Proceedings des Journées Annuelles de l’Association Vétérinaire Equine Française

11 au 13 octobre 2012 – Reims, France

www.avef.fr

Next Meeting:

Dec. 11-13, 2013 – Deauville, France

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WOBBLER SYNDROME: CONSERVATIVE TREATMENT
LE SYNDROME DE WOBBLER: TRAITEMENT CONSERVATEUR

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Résumé:
La myélopathie par sténose du canal vertébral cervical ou syndrome de wobbler est la cause la plus commune d’ataxie spinale chez les jeunes chevaux. On reconnait deux formes principales : la sténose vertébrale cervicale et l’instabilité du canal vertébral. Le traitement conservateur inclut du repos, des anti-inflammatoires non-stéroïdiens et du DMSO. Les chevaux atteints de dégénération des facettes articulaires des vertèbres cervicales peuvent être infiltrés localement avec des corticoides. Les foals atteints de myélopathie par sténose du canal vertébral cervical avant l’âge de 1 an peuvent s’améliorer à la suite d’une restriction alimentaire sur le point de vue de l’énergie digestive tout en assurant un équilibre en minéraux et vitaminas.

Mots-clés : myélopathie cervicale ; sténose vertébrale ; ataxie ; traitement médical

Summary:
Cervical Vertebral Stenotic Myelopathy (CVSM) or wobbler syndrome is the most common cause of spinal ataxia in young horses. The two forms recognized are cervical vertebral stenosis (CVS) and cervical vertebral instability (CVI). Medical therapy for acute cases includes rest, non-steroidal anti-inflammatory drugs and DMSO. Horses with CVS and marked articular facets remodeling may benefit from local infiltration with corticosteroids. Foals affected by CVSM before the age of 1 year may show improvement with dietary energy restriction while balancing minerals and vitamins.

Keywords: Stenotic myelopathy; spinal ataxia; cervical stenosis; medical therapy

Synonyms for Cervical Vertebral Stenotic Myelopathy (CVSM) are cervical stenotic myelopathy, chronic cervical compressive myelopathy, or Wobbler disease. Cervical spinal cord compression in horses generally results from CVSM. The term CVSM does not include other rare causes of cervical spinal cord compression such as vertebral fracture, vertebral neoplasia, and intervertebral disc protrusion. The syndrome affects approximately 2% of thoroughbreds.

Two types of stenotic lesions are recognized:
- Cervical Vertebral Stenosis (CVS): narrowing of vertebral canal by excessive bone or soft tissue production; static stenosis.
- Cervical Vertebral Instability (CVI): narrowing of vertebral canal by excessive movement of vertebrae during flexion causing a dynamic compression.

Neurological signs are characterized by symmetric tetraparesis with rear limbs being more severely affected. Clinical signs of CVSM are seen most commonly in 1 to 4 year old horses and male Thoroughbreds seem to be over represented.

Definition:
CVS: - Most common in 1-3 year old horses (with range from 6 months to 10 years).
- Narrowing of the spinal canal most commonly at C5-C6-C7 articulations.
- Spinal cord compression is independent of head position.
CVI: - Most common in horses between 8-18 months of age.
- Narrowing of the spinal canal most commonly at C3-C4-C5.
- Dynamic narrowing during neck flexion.

Pathophysiology:
CVSM appears to be one of the manifestations of developmental orthopedic disease. Nutrition is an important factor particularly over-nutrition. Genetic influences are unclear at the present time.
CVS: local compressive forces during exercise; DJD of articular facets and secondary degenerative changes.
CVI: malformation of vertebrae starts soon after birth; asymmetry of articular facets; subluxation of spinal cord; OCD of the facet joints and other degenerative changes.

Medical management:
It is aimed at reducing swelling and edema at compression site using systemic non-steroidal anti-inflammatory drugs or DMSO in horses with acute deterioration of neurological signs. Corticosteroids may be beneficial in horses with acute spinal cord trauma however, they are contraindicated in cases of equine protozoal myeloencephalitis (EPM). In case of doubt, concurrent therapy for EPM should be instituted.
Injection of articular facets with corticosteroids may benefit horses with mild to moderate neurological deficits (grades ≤3 out of 5) but with marked radiological evidence of vertebral degenerative joint disease. Antimicrobials are typically injected at the same time (e.g. amikacin 125 mg) and sometime in combination with hyaluronate sodium [2].

Restricted diet and confinement:
This conservative approach is an option for horses < 1 year of age. Donawick et al [1] managed a group of 132 thoroughbred foals using a combination of confinement and restricted diet (65 - 75 % NRC requirements for protein and energy; balanced for vitamins and minerals). Foals were divided into 4 groups:

- Group 0: no neurological signs, low radiological score
- Group 1: questionable neurological signs, low radiological score
- Group 2: no neurological signs, but high radiological score (6/132)
- Group 3: neurological signs, high radiological score (12/132)

Groups 0 & 1 were not treated. Groups 2 & 3 were treated with the low diet and restricted exercise.
Groups 0 & 1: NONE developed CVSM
Groups 2 & 3: ALL recovered

Supplementation with vitamin E and selenium is recommended. Severely affected horses, that are older than 1 year, are unlikely to respond completely to this therapy.

Prevention:
The most important nutritional factors associated with developmental orthopedic disease and CVSM are excessive digestible energy, excessive phosphorus and insufficient copper. This is the rationale behind the restricted diet. Highly digestible carbohydrates and corn oil are known to cause osteochondrotic lesions in foals [3]. Calcium/phosphorus imbalance in the diet and in particular, excessive phosphorus has been associated with high incidence and severity of osteochondrotic lesions in foals [4]. Similarly, low copper in the foals’ diet (15 ppm) results 3-7 times increase in osteochondrotic lesions in comparison to high copper (55 ppm). Excess zinc may also cause secondary copper deficiency. Therefore, it is paramount that foals’ diet be balanced for mineral and vitamins while avoiding excess digestible energy.

References: