Proceedings of the 34th World Small Animal Veterinary Congress
WSAVA 2009

São Paulo, Brazil - 2009

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ACUPUNCTURE FOR TREATMENT OF INTERVERTEBRAL DISC DISEASE
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The intervertebral disk disease affect most of the dogs of chondrodystrophic breeds, with high incidence between three and six years. Most of the lesions, 85%, occur between T11-T12 and L2-L3 and 50% happens between T12-T13 and T13-L1. In large breeds the disease is most observed at L1-L2. The main clinical sign are back pain, somatosensory deficit, motor deficits in pelvic limb, genitourinary dysfunction, between others. Based on this, many levels of lesion maybe presents on IVDD and this result in different approach for treatment, based mostly on the vet clinical knowledge than in literature review. The AP technique consists on the insertion of needles at specific skin points and has showed efficiency on the treatment of IVDD in man and animals. It is also used to relief pain, normalize motor and sensory function and urinary control although few studies controlled studies haven showed the efficacy of the treatment in dogs comparing the treatment with conventional treatment. The purpose of this prospective controlled study was to compare the effects of treatment of electroacupuncture, decompressive surgery after 48hs of the begging of the neurological signs and electroacupuncture associated with surgery for thoracolumbar IVDD in dogs. We hypothesized that EA might be effective in promote improvement of neurologic function and recover ambulation in animals with IVDD.

Still state that the results of using AP for IVDD go down proportionally to the severity of medullar lesion. Others authors also describes the effects of AP for IVDD grade I and II with an improvement rate of 90%. The AP studies also mention the necessity of using electro stimulation for IVDD of grade III or more mentioning a rate of improvement of 85% after 2-6 weeks of AP treatment isolated. For grade IV, the rate of improvement with AP only was 58% after 10 weeks of treatment. The studies also indicate that acupuncture in grade IV should be considered IF the surgery cannot be done in the first 48 hours of the beginning of the neurological symptoms or when the surgery was not successfully.

Hayashi on a study with 50 dogs comparing the use of clinical management and clinical management associated with EA found that the association results in quickly recovery and improvement of ambulation and deep pain sensibility. Macias observed that the prognosis of IVDD surgery might be dependant of type of disk disease, Hansen I or II, since protrusion shows a worse surgical response than animals with nuclear extrusion. This observation can be explained, according to the authors, to the fact that during the extrusion, the material in medullar channel can be reabsorbed or be located in a way that causes minimum compression to the spinal cord or one can also have an adaptation of the spinal cord to the compressive phenomena. Another study, trying to explain the distal effects of acupoints stimulation found using magnetic resonance that when stimulating points such as LI4 and LI11(large intestine), located at the first and second metacarpal bone and in the crease of umero-radio-ulnar joint, respectively, there is a segmental activation on the level of C2 and C3 cervical spinal cord. Yamamura showed another path of AP mechanism of action in the spinal cord, studying the behavior of IVDD with tomography in human, where they theorize the acupuncture effect on the increase, inhibition or diminution of immunological process due to nucleus pulposos extrusion explaining the improvement of IVDD due to AP treatment. The immunological approach of the disk extrusion is also corroborated by other authors and studies showing the participation of the lymphocytes, macrophages, metalloproteinase, interleukins and others on the spinal inflammatory site. In relationship to the surgery, the technique used in this study was the hemilaminectomy, which is according to the literature the most useful in case of compressive IVDD.

In a study where 25-38% of the animals have improved when the surgery was done at 12-24 hours after the beginning of the neuroclinical signs, 43% if surgery was done between 24-48 hours of the initial signs and 5-24% if surgical intervention was done after 48 hours of the beginning of the neuroclinical symptoms. The absence of deep pain sensibility can also influence the rate of recovery after surgery. A retrospective study mention that the improvement rate of ambulation...
after IVDD decompressive surgery was 89.5% for deep pain present animals and only 50% for animals with absence of deep pain emphasizing the importance of deep pain for post surgery prognosis. Another important information is that in a study of neurological evaluation of paraplegic animals, 42% of the animals that could ambulate, do not have deep pain sensibility although still walking.

References: