



Acute Non-Compressive Nucleus Pulposus Extrusion (ANNPE)

An acute non-compressive nucleus pulposus extrusion (ANNPE) is a neurological emergency that suddenly affects the spinal cord and your pet's ability to walk. ANNPE is most common in young, active, medium to large dogs. It can occur in any breed, but it often occurs in working, sporting, or otherwise high-drive dogs.

Signs

Signs of an acute non-compressive nucleus pulposus extrusion include:

- Sudden pain during activity that can make your pet cry out
- Sudden lameness after activity, often on one side of the body
- Pain improves quickly, typically within the first 24 hours
- Symptoms do not progress after the first 24 hours

Causes

An acute non-compressive nucleus pulposus extrusion is a form of intervertebral disc disease (IVDD). Intervertebral discs sit between the bones of the spine, allowing it to bend and absorb impact. They are made up of an outer fibrous ring with an inner jelly-like filling, known as the nucleus pulposus. IVDD develops when one of these discs protrudes or ruptures.

Unlike the more common forms of IVDD, ANNPE does not result from disc degeneration, but from excessive force applied to a normal, healthy disc. High-impact exercise or a fall can tear the outer fibrous ring, which can cause a small amount of the inner nucleus pulposus to shoot out of the disc and strike the spinal cord, causing injury in the form of bruising, swelling, or bleeding.

The main differences between ANNPE and other forms of IVDD are:

- Only a small amount of disc material is involved
- The disc material is healthy and hydrated
- The event does not result in spinal cord compression

Diagnosis

Different forms of intervertebral disc disease may share similar symptoms, but they can also have very different treatment protocols and prognoses. Therefore, it is critical to achieve an accurate diagnosis in order to put your dog on the best path to recovery. MRI is considered the gold standard for this, as it can distinguish between problems like compression and bruising of the spinal cord. MRI can also help predict prognosis, based on the size of the affected area and the severity of the damage.

MRI criteria for diagnosing an acute non-compressive nucleus pulposus extrusion include:

- Hyperintense lesion above the disc
- Reduced volume of a disc's nucleus pulposus
- Small volume extradural material above the disc
- Narrowing of the disc space
- No spinal cord compression

Treatment

An acute non-compressive nucleus pulposus extrusion is typically treated conservatively with nursing care and physical rehabilitation. Restricting physical activity may be necessary for several weeks to allow both the spinal cord and the tear in the annulus fibrosus to heal. Since there is no spinal cord compression to relieve, surgery is not necessary, and no medications have been shown to speed up recovery.

Nursing care for ANNPE may consist of:

- Crate rest
- Providing clean, soft, padded bedding
- Changing your pet's position to avoid pressure sores
- Providing easy access to food and water

Light physical rehabilitation is also of benefit to avoid joint stiffness, muscle weakness, or atrophy.

Prognosis

With proper care and enough time, the injury will subside. Most dogs will improve within a few days and completely recover within a few weeks. Prognosis is excellent for the vast majority of patients with an acute non-compressive nucleus pulposus extrusion.



Learn more about
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