



Case Studies

Neural Therapy for Pain Management

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Abstract

Neural therapy is an injection technique that stimulates healing of tissues and repair of autonomic nervous system dysfunction. Neural irritation leads to a disturbance in circulation to tissues and unstable resting cellular membrane potentials. The goal of neural therapy is to resolve neural irritation, reduce interference fields, normalize resting cellular membrane potentials and restore autonomic nervous system function. Neural therapy is presently used by an estimated 50% of all medical practitioners in Germany to treat a wide range of conditions and is relatively a new treatment modality in USA. Neural therapy offers an efficient and effective modality for treating chronic pain conditions as well as other chronic and acute pathologies.

Introduction

Pain is the most common condition for which adults seek alternative and natural therapy. Approximately 36% of the United States population suffers from chronic pain. According to a report released from the Institute of Medicine in 2011, the USA annual costs for chronic pain, including treatment and loss of productivity, is estimated to be \$560-635 billion per year [1]. Neural therapy, originally developed by German physicians Drs. Ferdinand and Walter Huneke in the early 1900's, offers an effective pain therapy which should be considered in order to reduce annual healthcare costs related to pain management [2].

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What is Neural Therapy?

Neural therapy is a specific injection technique used in the treatment of chronic pain and illness that stimulates healing of tissues and repair of autonomic nervous system dysfunction. According to Dr. Huneke, any type of pain, illness or organ dysfunction is always preceded by a disturbance in the autonomic nervous system. Neural irritation causes autonomic nervous system dysfunction and leads to a disturbance in circulation to tissues and unstable resting cellular membrane potentials. The accumulation of cellular debris, tissue congestion and neural irritation results frequently in pain as well as an overall impairment of the healing process [2,3].

The goal of neural therapy is to restore the autonomic nervous system to normal physiologic function via resolving neural irritation, reducing interference fields, normalizing resting cellular membrane potential and regulating unstable electrical membranes. Neural therapy utilizes local anesthetics, known to restore membrane potentials in nerve cells, to restore stability to cellular membranes of the nervous system. The restoration of membrane potential has been shown to last days to weeks, or even years longer than the relatively short action of the local anesthetic [4]. Once a nerve membrane has chronically lost its resting electrical potential of -80 mV and is chronically hypo- or hyper-polarized, the ion pumps of the nerve membrane become dysfunctional. Not only does the cell become electrically paralyzed, but the metabolism of the cell becomes impaired. Waste products begin to accumulate in the cell, which perpetuates the abnormal membrane potential. Injecting local anesthetic and restoring the membrane potential for 30 minutes to 1 hour restores function to the cell's ion pumps and allows toxic waste to be eliminated [4].

Neural therapy utilizes a concept of "interference fields", or local tissue irritations with potential to cause destabilization of the autonomic nervous system (or dysautonomia) either locally or systemically. Interference fields can develop in any part of the body that has been traumatized or ill. Pathologic reduction or increase in membrane resting potential results in a reduced threshold of excitation within the affected tissue. The result is chronic low-grade excitation, impaired intracellular metabolism and ion exchange and persistent inability to maintain a normal resting membrane potential. The specific interference field for which neural therapy is best known is that of a surgical scar, however other commonly treated interference fields include teeth, internal organs, autonomic ganglia, nerve entrapments, skin puncture sites, irritated ligaments and tendons, fractures (delayed or non-union), periosteal contusions and sites of somatic dysfunction [2].

The Neural Therapy Technique

Neural therapy technique involves injecting 1% procaine or 1% lidocaine without epinephrine subcutaneously. Often, homeopathic solutions, European biological medicines and/or European drainage remedies are mixed with the anesthetic solution to potentiate its healing effect. Injections are made directly into an interference field, except in the case of segmental therapy in which subdermal injections

are made in a segmental pattern overlying a suspected organ site of interference. Other, more technical injections used in neural therapy include injections into interference fields located at autonomic ganglia including cervical sympathetic ganglia, ciliary ganglia and sphenopalatine ganglia [2].

The most important aspect of neural therapy is to identify the areas of injection. Often the area of pain is not the same as the area of dysfunction or injection. The area of injection is often the interference field, which acts as a hindrance to the autonomic nervous system regulation. Various techniques, including Autonomic Response Testing (ART), may be used to identify the interference fields to be injected (Table 1).

S. No	Interference fields include
1	Internal, external and emotional scars
2	Nerve root ganglions
3	Dermatomes
4	Areas of inflammation or infection
5	Trigger points
6	Dental foci
7	Current or old site of foreign body
8	Skin region over a particular organ

Table 1: Interference Fields.

Neural Therapy in the Literature

A prospective study performed in 2013 evaluated the effects of neural therapy versus physical therapy on level of pain, disability, quality of life and psychological status in 60 patients with chronic low back pain. Physical therapy consisted of a program applied five times a week for 3 weeks that included superficial heating with hot packs, deep heating with ultrasound, and analgesic stimulation with Transcutaneous Electrical Nerve Stimulation (TENS) to the lumbar region. In addition, patients in the physical therapy group received an exercise program that included mobilization, stretching and strengthening exercises. Neural therapy patients were treated for a total of five sessions over the course of three weeks, with local anesthetic injection of 1:1 lidocaine and saline, as procaine is not available in the country of study. The researchers concluded that patients in the neural therapy group had equal improvement to the physical therapy group with respect to pain, quality of life, physical activity, depression and anxiety. They also found that energy level and social isolation subcategories of quality of life improved only in the neural therapy group [3].

A case report recently described the successful treatment of Bell's palsy after 6 sessions of neural therapy over the course of 4 weeks. Following treatment, the patient had normal, symmetrical function in all areas without recurrence of symptoms [5].

The effectiveness of neural therapy on 115 patients with knee pain was described in an Italian study published in 1998. Their results showed a 91% improvement in knee pain within one month and 65% improvement within 3 months. The researchers concluded that neural therapy was very effective in treating painful diseases of the knee [6].

The efficacy of neural therapy compared to acupuncture for low back pain was evaluated in a 2003 Italian study. After analyzing the

data from 256 patients, the researchers in this study concluded that neural therapy was slightly more effective than acupuncture in relieving low back pain [6].

A case series study evaluated the efficacy of neural therapy in 280 chronic pain patients who had been unresponsive to all evidence-based, conventional medicine measures as well as various complementary treatments over a long period of time. Of the 280 patients, 15% reported no pain after one year of neural therapy treatment, 45% reported marked improvement, 19% reported slight improvement, 21% reported no change and 0.4% reported worsening of symptoms [7].

Which Conditions May be Treated with Neural Therapy?

According to clinical experience, neural therapy may be used to treat a multitude of conditions. A list of conditions treated by neural therapy may be found in table 2.

Case Studies

Case #1: Migraine headaches

A 51 year old female with recurrent weekly migraines which were debilitating for the past 6 months sought out neural therapy from our clinic. She was experiencing severe frontal and temporal headaches along with severe photophobia and nausea. The pain was unbearable and debilitating. After one neural therapy injection using 1% procaine with homeopathic Spigelon solution of the crown of the head and of the para-cervical muscles, the patient's migraine headache resolved immediately without further re-occurrence.

Case #2: Low back pain

A 58 year old police officer with debilitating chronic low back pain came to our office requesting alternative pain therapy. After three back surgeries, a number of cortisone injection, physical therapy and acupuncture he was still unable to stand up straight due to severe pain. He used a cane to walk and had difficulty walking, sitting and moving. Physical exam revealed a vertical 4-inch thickened surgical scar extending from L1 spinous process to sacrum. Lumbar range of motion was limited to 10 degrees flexion and limited lateral flexion with severe pain. A course of weekly neural therapy injections using a solution of 1% procaine, Traumeel and Lymphomyosot for 6 weeks into the lumbar surgical scar was performed. By the end of 6 weeks, his pain had resolved by 90% with full restoration of lumbar range of motion. He was now able to walk, stand up straight, sit and function without any pain. After 5 years, his low back is still pain-free with mobility restored.

Case #3: Adhesive shoulder capsulitis

A 68 year-old male with right shoulder adhesive capsulitis (frozen shoulder) seeks alternative therapy to improve range of motion of his shoulder. Physical examination reveals minimal range of motion of the right shoulder, positive drop test, pain and weakness with resisted abduction. Further examination revealed right submandibular lymphadenopathy. After two neural therapy injections of the right supra-spinatus muscle, right stellate ganglion, paracervical muscles trigger points to the right of C4-C6, and the right rhomboid muscle trigger point, the patient's frozen shoulder improved with 60% restoration of the range of motion and 70% resolution of pain. A third neural therapy

injection of the right wisdom tooth cavitation led to a complete resolution of the shoulder pain and the complete re-establishment of its range of motion.

S. No	Conditions Clinically Treated by Neural therapy
1	Chronic and acute pain
2	Migraines
3	Headaches
4	Neck and Back pain
5	Musculoskeletal Sprains and Strains, Tears
6	Bone pain
7	Arthralgia/Arthritis
8	Cardiovascular disease
9	Hypertension
10	Arrhythmia
11	Gastrointestinal Disorders
12	IBS, IBD, Abdominal Pain of unknown origin
13	Chronic appendicitis
14	Allergic Gastroenteritis
15	Cholecystitis
16	Chronic Pancreatitis
17	Acute and chronic infections
18	Pyelonephritis
19	Pharyngitis
20	Hepatitis
21	Sinusitis
22	Pelvic/Gynecological disease
23	Pelvic Inflammatory Disease
24	Dysmenorrhea
25	Irregular Menstruation
26	Acute and chronic infections
27	Pyelonephritis
28	Pharyngitis
29	Hepatitis
30	Sinusitis
31	Pelvic/Gynecological disease
32	Pelvic Inflammatory Disease
33	Dysmenorrhea
34	Irregular Menstruation
35	Menopausal Symptoms
36	Ovarian Cysts
37	Endocrine Disorders
38	Thyroid conditions
39	Adrenal disorders

40	Pituitary dysfunction
41	Neurological disease
42	Neuralgia/Neuritis
43	Radiculopathy
44	Post-herpetic Neuralgia
45	RSD (Reflex Sympathetic Dystrophy)
46	Neuropathy
47	Dizziness/vertigo
48	Tinnitus
49	Lymphatic conditions (lymphadenopathy, lymphoedema)
50	Psycho- emotional conditions (anxiety, depression, phobias)

Table 2: Conditions Clinically Treated by Neural therapy.

Conclusion

In conclusion, neural therapy can be an effective treatment for chronic and acute pain, especially of the musculoskeletal origin. Because neural therapy is thought to re-establish the function of the autonomic nervous system, reduce neural irritation and cause a break-down of scar tissue, neural therapy not only addresses the pain as the end-result of dysfunction but also focuses on alleviating the physiological sources of pain.

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