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short communication

Use of ozone and ozonated growth factors in musculoskeletal disorders of the canine species

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Keywords

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Abstract

Symptoms such as pain, lameness, muscle weakness, decreased activity, etc are part of daily practice in veterinary clinics. The standard therapies including anti-inflammatories, analgesics or surgery and others, improve or resolve problems normally, but sometimes the side effects of these therapies prevent their use. On the other hand, their high costs discourage the owner from using them. Ozone treatments in human medicine has been well documented and scientifically corroborated years ago. Good examples of this are the large number of publications and the quality of the specialized conferences. In veterinary medicine we still have a long way to go.

The purpose of this work was to study the anti-inflammatory and analgesic effects of the ozone and of the growth factors platelet-derived with activated ozone in canine species. The animals were divided into two groups; in group 1 were placed animals diagnosed with osteoarthritis, in group 2 were animals with spinal pain or pain in the extremities.

In group 1, the animals were treated with ozone and growth factors and in group 2 with ozone only.In group 1, 85% showed a significant improvement and in group 2, about 93%.This study shows an open door to a whole new world for the application of ozone therapy in veterinary medicine.

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Introduction

Pain is part of life for millions of people and animals. The human species expresses pain with the same signs as animals but also with words. Pain is not always clearly shown in dogs, and it's not infrequent that whenowners and veterinarians see that the patient's activity decreases, they sleep longer, don't want to jump on the couch, don't want to play, don't want to jump, etc, tend to think these are due to age or the result of good training. It is essential that the veterinarian finds these ailments.It is very important to keep good clinical records and detect thepoints of pain that nobody had previously noticed. Pain relief using ozone has been observed in patients with back and neck pain and some cases of herniated disc without significant side effects.[1-3] Additionally to the well documented and immune-modulating oxygenating effects of ozone, the activation of antioxidant mechanisms is found to be one of the main therapeutic effects.[4] Ozone treatments show long anti-inflammatory effects with low toxicity.[5] The purpose of this study was to provide preliminary evidence documenting the use of ozone and growth factors platelet-derived (ozone stimulated) as analgesic agents against different ailments in canines linked to pain and inflammation.

Material and Methods

Two groups of dogs are selected:

GROUP-1.Consisting of 7 dogs between 1-14 years. 57% females, 43% males. All had osteoarthritis in the hips, unilateral or bilateral. The following parameters were used to assess the evolution: Pain, difficulty in rising,jumping, running, coordination, difficulty to sustain balance during urination /defecation, presence of moans or cries. At the beginning, 100% of the patients showed pain on examination, difficulty to stand up and impediment in jumping or running. 57% of patients had difficulty to sustain balance during urination/defecation, moaning and their coordination was changed .Out of the whole group, 30% of the patients moaned.

The treatment of this group consisted of 4 sessions distributed as follows:

In the first session, 5 mL of ozone was applied at a concentration of 8µg/mL to the affected joints and to the painful paravertebral points. 7 days later, 3 sessions started with 2 weeks off in between them . It was executed with the same protocol in all of them – Rich/Poor platelet Plasma (RPPP) was obtained by the usual method, then it wasozonated with a volume of ozone equal to the volume of RPPP obtained at a concentration of 50µg/mL.The ozone was discarded after mixing it for a few seconds and it, the PPRP, was injected into the trochanteric fossa of the affected joint.6-8 Then, hyaluronic acid was injected at a dose of 1mL per joint. Immediately after this, 2 mL to 5 mL of ozone was injectedat a concentration of 8ug/ml periarticularand into the lumbar paraspinal tender points 9-10. In 57% of dogs we did Major Autohemotherapy during the 4 sessions.11-12.

GROUP 2: Consisting of 15 dogs between 2-12 years with pain and / or lameness in front and back limbs and / or spinal pain. Etiology: falls, jumps, bumps and idiopathic. All of them acute presentation, no bone involvement or torn ligaments. After locating the affected areas by careful

examination, trying not to cause pain but detecting the one that already existed, we injected into the painful points 2-5 mL of ozone at a concentration of 8 µg/mL. We repeated the application for 3 to 6 days.

Results and Discussion

After 2-3 days from the first session all of the group 1 dogs showed more activity, and greater desire to go outside. Following the second session, 45% showed a clear improvement, increased levels of activity, decreased pain on examination and they began to want to run. After the third session, the tenderness had gone from 85%, the levels of activity continued increasing in all of them. 70% of them tried to run, jump, and kept their balance better during urination / defecation. After thefourth session, the improvement was evident. Pain on examination had disappeared totally. 85% of the patients run, stood up steadily, poor coordination had improved considerably and the levels of activity and the desire to go outside were normal according to the age of each animal.

In group 2, the pain disappeared in more than half of the cases within 24 h. In the others, except for one case, where pain simply improved, the cure was achieved.

Application of Ozone and Ozonated PRPP are shown to be a powerful tool in the described ailments. It is tremendously gratifying to see how when pain is taken away from an animal it shows all the desire to live. Considering including these advances in our daily practice should encourage all those vets who want to improve and find new ways to helpour patients to increase their quality of life.

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