

INFLAMMATION EFFECTS ON VASCULAR PATHOLOGY AND CHRONIC DISEASE: PEMF THERAPY APPLICATION IN INTEGRATIVE MEDICINE

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Introduction

Western medicine often treats symptoms of diseases with drugs and surgery while leaving underlying causal conditions untouched. Conventional medical treatment has classified over two hundred different ‘itis’ conditions, with over a dozen different types of medical specializations that treat these individually and symptomatically (Pai, 2016). Lowering inflammation through dietary and lifestyle changes along with use of natural anti-inflammatories is important, but perfusion of these factors has been limited due to chronic vascular pathology. Pulsed Electromagnetic Field (PEMF) Therapy has shown positive results in improving microcirculation, which is a key part in resolving chronic vascular pathology and chronic disease.

Inflammation

Inflammation is the triggering mechanism that makes many diseases worse (e.g., pulmonary diseases, cancer, cardiovascular diseases, Alzheimer’s, diabetes, arthritis, autoimmune and neurological diseases).

Inflammation/flame/fire results in controlled and uncontrolled “itis” conditions of which there are over 200, e.g., Conjunctivitis, Rhinitis, Sinusitis, Gingivitis, Pharyngitis, Thyroiditis, Bronchitis, Esophagitis, Gastritis, Colitis, Vaginitis, Prostatitis, Arthritis, Bursitis, and Dermatitis. Symptomatic treatment of the “itis” conditions includes, for example, eye drops, nose sprays, mouthwash, hormones, inhalers, acid blockers, stool modifiers, antimicrobials, pain pills, and skin creams. These only treat the symptoms but not the underlying triggering mechanism of inflammation.

Potential sources of inflammation include: Food factors (grilled, fried, animal proteins, dairy; environmental pollutants and toxic agents (industrial chemicals, fuel, smog, heavy metals, chemotherapy), cigarette smoke; infections (bacteria, parasites, viruses); stress (low pH, hypoxia); ultraviolet radiation; alcoholic beverages.

Acute inflammation may be helpful for most conditions such as having a fever but chronic inflammation leads to chronic diseases such as osteoarthritis (hypertrophy and spurring of bone and erosion of cartilage); heart disease where fatty material deposits in vessels responding to inflammation thereby leading to narrowing and blocked arteries; Alzheimer’s disease where protein plaques deposit in the brain causing language and memory impairment, and Crohns/ulcerative colitis having chronic inflammation to the colon leading to pain, bowel dysfunction and bleeding.

Peripheral Neuropathy

An integrative medicine evidence-based approach to peripheral neuropathy (neuritis) is now availing itself of PEMF Therapy (Pai, 2016). Neuritis is a common neurologic disorder resulting from damage to peripheral nerves. Its causes include diabetes/glucose intolerance (40-60% in 25 years), Rx drugs

(chemotherapy), toxic trauma (chemicals, ETOH), mechanical injury, nutritional deficiencies, infections, cancer, etc. Among these persistent hyperglycemia, oxidative stress, inflammatory, immune and microvascular mechanisms are important factors.

Endoneural vascular insufficiency

Endoneural vascular insufficiency is characterized by decreased NO production, impaired endothelial function, impaired Na⁺/K⁺-ATPase activity, and homocysteinemia. Ischemia related to endoneural and epineural vascular changes triggers nerve damage by thickening of blood vessel wall, which compromises endoneural blood flow and results in microvascular impairment. There is a decrease in peripheral perfusion in nervous tissue and skin (indicative of microvascular changes).

Improving inflammatory conditions

A vicious feedback cycle is created by chronic insults of inflammation coupled with a weak immune system: Peripheral neuritis triggers more inflammation thus reducing vascular flow, normal physiological functions, immune repairing mechanisms and increasing pain and dysfunction.

Solutions include eating an anti-inflammatory, plant-based diet; removal of food sensitivities (IgE, IgG4); and, reduction of inflammation through use of patented synergistic natural anti-inflammatory formula (i.e., Bosmeric-SR). Immunological response can be improved through the use of patented immune supportive therapy (i.e., Glucan 300 and Vitamin D3) and nerve conduction improvement from Benfotiamine, Alpha lipoic acid, and Acetyl-L-Carnitine.

With above recommendations, Peripheral Neuritis improves physiologically more than standard pharmacotherapy (Pai, 2016) but the full physiological improvement is directly related to a lack of effective delivery of phytonutrients, antioxidants, natural anti-inflammatory agents, immune cells and oxygen to these damaged and dysfunctional areas. PEMF therapy improves the microcirculation for all of the above to work optimally and thus is integral in optimizing outcomes.

PEMF Therapy Studies on Vascular Pathology and Chronic Diseases

PEMF Therapy studies have demonstrated significant improvement in microcirculatory characteristics such as capillary perfusion, venular flow or oxygen utilization (Bohn, 2013). By increasing microcirculation the penetration and increased efficacy of medications used to treat peripheral neuropathy improves (Bernát, 2013).

Various case-controlled, pilot- and placebo-controlled studies have shown the benefits of improved microcirculation including blood glucose response and utilization in organ tissue, immune response, physical rehabilitation response, wound healing, pain-free walking due to peripheral arterial disease, and decreased pain and neuropathy. (Klopp, 2013; Balogh, 2013; Rozsos, 2013; Miléder, 2013; Naudé, 2013; Kovács, 2013; Bernát, 2013).

A study (Csécsei, 2013) of 165 patients with difficult PN not well-controlled with medications who underwent five weeks treatment using a PEMF device daily for 25-30 minutes reported results of visual scale (VAS) with a 61% decrease in pain, improvement of the motor performance (25%), elimination of the associated depression (32%), and a significant improvement in the quality of life (75%).

General PEMF Therapy Recommendations

Hydrate prior to therapy session; better results with filtered and structured water (Pai, 2016). Medications/supplements should be administered one hour prior to PEMF Therapy to improve utilization and efficacy. Start low at lower intensity first. More intensity is not better but more frequency treatments. Twice daily or a few times weekly is generally better than a one-time session at higher intensity.

More chronic or severe diseases require a higher intensity and more frequent sessions. PEMF Therapy is considered synergistic before float tank therapy, massage, osteopathic and visceral manipulation and during and after acupuncture. For long-term PEMF Therapy, step down a few settings and increase weekly. By going back to baseline settings, one will be able to prolong benefits and prevent the possibility of tolerance.

PEMF Therapy recommendations (for Physicians who are licensed to treat patients with cancer)

Avoid full-body use during days of chemotherapy (wait one to two days after half-life is eliminated). PEMF Therapy at lower intensity than usual may be used for local area of concern with spot applicator with patients while on chemotherapy and during radiation therapy and is helpful post-radiation to regain capillary function and improve healing response.

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