Severe Long-term Knee Pain and Limp Mitigated with Biotransducer

Case Study of Patient with Possible Ahlback Disease

Data provided by Ali Al-Tubaikh, MD
Sabah Hospital, Kuwait City, Kuwait

severe right-sided knee pain

71-year-old diabetic patient with hepatitis C and severe right-sided knee pain that hindered his gait

history of right knee osteoarthritis due to a fracture suffered 20 years ago

Oct. 14, 2014 initial MRI images, show severe osteoarthritis, complete cartilage loss in the medial femoral condyle, osteoarthritic changes, and marked edema in the medial femoral condyle, suspicious of “Ahlback disease” (spontaneous osteonecrosis of the knee).

Tennant Biotransducer® and Biomodulator® Therapy – 30 minutes daily, 4 weeks

After discussing therapeutic options with the patient, which in his case are limited due to his medical condition and age, the option of pulsed electromagnetic frequency therapy using Tennant Biotransducer®, used in conjunction with the Tennant Biomodulator®, was suggested as a free-of-charge trial.

Beginning Nov. 3, 2014, the patient was treated with daily, in 30-45 minutes sessions.

The patient reported reduction in pain and swelling of the knee and reduction in limping during the period of therapy.

Results – Pain Relief

Reduction in edema, reappearance/thickening of cartilage

Dec. 2, 2014 MRI images show an 80% to 90% complete resolution of the medial femoral condyle edema and the normal bone marrow signal return almost 90% to normal.

The lack of significant changes in the tibia is simply because the position of the Biotransducer was concentrated for almost one month mainly over the medial femoral condyle region, the focus of pain. The patient is scheduled for another one-month therapy trial with concentration over the tibia, and another MRI scan is scheduled for the end of December 2014.

Tennant Biotransducer® Technology

A transducer is a device that converts one type of energy to another.

The Tennant Biotransducer® uses a combination of technologies including actuation, piezoelectricity, semi-conduction and modulation to create a field that will transmit the frequencies of the Tennant Biomodulator®, a microcurrent device, past the skin and into the tissue more efficiently.

The Biotransducer may be used over injured tissue, an acupuncture point or near difficult-to-access tissue. This hand-held, no-touch unit plugs into the accessory port of the Tennant Biomodulator®.

When powered by the Biomodulator, it addresses the underlying cause of pain and inflammation without drugs or invasive medical procedures. It does not need skin contact and is able to transmit voltage and frequency through clothing.

Conclusion

Each of the “before” and “after” MRIs show reduction in edema is apparent. In addition, the reappearance/thickening of cartilage is visible.

The differences revealed in the before and after MRIs following one month of non-invasive, drug-free treatment using the Tennant Biotransducer® in conjunction with the Biomodulator can be objectively measured, revealing dramatic, measureable changes in the structure and tissue of the knee.

Dr. Al-Tubaikh also reports the male patient received immediate decrease in pain.

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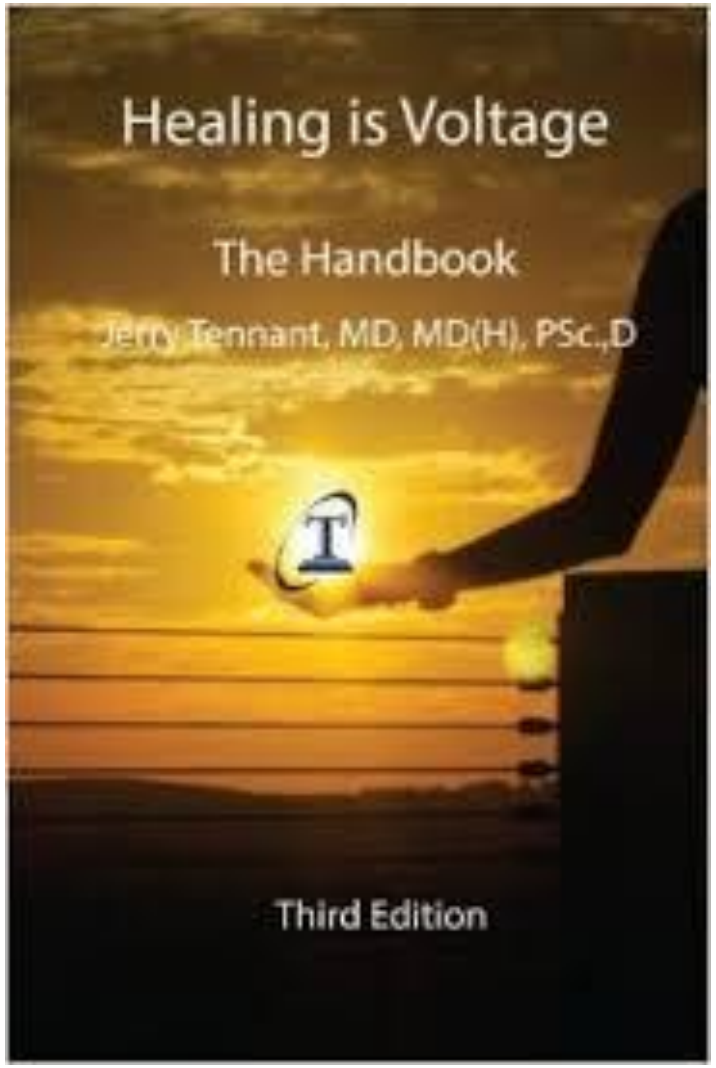
Dr. Jerry Tennant

- Teaches courses, presents at medical conferences, and continues to see patients at the Tennant Institute for Integrative Medicine.
- Authored several books including *Healing is Voltage* Handbook (2010) and *Healing Eye Diseases* (2011),
- Interviews can be seen on Healing Quest news magazine televised on PBS.



Dr. Jarrah Ali Al-Tubaikh

- internist, surgeon and currently well-regarded radiologist, Specializes in radiological diagnostics of rare disorders
- trained in Germany (LMU Klinikum Grosshadern, Munich),
- Sabah Hospital, Kuwait City, Kuwait.
- German Board of Radiology
- several publications to his credit, including the texts
  - *Congenital Diseases and Syndromes: An Illustrated Radiological Guide* (Springer; 2009) and
  - *Internal Medicine: An Illustrated Radiological Guide* (Springer; 2010).

Sees rare and difficult cases referred to him to determine if the source of their pain can be identified by X-ray.

Tennant Biomodulator™ Device
drug free, non-invasive pain relief

Used with patients and co-workers at his hospital as well as with friends, all of whom suffer with severe unresolved pain symptoms

Word of the “miracle” treatment spread

Takes images before and after treatment to document changes that have taken place after Biomodulator treatment.

“It is hard to argue against radiological images because the evidence is clear; it is not placebo anymore.”

Tennant Biomodulator™ Technology

Produces unique, pulsed high-voltage, biphasic damped sinusoidal microcurrent electro-stimulation designed with proprietary set of frequency patterns developed by Jerry Tennant, MD.

FDA-cleared for the symptomatic relief and management of chronic, intractable pain and adjunctive treatment in the management of post-surgical and post-traumatic pain.

Uses different neural paths and a different wave form than a traditional TENS device. Rather than just masking pain, the Biomodulator targets C-fibers of the nervous system (most TENS devices work on the A- and B-fibers). C-fibers stimulate the production of neuropeptides and other regulatory peptides, which the body uses to heal itself.[5]