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Cauda Equina Syndrome

Issue Description

Cauda equina syndrome is a serious neurologic condition in which there is acute loss of function of the neurologic elements (nerve roots) of the spinal canal below the termination (conus) of the spinal cord.

Other Names

Degenerative Lumbosacral Stenosis, Lumbosacral Stenosis, Lumbosacral Instability, Lumbosacral Malformation, Lumbosacral Malarticulation, Lumbar Spinal Stenosis, Lumbosacral Spondylolisthesis, Lumbosacral Nerve Root Compression

Causes

Cauda Equina Syndrome is caused by compression of the nerve roots (cauda equina) coursing through the lumbosacral spinal canal in the lower back. Nerve root entrapment and pressure can result from an arthritic process, infection, a degenerative disc rupture, or tumors. Most dogs affected by lumbosacral degeneration are middle aged or older large, athletic breeds.

Symptoms

The most common symptom is progressive sharp pain. However, this syndrome can manifest itself in a number of ways. Intermittent lameness in one or both pelvic (rear) limbs or a stilted gait is a common initial sign. The patient may progressively have more difficulty rising from a prone position or may be unusually reluctant to leap. The dog may act suddenly painful or lame immediately after getting up or jumping. Strenuous activity may exacerbate the signs. Vocal expression of pain may vary from moans or whimpers when the dog tries to rise to sharp cries or howls when touched over the rear quarters or when making a wrong move during exercise. Eventually even the most pain tolerant individuals will react to the burning pain of the nerve root entrapment caused by this syndrome. Chewing at the tail or rear feet as well as bowel and bladder incontinence may be seen in advanced cases where severe pressure on the nerve roots causes a burning sensation. The most devastating cases can evolve to full paralysis.

Diagnosis

The veterinarian will ask the owner for a history of when the symptoms developed. A physical exam will then be performed. The hind limbs will be manipulated in various ways to determine which positions are painful. The veterinarian will also do a neurological exam, including testing the reflexes, to determine which nerves may be injured.

Radiographs (x-rays) are taken to evaluate the spine and pelvis. The findings can be very suggestive of lumbosacral stenosis, but are not sufficient to make the diagnosis. To achieve a diagnosis, special procedures must be performed by injecting dye into the affected area and re-radiographing. Depending on where the dye is placed, the procedure is called myelography, epidurography, or diskography. These procedures must be done under anesthesia. Displacement of the dye by the abnormalities in the bones and intervertebral disc confirms the diagnosis of lumbosacral stenosis.

Treatment

Medical therapy (consisting of rest and anti-inflammatory/ analgesic medication) should be tried in patients with the first episode when experiencing mild pain only.

Indications for surgical intervention include neurologic deficits, pain unresponsive to proper conservative treatment,

and frequent recurrences to pain, even if the episodes respond well to medical treatment. To relieve pressure on the entrapped roots a dorsal laminectomy is performed. This involves removing portions of the bony canal entombing the entrapped nerve roots. This conservative laminectomy adequately exposes the nerve roots and allows the surgeon to safely retract them for exposure of the disc space. The cauda equina is gently retracted to one side with blunt nerve hooks, exposing the herniated discs as a large dome on the floor of the spinal canal. The herniated disc is excised, compressive osteophytes removed, and foramenotomies (opening the nerve root canals) performed to relieve root entrapment. Once the pressure is relieved, the neurologic function gradually returns as the nervous tissue heals in its decompressed environment.

Prognosis

The prognosis for complete recovery is dependent upon many factors. The most important of these factors is the severity and duration of compression upon the damaged nerve(s). As a general rule the longer the interval of time before intervention to remove the compression causing nerve damage the greater the damage caused to the nerve(s).

Damage can be so severe and/or prolonged that nerve regrowth is impossible. In such cases the nerve damage will be permanent. In cases where the nerve(s) has been damaged but is still capable of regrowth, recovery time is widely variable. Quick surgical intervention can lead to complete recovery almost immediately afterward. Delayed or severe nerve damage can mean up to several years recovery time because nerve growth is exceptionally slow.

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