



d.c. Vets, inc.

Discospondylitis (Infection of the Spinal Vertebrae and Intervertebral Discs)

Discospondylitis is an infection of the spinal vertebrae and intervertebral discs. It has been referred to as a form of arthritis of the spine with narrowing of the involved disc spaces. It is a form of vertebral osteomyelitis (bone infection) but it can be differentiated from this general classification by the involvement of the intervertebral discs, adjacent vertebral bony endplates, and vertebral bodies (see Fig.1).

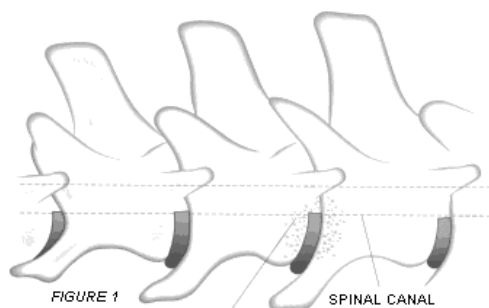


FIGURE 1
INFECTED INTERVERTEBRAL DISC AND VERTEBRAL END PLATES
RESULTING IN AN EXQUISITELY PAINFUL MENINGITIS

The most common clinical signs of affected dogs include intense spinal pain and neurologic weakness manifested as slowly progressive incoordination of the limbs caudal to the site of the lesion. As swelling, inflammation, bony proliferation, and spinal cord compression increase, the dog becomes much more painful. Although there does not appear to be any breed predisposition, one report indicates a marked prevalence of the syndrome in large dogs. The thoracolumbar (mid-back) area accounts for the greatest number of discospondylitic lesions.

The mechanisms of infection include the following:

- Hematogenous (blood borne)
- Secondary to adjacent infection (i.e. foxtail migration or other foreign bodies)

Hematogenous Discospondylitis

Septicemia is defined as a blood infection with circulating bacterial or fungal organisms. This could be from an abscessed tooth, bladder infection, wound, immune disorder, or from a debilitating disease. The infectious organisms circulating in the bloodstream find their way to the soft tissues adjacent to the vertebrae. Small abscesses may develop. Reactive bone spurs appear, involving the vertebral bodies, and subsequently spread to the discs between two vertebrae. In some cases, the body kills the infectious agents and fuses the vertebrae. However, most affected dogs require treatment for pain and neurologic dysfunction before there is time for this process to occur (see Fig. 2).

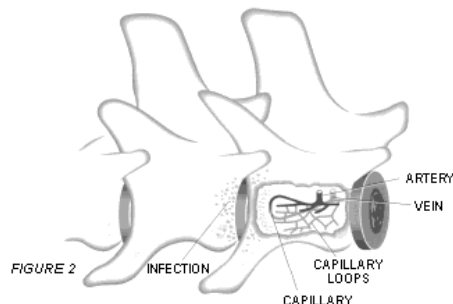


FIGURE 2
AN INFECTION IN THE BLOOD STREAM IS FILTERED BY THE CAPILLARY
LOOPS. THE BACTERIA THEN BREAKS OUT TO INFECT THE VERTEBRAL
ENDPLATE, DISC, NERVE ROOTS AND SPINAL CORD (MENINGITIS).

Discospondylitis Secondary to Adjacent Infection

Foreign bodies (i.e. bullets and foxtails) are the most common sources of reported cases of discospondylitis which result from adjacent tissue infection. The pathologic process is not unlike that previously described. The extensive soft tissue infection invades the adjacent bony structures and, when in the area of the disc space, results in discospondylitis.

Management and Treatment

Treatment of discospondylitis in dogs follows guidelines similar to those used in man. Long term antibiotic therapy (four to six weeks) is the most common treatment. This treatment is usually aimed at the most commonly isolated microorganism: Staphylococcus aureus. When no response to antibiotic therapy is seen, or when recurrence is a problem, surgical biopsy, bacterial culture, and antibiotic sensitivity testing are needed. When severe neurologic deficits exist, they are due to pressure on the spinal cord. Antibiotics in conjunction with surgery have proven very successful. Ultimately, joint fusion must be achieved either with antibiotic therapy alone or in combination with spinal surgery to maintain immobilization and allow healing by bony consolidation. In most cases, progression of bony healing and joint fusion become evident on x-rays within a few weeks. The soft tissue reaction subsides as the vertebrae and discs return to a more normal appearance following bony fusion of the involved areas.

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.



Supporting ambulation with a towel

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.

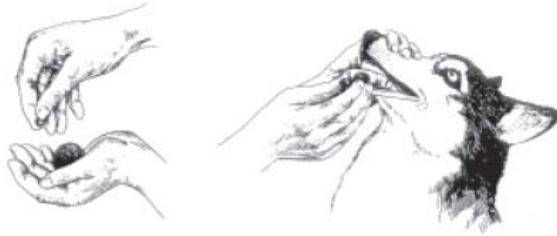
Medicating Your Dog

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

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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.



Administering medication to a dog

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