



Review article

Energy Medicine in the Management of Chronic Orofacial Pain-A Review

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ABSTRACT

Energy medicine is one of the five domains of “Complementary and Alternative Medicine” (CAM) identified by the National Center for Complementary and Alternative Medicine (NCCAM) in the United States. This article provides an up-to-date review of the efficacy of energy medicine in the management of chronic orofacial pain alone as there is wide availability of traditional successful interventions for acute pain. Dentist should be aware of energy medicine, safety & its effectiveness in the management of chronic orofacial pain.

KEY WORDS: Energy medicine, chronic orofacial pain, Complementary Alternative Medicine (CAM)

INTRODUCTION

Energy medicine is one of the five domains of “Complementary and Alternative Medicine” (CAM) identified by the National Center for Complementary and Alternative Medicine (NCCAM) in the United States[1]. It has found its application in dentistry in terms of Chronic Orofacial Pain. Chronic pain is now recognized as a complex disorder. It is influenced by biological factors and by a range of psychosocial factors, including emotion, psychological distress, family, work environment and cultural background. The

definition and perception of and appraisals of its control are variable [2].

In the IASP publication on classification, Merskey describes chronic pain as “a persistent pain that is not amenable, as a rule to treatments that is based on specific remedies or to the routine methods of pain control such as non narcotic analgesics”[3]. Patients suffering from chronic pain usually seek medical care with the hope of obtaining a specific diagnosis and curative treatment. When a curative treatment is not available, patients often expect to be given analgesics. Which, while effective in relieving acute pain in the short-term, remain

controversial in their utility for treating chronic pain and their efficacy, at best, marginal [4].

Managing or treating chronic pain aims to prevent medication misuse or abuse, increasing function, reducing the use of allopathy medicine and practice of alternative medicine. The complementary and alternative medicine (CAM) or unconventional or integrative medicine has been defined as “diagnosis treatment and/or prevention which complements mainstream medicine by contributing to a common whole, satisfying a demand not met by orthodoxy, or diversifying the conceptual frameworks of medicine”[5].

Classification of alternative medicine[6]:

National Centre for Complementary and Alternative Medicine has developed one of the most widely used classification systems for the branches of complementary and alternative medicine. It classifies complementary and alternative therapies into Alternative Medical system, Mind Body interventions, Biologically based therapies, Manipulative and Body-based therapies and Energy medicine. Energy medicine: is a domain that deals with putative and verifiable energy fields.

Advantages of Energy Medicine[7]:

1. It serves as a complement to the usual methods and sometimes shows better results than the conventional approach.
2. The body has energy storage point at specific regions and energy medicine consists of activating such points to heal the body by activating and restoring the energy reservoirs which are weak or out of sync due to illness and disease.
3. Treatment by energy medicine involves restoring the flow of energy to the system and is characterized by the self help and self care. Usually it is done by massaging, pinching, poking and prodding the energy reservoir to initiate flow, maintain balance and institute harmony in the energy system. This method is much better than the conventional ways of drug therapy as the incidence of side effects is less.
4. Conventional approach to a prevailing illness would be diagnosis & treatment whereas in energy medicine the approach involves doing a thorough check over the individual's body functioning and arriving at the energy systems in the body where the flow of energy has been blocked or disturbed due to illness.

Uses of Energy Medicine in Dentistry[8]:

It may be used in the treatment of Temporomandibular Joint arthritis, any inflammatory oral disease, myofascial pain dysfunction syndrome, trigeminal neuralgia, viral disease, drug over dosage & fractures as a supplement or complimentary to traditional methods. Energy medicine treatment modalities which are used in dentistry for the management of chronic orofacial pain include Transcutaneous Electrical Nerve Stimulation(TENS), Pulsed electromagnetic field, Acupuncture, Laser therapy, Vibroacoustic therapy etc.

Transcutaneous Electrical Nerve Stimulation (TENS)

A number of energy devices emit energetic frequencies of stimulating healing and pain relief that can be very useful for chronic orofacial pain conditions. One of the most well-known of these devices is the Transcutaneous Electrical Nerve Stimulation unit also known as TENS unit, and was developed by pioneering holistic physician and researcher C. Norman Shealy. The TENS Unit is a small, portable device that transmits varying electrical frequencies to areas of pain via stimulation of large diameter afferent peripheral nerve fibers & subsequent interruption of pain transmission at the dorsal horn due to gate control mechanism [9].

TENS can also block pain signals and may stimulate endorphin production, enhancing feelings of overall well-being. In addition, TENS Units can be used as a form of self-care by patients, once they are taught how to use them, making them especially convenient. Among the pain conditions for which research shows TENS Unit to be particularly effective are neuromuscular pain, myofascial pain, trigeminal neuralgia, pain following surgery, and various injuries, including sports injuries causing derangement of joints [10].

Acupuncture

Acupuncture involves penetration of the skin by thin, solid, metallic needles that are stimulated either manually or electrically. Today, acupuncture in management of postoperative dental pain is scant, earlier reviews have identified acupuncture therapy is commonly used for pain control throughout the world, although the putative mechanisms are complex and unclear. In

dentistry it is used to treat chronic myofascial pain. The evidence of acupuncture and myofascial pain (in which pain occurs in sensitive areas, known as trigger points, in the muscles) is mixed. Some literature reviews have found the evidence promising, but another review indicated that “needling therapies” for myofascial trigger point pain were not more effective than placebo. Although recent data on acupuncture for postoperative dental pain are scant, literature reviews based on earlier evidence has identified acupuncture as a promising treatment for dental pain-especially pain following tooth extraction[9-13].

According to Melzack R and Wall P, The puncture needle blocks the nerve impulse transmission (suppressed the thinner “nocī”-R fibers) by irritating the thicker nerves fibers of the skin receptors. The second hypothesis concerns the neuro-humoral mechanism of endogenous Enkephalin and Endorphin secretion (substances with strong analgesic and sedative effects as proposed by Desai et al)[14].

Laser Therapy:

Clinical Applications of Laser in Orofacial pain

Myofascial pain dysfunction syndrome (MPDS) is the most common reason for pain and limited function of the masticatory system. The effects of low-level lasers (LLTs) in controlling the discomfort of patients have been investigated often with several studies have showing use of 830-nm wavelength laser in several appointments reduced or eliminated myofascial pain following use of LASER [15,16].

Ibuldu, Irnich have reported significant pain reduction in a number of conditions such as myofascial pain syndrome, chronic neck pain after laser application[17,18]. In a study by Kulekcioglu, semi-conductive (diode) gallium arsenide (GaAs) laser (wavelength: 904 nanometers, mean output power: 17 mW) was used in treatment of temporomandibular disorder. The patients were treated with fifteen sessions of low-level laser concurrent with daily exercise program. Active and passive maximum mouth opening, lateral motion and number of tender points were significantly improved in patients who underwent laser therapy compared with placebo group, although pain relief was observed in both groups[19]. Altafini et al. reported no pain

in their patients up to 3 months after laser therapy. Furthermore, effectiveness of laser acupuncture has been confirmed in decreasing myofascial pain[20].

Effect of Low-Level Laser on Temporomandibular Joint Disorder Pain

Kulokciglu et al, showed decrease in pain related to temporomandibular joint disorders in 35 patients. [19] In another study pain decreased significantly in patients suffering from temporomandibular joint disorders, when exposed to 785 nm laser compared to the placebo group. They also had no pain during the 6 month follow-up period[21].

Emshoff et al, assessed the effectiveness of lowlevel laser therapy (LLLT) in the management of temporomandibular joint (TMJ) pain in a random and double-blind research design. TMJ pain patients received active LLLT (Helium Neon, 632.8 nm, 30 mW) or sham LLLT. At the 8 week point, Inter-group improvements of TMJ pain were present for TMJ pain during function, for both the active and sham LLLT groups. Inter-group differences were not highly evident. They concluded that LLLT was not better than placebo at reducing TMJ pain during function[22].

Vibroacoustic Therapy

It is a technology that uses acoustic (sound) energy in the form of micro-vibrations to reduce pain. VS (Vibro Acoustic stimulation or application of micro vibration in sound frequency) is one such Complementary and Alternative Medicine modality that has been shown to be effective as a pain reduction therapy for acute and chronic musculoskeletal pain.

There are three major mechanisms which can produce such effect; 1) Direct vibratory analgesic action; 2) Higher temperature in application area creates increased blood flow, an anti-inflammatory effect and improves joint flexibility. 3) Enhanced synovial fluid production and cartilage regeneration.

VS action is similar to the Transcutaneous Electrical Nerve Stimulator (TENS) except for the type of energy used. TENS uses electrical energy while VS uses acoustic energy. When compared to high or low frequency TENS, VS at 20Hz, 100Hz, 200Hz, investigators found VS to be just as effective or, in some patients, to be more

effective than TENS in reducing chronic musculoskeletal or orofacial pain in 731 patients (135 suffering from acute musculoskeletal or orofacial pain and 596 patients suffering from chronic musculoskeletal or orofacial pain) [23]. Dual stimulation (TENS and VS combined) alleviated pain in more cases than TENS or VS alone, and had a more long-lasting effect [24].

CONCLUSION

Complementary and alternative medicine in dentistry includes various treatment modalities, many procedures of which are under scientific investigation to determine their efficacy in relieving pain. Dental patients request CAM therapy in an attempt to save money and to prevent invasive procedures. The Alternative Medical Systems are methods of alternative therapy different from Conventional/Western medicine.

Mind-Body Interventions are methods of affecting body functions using prayer, meditation, mental imagery and creativity. Biologically Based Therapy is the use of substances found in nature to promote healing and wellness. Manipulative and Body-Based Methods utilize the manipulation and/or movement of the body to manage/treat for pain and for wellness. CAM procedures may eventually become a standard practice after scientific verification of efficacy.

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