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A mini review on chiropractic medicine and its application in veterinary medicine

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Abstract

In the present time the indiscriminate use of antibiotics has resulted in emergence of superbugs (multi drug resistant bacteria) which remain a major challenge to handle. Present pace of development of novel antibiotics lags behind the emergence of resistant bacteria. So present research should be on minimal use of antibiotics and alternate therapeutic strategy should be used where the use of antibiotic is minimally required. Veterinary chiropractic does not replace a conventional approach to neuro-musculoskeletal conditions chiropractic into conventional practice requires somewhat of a paradigm shift. Chiropractic is both therapeutic and prevention. It has much to offer, from improving the quality of life of the geriatric animals to enhancing the performance of the race animals, and all patients in between. Acquiring expertise in veterinary chiropractic is need of an hour.

Keywords: Chiropractic, clinical management, pain and veterinary

Introduction

The term 'chiropractic' is derived from the Greek word "cheir" which means 'hand' and "praxis" which means 'practice' or 'done by', and is related to the practice of spinal manipulation or manual therapy to treat various diseases [1]. Veterinary chiropractic is a young profession that is undergoing rapid growth and evolution. Chiropractic therapy is directed at the spine in order to modify the progression of disease. Animal chiropractic medicine is an exhilarating and rapidly emerging treatment modality for musculoskeletal pain [2]. It's an integrative medical diagnostic and treatment method based on functional neurology. According to recent understanding of veterinary chiropractic medicine, chiropractic problems arise when individual joints build up an abnormal motion. This motion may be absent motion, decreased motion or an inability to move a joint through its entire range of motion. A joint may become fixed in any portion of its normal range of motion which can lead to muscle spasm, nerve dysfunction, pain, circulatory trouble, metabolic problems and behavioural problems. When this therapy used either alone or in combination with drugs, acupuncture and herbal therapies, chiropractic has confirmed to be a highly flourishing method of improving overall health and function of animals. In most cases, chiropractic problems are observed in the spinal column, and directly affect spinal cord and spinal nerves, but sporadically chiropractic problems may be found in extremities, including shoulder, elbow, carpus, toes, and even tail. Animal chiropractic medicine is frequently combined with radiological analysis, physical therapy, acupuncture or herbal therapy to reach a diagnosis and treatment plan. Chiropractic care and therapy is not restricted to small animals only but half of caseload is equine care. Performance horses (barrel racers, racehorses, roping horses) have all benefited from this part of medicine. Performance enhancement is often seen in behavioural issues such as saddling, kicking, refusing jumps, etc [2]. The past decade has witnessed sharp public attention in complementary and alternative veterinary therapies like chiropractic medicine [3]. there is a lack of literature about chiropractic medicine in veterinary science.

Clinical indications

The main disorders of indications in chiropractic medicine are neuro-musculoskeletal disorder, idiopathic lameness, intervertebral disease, neck/back pain, Wobbler's syndrome, Spondylosis, Cauda equina syndrome, Lick granulomas, Hip dysplasia, Urinary incontinence, Local sensory/glandular neuropathies, Postsurgical rehabilitation, Performance issues in racing horses, Common behavioral and performance problems in horses, History of any significant trauma [4]. In intervertebral disease chiropractic treatment is not contraindicated. Low force techniques are applied distantly to the lesion that alleviate excessive dural tension and, thus,

are beneficial. Neck/back pain is not always due to a prolapsed vertebral cartilage. Nociceptors (pain receptors) are present in spinal ligaments, facet joints, joint capsules, and tendinous insertions of muscles. The vertebral cartilage itself is innervated and can be a source of pain, even though its position may be normal. In wobblers syndrome chiropractic therapy can slow the progression of the disease. In hip dysplasia cases, chiropractic can improve the biomechanics of the sacroiliac and lumbo-sacral joints. It can also improve neurological input to the muscles supporting the hip. This decreases strain on the coxo-femoral joint and, thus, helps alleviate pain and slows disease progression. Early intervention is crucial, since the altered sacro-pelvic motion is thought to contribute to hip joint pathology. Chiropractic care can facilitate more balanced, efficient movement. Studies on human athletes receiving regular chiropractic adjustments have demonstrated enhanced athletic performance compared with control groups [3].

Clinical evaluation

A comprehensive chiropractic evaluation consists of patient history (history of trauma, behavioural changes, and performance changes), clinical evaluation (general physical examination, neurological examination, and radiographic analysis), Postural analysis (kyphosis, lordosis, scoliosis, abnormal tail carriage, and abnormal standing and sitting postures), gait analysis (shortened stride, asymmetry, circumduction, and pacing), muscle and soft tissue palpation, Spinal temperature, Short leg analysis (hind legs), eye level analysis, In addition to this motion palpation is also evaluated which is the cornerstone of a chiropractic examination. Motion palpation determines areas of hypo- or hyper-mobility. It requires knowledge of facet and intervertebral cartilage angles and different planes of vertebral motion (lateral, rotational, and dorso-ventral). This is a subtle palpatory skill requiring extensive experience [3].

Conditions that may benefit from a chiropractic therapy

1. Neck Pain, back pain, jaw pain, extremity Pain
2. Temperament Changes
3. Loss of interest in activity
4. Chronic ear infections
5. Asymmetrical movement
6. Allergies
7. Laying or sitting only on one side
8. Constant licking or chewing
9. Resistance to brushing or petting
10. Musculoskeletal problems
11. Lameness
12. Digestion Problems
13. Neurological conditions
14. Diagnosed conditions: such as arthritis, luxating patella, wobblers, disc disease
15. Problems eating or playing with toys
16. Paresis
17. Sudden back leg paralysis, dragging of back legs
18. Muscle imbalance, atrophy, strains
19. Holding tail to one side
20. Hot spots
21. Injuries from falls, training, etc
22. Stress and many more [7].

Chiropractic technique

There are more than hundred techniques in chiropractic

therapy. The most frequent technique is described as diversified and uses osseous adjustments. An adjustment includes short lever, high velocity controlled thrust done by hand. An activator, a small hand-held instrument, is also used for the same result. The adjustment is aimed at a hypomobile motor unit to restore joint motion. This is followed by application of thrust at the end of joint play (the end of the passive range of motion) with low amplitude of force that is sufficient to release fixations. Occasionally, during the adjustment, a popping sound or "audible" is heard. These are commonly seen in humans than in animals. An audible indicates a drop in intraarticular pressure and is not required for a successful adjustment. The adjustment is highly specific in terms of contact points (spinous, mammillary, or transverse processes), direction, force, depth, and timing [5].

Adjustments when done properly on animals give pleasure to most animals. There are other techniques that do not use osseous adjustments. These are generally non-force techniques that manipulate the dura mater beneath the spinal column, cranium and sacrum. Some techniques are also applied to ligaments, extremity (limb) joints, ribs, and jaw. Modern veterinary chiropractic therapies implement human techniques modified for the standing quadruped. A larger quadruped, such as a horse, can still be adjusted successfully. This is because the area of adjustment is a single motor unit and not the whole animal. An increase in force is required but can be easily achieved by hand. A faster thrust reduces the mass needed to achieve the same amount of force. If the adjustment is done properly, it only requires a relatively low force. Although the horse has a large mass, its nervous system is as sensitive and exquisitely responsive to therapies as that of smaller species. Short-term results can be observed with rough techniques used by lay people and untrained professionals. However, long-term damage to the joints may result from incorrectly applied adjustments. When properly applied, the techniques are perceived as nonthreatening and gentle by both the animal and the observing owner [3]. Research has shown that a little force in the wrong direction can damage a joint [6].

Case management

There is a variation in the frequency of treatments. However, for acute cases, weekly cure may be required. In chronic cases, weekly treatments from 2 to 4 weeks are initially common followed by tapering off the treatment. Maintenance protocols vary depending on whether the patient is an athlete, geriatric, or paediatric, on the severity of the condition and on whether concurrent modalities, such as acupuncture, are used. Some animals require monthly maintenance; others are treated only once or twice each year. Chiropractic is an extremely rewarding modality, because response, in terms of quality of movement and comfort level, is often immediate. Lasting effects are common within 2 or 3 treatments. The concurrent use of other modalities, such as acupuncture, herbs, and chondro-protective nutritional supplements, may lead to more rapid and enduring results [3].

Contraindications

There are minute Contraindications in veterinary chiropractic medicine which includes vertebral or pelvic fractures and spinal neoplasia. Although not a contraindication, skill and diligence must be used with animals that have vertebral cartilage prolapses or that have undergone back surgery.

Conclusion

Veterinary chiropractic does not replace a conventional approach to neuro-musculoskeletal conditions; rather, it is complementary, filling a highly unique niche. However, integrating veterinary chiropractic into conventional practice requires somewhat of a paradigm shift. This involves greater understanding of the hierarchy of the nervous system, new ideas on healing and homeostasis, and new methods of evaluating the biomechanics of the body. Chiropractic is both treatment and prevention. It has much to offer, from improving the quality of life of the geriatric to enhancing the performance of the athlete, and all patients in between. Acquiring expertise in veterinary chiropractic is rewarding and career-transforming.

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