



MBST - Nuclear Magnetic Resonance Therapy in the Treatment of Osteoarthritis, the Long-Term Follow Up - Case Report

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Abstract

Osteoarthritis is among the most common medical problems. Symptomatic treatment with temporary effect and orthopedic surgery, such as hip's and knee's replacement is still a standard approach and the only choice for many patients. However, this is not solving the problem entirely, regarding the functional ability of the skeleton as a whole, so most of the patients continue to suffer during life. MBST- nuclear magnetic resonance therapy could be a new treatment possibility as a supplement or an alternative to conventional treatments. A number of scientific studies done on the cell culture and animal model confirmed the effect of MBST on proliferation and viability of chondrocytes, as well as osteoblasts with consequent stimulation of regeneration of the cartilage and stimulation of bone formation, while clinical studies demonstrate effects on pain relief in osteoarthritis. However, the problem of reliable evaluation of the treatment effect in osteoarthritis, which is not related only to MBST but treatments in general, is the fact that there is no "in vivo" measurable parameter for objective assessment of the therapeutic effect.

Thus a majority of clinical trials related to the evaluation of the treatment effect of osteoarthritis are based on assessments of subjective parameters, such as pain and mobility, which makes them less objective due to a possible "placebo" effect. Therefore, this "case report", despite the fact that it is "dog case" and only one case can be considered as the valuable evidence in the evaluation of the therapeutic effect of MBST - the nuclear magnetic resonance therapy, because of long-term follow up and the fact that there is no "placebo effect" in dogs.

Keywords: Nuclear Magnetic Resonance Therapy; Osteoarthritis; Pain-Relief Treatment; Hip Dysplasia

Introduction

Osteoarthritis is among the most common medical problems. Complications such as chronic pain and disability significantly deteriorate patients' quality of life, but also present a big public health issue. For many years osteoarthritis has been considered as a consequence of natural aging, the treatment has been symptomatic and prevention ignored. Unfortunately, even today the situation is not much better. Symptomatic treatment with temporary effect is still a standard approach and orthopedic surgery, such as hip's and knee's replacement, is often the only choice for many patients. However, this is not solving the problem entirely, regarding the functional ability of the skeleton as a whole, so most of the patients continue to suffer during life. Despite the recent significant improvements of the knowledge about the skeleton biology which clearly indicate the importance of prevention, it is still neglected as well as the education aiming to increase awareness of prevention.

A certain problem in a clinical evaluation of the skeleton, particularly in the assessment of the treatment effect is the fact

that there is no possibility of measuring bone strength or quality of osteoid, as well as the quality of cartilage. So, there is no "in vivo" measurable parameter for objective assessment of the therapeutic effect of osteoarthritis or osteoporosis. Thus most of the clinical trial is based on "surrogate" parameters or subjective parameters where "placebo effect" cannot be excluded. Because of that, the "Case report" of my dog Moro suffering from severe osteoarthritis due to hip dysplasia and has been successfully treated by MBST - nuclear magnetic resonance therapy for long period of nine years can be considered as a valuable evidence of therapeutic effect of MBST, despite that it is only one case and that it is a dog case. It is well known that there is no placebo effect in dogs. It is also well known that hip dysplasia always causes severe osteoarthritis, in dogs as well as in humans. Nuclear magnetic resonance therapy developed in Germany and patented under the brand name MBST, uses the well-known technology of magnetic resonance, field strengths from 0.4 to 2.35 milliTesla and frequencies 17 to 100 kiloHertz in the magnetic resonance frequency.

Despite the fact that MBST has been used in clinical practice for almost twenty years and that there are solid scientific and clinical evidence of therapeutic effect, MBST is still less known and has not yet become a standard method in conventional clinical practice. Numerous scientific studies on cell culture and animal model confirmed the effect of MBST on proliferation and viability of chondrocytes, as well as osteoblasts, with consequent stimulation of regeneration of the cartilage and stimulation of bone formation, while clinical studies demonstrate effects on pain relief in osteoarthritis and reduction of fracture in osteoporosis [1-14]. Regardless of that, long term follow up studies are particularly important, and evaluation of therapeutic effect in dogs is more reliable than in humans due to the fact that there is no placebo effect in dogs.

The Story of Moro

Moro is a Belgian shepherd, Mallinois. Belgian shepherds are known as police dogs, easy to train for various tasks. They are active, perfect watchdogs, very loyal, protective, sometimes stubborn and physically very capable. When Moro turned five, he started to limp. At first, it was quite subtle. Here and there he would limp on his hind leg. After lying for some time he had difficulties standing up on his hind legs showing signs of stiffness in the hips. The greatest problem was climbing the stairs. Since his condition was deteriorating quickly in a short period of time, an RTG scan was done which confirmed hip dysplasia with severe osteoarthritis, although he was only 5 years old. Then Moro has been treated by MBST - nuclear magnetic resonance, a program for osteoarthritis, adjusted for the use in veterinary medicine. Two months after first treatment cycle of 7 days, there was hardly any improvement. However, after a third month, Moro started getting rapidly better. In the next few weeks, he started running and jumping, as if he was never diagnosed with hip dysplasia and severe osteoarthritis. It seemed almost unbelievable. He didn't have any problem even after he has been exposed to intense physical activity. Moro was again a happy dog. He could undergo physical activities which have only a few months ago presented him a great problem and pain.

A year and a half after the first MBST cycle, he again started to feel signs of deterioration. That was expected due to the fact that hip dysplasia remains as a permanent cause of osteoarthritis. But, very soon after repeated MBST cycle, Moro was again running without any problems. Nine years have gone since the initial diagnosis when hip dysplasia and severe osteoarthritis have been confirmed. Today, Moro is fourteen years old. Once per year he undergoes MBST treatment and thankfully, he is still a happy dog moving without pain and without any problems, which definitely cannot be accidental.

Discussion

Despite the fact that it is only one case and that it is a "dog case", it can be considered as the valuable evidence in the evaluation of the therapeutic effect of MBST - the nuclear magnetic resonance

therapy, because of the long-term follow up and the fact that there is no "placebo effect" in dogs. How to otherwise explain the fact, that a dog with a hip dysplasia and consequent severe chronic osteoarthritis is running without pain and lives a normal life, even in deep age and after a long period of nine years since the diagnosis was confirmed, if not by the effect of MBST.

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