

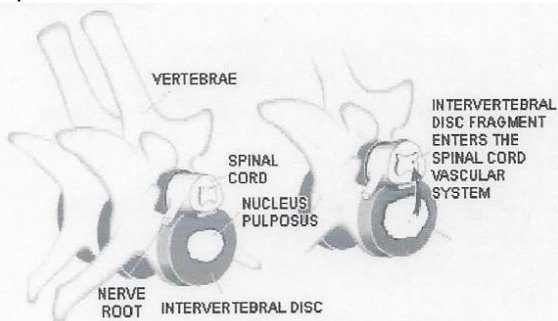


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Fibrocartilaginous Embolization

Spinal cord fibrocartilaginous embolization is caused by a small fragment of intervertebral disc material entering the spinal cord's vascular system via the tissues attached to the intervertebral disc (see illustration below). Embolization is the sudden blocking of an artery by a clot of foreign material (an embolus). The tiny fragment of intervertebral disc material (embolus) results in varying degrees of damage depending on the portion of the cord supplied by the embolized blood vessel. Thus, the clinical signs are variable.

Fibrocartilaginous embolization of the spinal cord is the functional equivalent of a stroke to the spinal cord rather than to the brain. The events are acute, non-progressive, and occur without any prior signs or warnings. Because emboli can occur in any portion of the cord, clinical signs can involve the rear limbs, all four limbs, one side of the body, or only one limb. The syndrome is not painful but can result in paralysis. After the initial spinal cord shock subsides, one side of the body frequently remains worse or is slower to Show improvement.

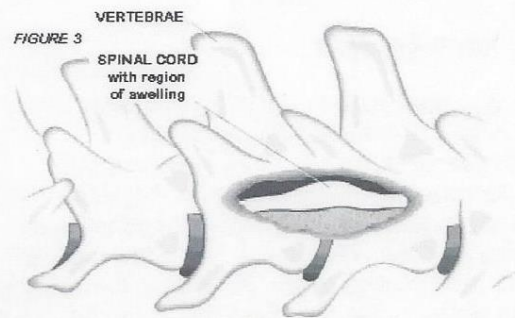


In general, if deep pain perception is intact to the paralyzed limb(s), recovery will begin in two to three weeks with most clinical function restored by four months. In most cases, once the diagnosis and degree of clinical damage is

ascertained, an accurate prognosis can be made.

Diagnosis

A tentative diagnosis of a fibrocartilaginous embolism is made based on history and neurologic examination. Radiographs (x-rays) are evaluated to ascertain the presence of degenerative discs and may outline other abnormalities in the spine including fractures and dislocations. A definitive diagnosis may require a myelogram (contrast dye study of the spine), MRI, or CT scan. Spinal cord swelling may be seen with a myelogram immediately after the embolus causes an infarction (a localized area of dead cells produced by occlusion of the arterial supply to that area) (see Fig. 3). If several days have passed since the onset of clinical signs, the myelogram will be normal. Other findings with a myelogram may include intervertebral disc extrusions, tumors, fractures, hematomas, or hemorrhage.



Treatment

Individuals experiencing an acute episode of fibrocartilaginous embolism are immediately treated once the diagnosis is confirmed. Intensive medical therapies are of value only during the first 24 to 48 hours after the spinal cord damage has occurred. Medications used include corticosteroids or NSAIDs to relieve

spinal cord swelling and to prevent collateral damage. Surgery is not indicated in the treatment of spinal cord infarction. After initial medical management, intensive nursing care and physical therapy are required. The goal is to maintain muscle tone while the spinal cord tissue heals.

Prognosis

The prognosis in cases of fibrocartilaginous embolization depends on many factors:

- The severity of neurologic dysfunction
- The amount of disc material that has embolized
- The degree of accompanying spinal cord swelling
- The location of the spinal cord infarction
- The overall physical condition of the patient

In general, the ability to perceive deep pain in the affected limb(s) and tail remain the major prognostic indicator. Even if paralysis is complete, the perception of deep pain remains the key to determining if permanent damage has occurred. This means that, even if paralysis has occurred, if the conscious perception of deep pain is intact a functional recovery is anticipated. The time required for recovery and the degree of neurologic improvement are quite variable. Diligent physical therapy and good nursing care are important for recovery.

Postoperative Care

Postoperative care is critical to long term success. The most critical element is confinement of the dog to a small area with ample bedding and good footing. Physical therapy begins at suture removal and involves flexing and extending the hip for a few minutes three or four times a day. Swimming therapy and short walks, gradually increasing in length, begin three to six weeks after surgery depending on the individual. Again, complete confinement to a small room, pen, or cage when not working on physical therapy is mandatory. Avoid slick floors, jumping, running, stair climbing, and all acrobatics until recovery is complete.

During your pet's convalescence, it may be necessary to offer assistance with ambulation (walking). Two such methods are:

Towel Walking

Place a sheet or large towel under your pet's abdomen as a means of support, holding an end in either hand. Use a towel or sheet that is large enough to enable you to stand in an upright position (Figure below).

Support your pet so that he/she is unable to bear full weight on the affected limb(s). Over the passage of time (usually two to three weeks), you will notice that your pet will be able to accommodate a greater percentage of its actual weight, requiring less assistance from you.

In the case of a male dog, you will need to reposition the towel/sheet so as not to impede urinary function. This would be done once the dog is outside and ready to urinate. Allow him to lean against you while urinating. This will provide stability for him while urinating.



Tail Walking

You may also assist your dog with ambulation by holding its tail in an upright manner. This serves as a 'rudder' and provides the needed stability for walking.

NOTE: Not all pets will tolerate this method. You will need to decide which method of assistance will be the most effective.

Medicating Your Dog

1. When administering medication in capsule or tablet form to your dog, you may find it much easier to simply place the medication in a small

amount of food and offer it as a treat to your pet.

2. If your dog will not accept medication in the above mentioned fashion, it will be necessary for you to manually 'pill' your pet (Figure 6). Place your hand around your pet's upper jaw and gently apply pressure by pressing the lips against the teeth. Using your other hand, gently pull the lower jaw downward and place the medication in the very back of your pet's throat. By holding his/her muzzle and gently stroking the throat, you will stimulate your pet to swallow.



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