

Intervertebral Disk Disease: Diagnosis and Medical Management

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Introduction

As the number of Miniature Dachshunds increases in Japan, intervertebral disk disease (IVDD) has become the most common spinal injury diagnosed in dogs. Traditionally, many IVDD patients are referred to secondary practices, such as university hospitals, rather than being treated by primary care veterinarians. Today, however, it is becoming more and more difficult to make referrals to these secondary hospitals, because most of these institutions are already overbooked and cannot accept emergency cases. Around Tokyo, for example, pet owners may have to wait for two to four weeks to make an appointment at university surgical departments. Now is the time for general practice veterinarians to take a serious approach to the management of IVDD, which often requires emergency medical attention.

Diagnosis

1. Cervical disk disease

Signs: A spectrum of clinical presentations is observed with cervical IVDD, depending on the severity and site of injury, from cervical pain to quadriparesis. The results of neurological examination may also vary with the disease severity and location. Neck pain, “nose-down” posture, short-stepped gait and cervical muscle spasm (so-called “jerky neck”) are more common.

Diagnosis: Narrowing of the intervertebral disk space and the presence of calcified material within the vertebral canal on survey radiographs may be diagnostic. Advanced neuroimaging such as myelography, CT or MRI may be required for confirmation.

2. Thoracolumbar disk disease

Signs: Clinical symptoms vary, ranging from back pain to paraplegia. Similarly, the results of neurological examination are inconsistent depending on the severity and site of injury. Thoracolumbar disk disease can be classified into five grades, I to V, based on neurological examination findings. Patients with grade I or II disease are candidates for medical management. Surgical intervention should be considered for grade III to V.

Diagnosis: Narrowing of the intervertebral disk space and the articular facet space, and the presence of calcified material within the vertebral canal on survey radiographs may be diagnostic. Advanced neuroimaging such as myelography, CT or MRI may be required for confirmation.

Medical Management and Supportive Care

1. Cervical disk disease
 - a. Corticosteroids: dexamethasone 0.1 mg/kg or prednisolone 1 mg/kg
 - b. Cage rest for 4 weeks
 - c. Use of a harness

2. Thoracolumbar disk disease
 - a. Methylprednisolone sodium succinate (30 mg/kg)
 - b. Neutrophil elastase inhibitor (1 mg/kg)
 - c. Polymer therapy (polyethylene glycol, poloxamer 188, etc.)
 - d. Corticosteroids
 - e. Cage rest for 4 weeks

Note: Therapies listed in a, b and c should be initiated in the acute phase.