

Review Article

**WOBLER'S SYNDROME IN LABRADOR AND ROTTWEILER PUPS:
AN EMERGING CONCERN IN CANINES: A REVIEW**

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INTRODUCTION

Pets are treated as a sentinel animal in modern society. There are many etiological agents that cause pathophysiological alterations in the animals. Generally dogs suffer with viral infections as parvovirus, canine distemper virus etc. But in modern life style, the emerging diseases have also been evolved in canine practice. Wobbler's syndrome is also known as dancing dog syndrome or cervical spondylomyelopathy. Cervical spondylomyelopathy (CSM) is a common disease of the cervical spine of large and giant breed dogs; refers to a collection of disorders of the cervical vertebrae and intervertebral discs of large breed dogs due to cervical stenosis and spinal cord compress and characterized by a typical wobbling gait (Predominantly affecting the hind limbs), paresis and cervical pain. Palmer and Wallace, in 1967, were the first to describe CSM in young Basset hounds (**Palmer and Wallace, 1967**). There are also several synonyms for this CSM disorder as Wobblers syndrome, caudal cervical spondylomyelopathy, cervical spondylopathy, cervical vertebra instability, cervical malformation/malarticulation syndrome, cervical spondylolisthesis, disc-associated wobbler syndrome, cervical spinal stenosis, cervical subluxation etc. (**Raffe and Knecht, 1980; Shores, 1984; . Lipsitz et al., 2001; Trotter, 2009**).

There are two forms of wobbler syndrome. The first form called cervical stenotic myelopathy. This is Bony associated spondylomyelopathy. In Bony -associated spondylomyelopathy spinal cord compression is due to bony proliferation of the articular

process and pedicles, usually of the C4 to C7 vertebrae observed in young at the age of several month to about four years old aged dog, reported in giant breed dog including Great Danes, Mastiffs, Labrador and Rottweilers.

The second form of wobbler's syndrome occurs in middle to older aged dogs and caused by a chronic bulging of inter- vertebral disc, which slowly pressure on the base of the spinal cord. This syndrome is commonly seen in large-breed dogs, such as Doberman pinscher, Labrador retriever and Dalmatian. This form is Disc-associated wobbler syndrome (DAWS). DAWS affects middle aged (mean 7 years) of large breed specially Doberman Pinschers. In DAWS the ventral compression of spinal cord due to protrusion of one or more cervical vertebrae is seen. The congenital stenosis of vertebral canal or hypertrophies of ligamentum flavum is found in some cases of wobbler syndrome.

There are multiple etiological factors for wobbler's syndrome. There are following predisposing factors for wobblers syndrome-

Predisposing factors:

Genetic: Genetic factors were reported in certain breeds of dogs.

Nutritional: Nutritional factors like excess of calcium, phosphorous, calorie and protein may play role in the occurrence of this disease.

Growth factor: Disproportionate and rapid growth rate in pups may be responsible for this disease.

Management: Close confinement, early age neck sleek may be responsible for this disease.

Vaccination: Post vaccination reaction in certain breeds and age of dogs may be responsible for the outbreak of disease syndrome.

Idiopathic: Multiple factors are responsible for wobbler syndrome. In many cases no history and clinical signs correlates with the sudden onset of this disease.

SYMPTOMS: Following are the most encountered symptoms in wobbler syndrome in dogs as -

- ❖ Wobbly gait in the hind limbs and short or floating steps with the front limbs.
- ❖ Ataxia in the rear limbs causing dogs to & way or sideways wobbling.
- ❖ Dogs are reluctance to bend their head downward or turn side to side due to neck pain.
- ❖ Dog may be unable to walk or non-ambulatory.
- ❖ Atrophy of Supraspinatus muscle and worn toe nails also appear in some cases.

DIAGNOSIS: Diagnosis of the syndrome can be done by neurological examination. Radiography can help in diagnosis, but it may not give confirmative diagnosis of cervical spondylomyelopathy. It may be helpful in differential diagnosis for discospandylitis and neoplasia. For the definitive diagnosis computed tomography scanning, myography or NMRI (Nuclear magnetic resonance imaging) can be useful diagnostic tools. Hematology like CBC, urinalysis, electrolyte examination, and CSF analysis aids in the diagnosis of wobbler syndrome.

TREATMENT AND MANAGEMENT:

Wobbler's syndrome in dog is difficult to treat. There are two ways of treatment. First is conservative method of treatment in which the dogs are kept under corticosteroids (Prednisolone @ 0.5 mg/kg/day) to reduce spinal cord swelling associated with compression. This treatment is effective in dogs with milder syndrome and with multiple spinal cord compression. Approximately, 50% dogs recover after medicinal management, 30% remain stable and generally 20% cases get worsen. Surgical management of wobbler syndrome depends on the site of injury, exact location and severity of syndrome. Dorsal laminectomy in young dogs for cervical stenotic myelopathy can be done. This will enlarge the narrowed opening over one to three vertebral spaces. Cervical spine locking plate fixation can be done in large breed dogs and vertebral stabilization can be done using a screw and washer technique. Ventral decompression, linear traction and inter body screw stabilization and plastic plate stabilization are other surgical techniques to treat dogs with caudal cervical spondylomyelopathy. Vertebral or transverse penetration of foramina is a risky operation and has been reported to occur in 25% to 57% of cases studied experimentally (**Koehler *et al*; 2005**). Post operative care like restricted movements, bladder catheterization, physiotherapy, soft bedding may help in recovering from the surgical trauma.

PREVENTION: This disease syndrome can prevent by giving balanced diet to the growing pups, avoidance of excess calcium and phosphorus in diet. Excessive activity, jumping, running should be avoided. Use of collars placed around the neck should be avoided and body harness use should be encouraged. The prognosis for a dog with wobbler disease depends greatly on the amount spinal cord compression.

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