Clinical Efficacy of a Knee Three Compartment Arthritis Pain Palliative Treatment with Electromagnetic Fields

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BACKGROUND

The prevalence of knee arthritis increases with age. Knee arthritis appears in approximately 2.5% of the population between the ages of 45 and 54, and in 17% of individuals over 70. It is characterized by femorotibial or patellofemoral (or both) articulation arthritis. It is the most common cause of knee pain after age 50. The clinician and radiologist may note joint space narrowing with marginal osteophytes, subchondrial sclerosis and geodes.

Risk factors include obesity, trauma, some contact sports and some professions that require continuous knee flexing while carrying heavy objects.

Pain is the primary symptom of arthritis. Severe pain may limit ones ability to perform daily activities.

Generally, knee arthritis treatments have consisted of analgesics first, if those do not provide benefit, then non-steroid anti-inflammatory infiltration is performed, if the patient experiences no effect from the NSAIDS, then steroid anti-inflammatory type medications may be used. If the clinical situation does not respond to conservative measures, surgery is generally the next step which involves either osteotomy or joint prosthesis.

OBJECTIVE

To demonstrate that electromagnetic fields (EMFs) by using the Resonator may provide pain relief for arthritic knees.

METHODS

- double-blind, randomized, placebo controlled
- Multi-Center
- Parallel group comparison
- 86 Subjects completed study (47 treated, 39 placebo)
- Intervention: One treatment as follows:
- Treated group: 1 hour treatment per affected knee
- Placebo group: 1 hour simulated EMF per affected knee
- Pain was evaluated using the Visual Analog Scale (VAS)
- VAS after walking 50 meters was recorded at admission, pre-treatment, immediate post treatment and 1 week post tx.
- Control visit one week post treatment
- "Rescue" drug of Paracetamol (500mg PO), max dose 3 pills daily post treatment if needed
- Rescue doses consumed and rescue initiation day were recorded

CONCLUSIONS

The application of EMF in knee three compartment arthritis pain treatment achieves a substantial reduction of pain. This reduction is immediate, persists one week later, and is clinically relevant and statistically significant. P< .001

The application of EMF in knee three compartment arthritis pain achieves throughout the week following treatment a reduction in the use of rescue therapy as well as a delay in the number of days before such therapy is initiated; they are both statistically significant. P< .05

The application of EMF in knee three compartment arthritis pain palliative treatment produces no adverse effects, either during the treatment or in the week following treatment.