The Professional Bulletin of Hospital for Special Surgery

Focus: Integrative Pain Management

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As part of Hospital for Special Surgery’s Education Division, the Professional Education Department provides information to health care professionals through a variety of medical education programs, including continuing medical education (CME) lecture series, conferences, and symposia. The department is dedicated to providing state-of-the-art information in orthopaedics and rheumatology to primary care physicians, subspecialists, managed care groups, community-based hospitals and associated health professionals.
Medication Plus Meditation: A New Protocol for Pain Management

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In 1967 Dr. Herbert Benson, a professor of medicine at Harvard Medical School measured the vital signs of subjects in a meditative state. He found that they used 17% less oxygen, lowered their heart rates by three beats a minute and showed changes in their brain waves. This began a cascade of studies that indicate that meditation - often as an adjunct to medication — may have a role in medical care, including the management of painful conditions such as arthritis, fibromyalgia, headaches, irritable bowel, rheumatic pain and others. “Pain is a mind-body problem,” says Dr. Vijay B. Vad of the Physiatry Department at Hospital for Special Surgery, “So combining meditation with standard medical care provides a mind-body solution.”

Many of the people who come to my meditation classes are in pain. Often their doctors refer them when medication has not worked for them.

“After several sessions in my class, people with chronic pain report taking less pain medication, being more active and feeling better in general. This is supported by a study at the University of Massachusetts Stress Clinic of patients using medication which found that 72 percent of them achieved at least a 33 percent reduction, as measured by a pain questionnaire (McGill-Melzack Pain Rating Index).”

There are three categories of meditation that I find help people with chronic pain:

1. Distraction
   Since the mind is capable of having only one thought at a time, it can be trained to concentrate on something other than pain. “Meditation won’t take away your pain,” says Judith Horstman, contributing editor to Arthritis Today, “but it can move physical and emotional pain and distress out of the forefront of your focus.” Some points of concentration might be a word, candle-flame, sound or the breath. For example: Let’s bring our full attention to our breath without trying to change it in any way. Count 10 slow exhalations.

2. Mindfulness
   The second category of pain meditation, called mindfulness, is the moment-to-moment awareness of experience. This form of meditation helps people witness their pain with a certain amount of detachment. As a woman told the class, “Okay, pain, you’re here but I’m not going to let you erode the quality of my life.” The Body Scan is a form of Mindfulness Meditation.
   Become aware of your left foot. Observe any sensations you feel in this area: the temperature, an itch, some tension... notice how one sensation becomes another and then another. Continue with your left leg, moving, one area at a time, toward your head.
   Throughout the Body Scan I remind students, “If you feel discomfort, just stay with it. Notice how pain, in the absence of fear and resistance, is merely another sensation.”

3. Guided Visualization
   The third type of pain meditation involves using the imagination to travel through a fictional experience. It often produces a deep relaxation associated with symptom-reduction and altered pain perception, which is part of the medical pain experience that is stress-related. According to Stan Chapman PhD, pain therapy specialist, psychologist and professor at Emory University School of Medicine in Atlanta, “there is a lot of evidence that pain tends to be worse when people are anxious, or when their muscles are tight.”

We end class with Guided Visualization:
   Imagine yourself in a beautiful place. It might be a forest, garden, beach, etc. This is your personal healing sanctuary. Notice the colors, sounds and scents. See yourself there, now take a picture and put it in your heart so that you can return whenever you like.
   After several sessions in my class, people with chronic pain report taking less pain medication, being more active and feeling better in general. This is supported by a study at the University of Massachusetts Stress Clinic of patients using medication which found that 72 percent of them achieved at least a 33 percent reduction, as measured by a pain questionnaire (McGill-Melzack Pain Rating Index).”

References

A New Protocol for Pain Management

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Since New York Times journalist James Reston1 reported in 1971 on his experience of post-appendectomy acupuncture analgesia in China, most western countries have accepted acupuncture as a viable alternative to traditional medical treatments for many pathological conditions.

Yet to this day, more than 30 years after that initial account—which generated a wave of interest in this ancient oriental healing art—many American physicians still regard acupuncture as mysterious, more to be tried empirically as a less favored alternative than as a definitive treatment with specific indications.

This situation is understandable since medical literature regarding acupuncture read by most doctors usually includes some caveat about the lack of scientific evidence confirming the validity of the theories of traditional Chinese Medicine (TCM).

In these days of practicing evidence-based medicine, the caveats serve as a powerful reminder to many in serious looking at acupuncture as an intelligent choice.

Of course, like any other system of practice, one must recognize not all acupuncture is the same. The TCM method, with its holistic approach to correcting Y in Ying imbalance and promoting flow of Qi (life- or organ-specific energy), is distinctly different from the modern western approach of dry needling specific areas in the body for various conditions. Even within the TCM schools themselves, where the doctrine of “treating different diseases with the same means” and “treating the same disease with different means” is widely subscribed to, there is much variability between individual practitioners.

Given this scenario, it is little wonder reviewers attempting to make sense of “acupuncture” by conducting meta-analyses of studies usually find scant evidence to support claims of effectiveness. The truth is there is ample data, both experimental and clinical, that show reproducible benefits of acupuncture given for specific conditions in a consistent way.

The NIH panel of experts on acupuncture agreed in their 1997 consensus statement there was sufficient evidence to support effectiveness of the modality in multiple disease states. The list contained such diverse conditions as headaches, asthma, dysmenorrhea, post-operative or post-chemotherapy nausea and vomiting, and drug addiction. A significant number of the treatable items are painful musculoskeletal complaints. They included dental and post-operative pain, carpal tunnel syndrome, tennis elbow and fibromyalgia, as well as lower back pain.

That acupuncture does effect changes in beta-endorphin and encephalin expressions in the central nervous system has been established beyond dispute. There is also general acceptance that needle-stimulation may offer pain relief via the “gate mechanism” as proposed by Melzack and Wall.2 His theory postulates that stimulation of the large nerve fibers within the muscles can “close the gate” to nerve impulses generated by the small pain fibers, thus decreasing spinal transmission of pain sensations to the higher centers.

Using electrical currents through the needles to increase stimulation is a modern modification of the traditional acupuncture technique. In 1982, animal data showed electro-acupuncture analgesia was mediated by the same endorphin receptors.3 Previous human volunteer studies showed varying the frequency of the stimulating current and without moving the needles themselves could result in different kinds of endorphin release.4

A pilot study at the Hospital for Special Surgery employing electrical acupuncture to treat chronic low back pain due to degenerative spondylosis or spinal stenosis in the older patients yielded positive results indicating greater improvements, which was...
A Cupuncture Research in Low Back Pain

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low back pain is a prevalent disorder, particularly among seniors. Although acupuncture is commonly used to treat low back pain, there is inconclusive research on its efficacy for this condition. A cupuncture is frequently used as an adjunctive therapy to standard therapies for pain at the Acupuncture Research Hospital for Special Surgery, we undertook a study to determine if cupuncture is an effective, safe adjunctive treatment for chronic low back pain (LB) in older patients.

Methods

Subjects: Inclusion criteria: 1) LB P>12 weeks 2) age ≥60 years.
Exclusion criteria: 1) spinal tumor, infection, or fracture 2) associated neurological symptoms
Interventions: 1) Standard therapy: Subjects continued usual care as directed by their physicians, i.e. NSAIDS, muscle relaxants, acetaminophen and back exercises.
2) A cupuncture: In addition, patients in this group received bi-weekly cupuncture with electrical stimulation for 5 weeks (see figure 1).

Outcome measure: The modified Roland Disability Questionnaire (RDQ) at weeks 0, 2, 6 and 9.

Data Analysis: The primary outcome measure was change in RDQ score between weeks 0 and 6.

Results

Fifty-five patients were enrolled, with eight drop-outs. Twenty-four subjects were randomized to the cupuncture group and 25 were randomized to the control group. A cupuncture subjects had a significant decrease in RDQ score of 4.12+3.9 at week 6, compared to a mean decrease of 0.72±2.8 in the control group [p=0.002]. This effect was maintained up to four weeks after treatment at week 9, with a decrease in RDQ of 3.5±4.4 from baseline, compared to 0.42±2.7 in the control group [p=0.007]. A global transition score was higher in the cupuncture group, 3.7±1.2, indicating greater improvement, compared to the score in the control group, 2.5±0.9 (p<0.001). Fewer cupuncture subjects had medication-related side effects compared to the control group.

Conclusions

Our data indicate that cupuncture is an effective, safe adjunctive treatment for chronic LB in older patients. Our study was limited by the lack of a placebo control group. We recently completed a placebo-validation study, and plans for a full-scale, placebo controlled study are underway.

References


2. Du 3

3. UB 25

4. UB 37

5. UB 36

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References

The Healing Benefits of T’ai Chi

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T’ai Chi has been practiced for thousands of years in China to promote good health by balancing the internal energy known as Chi. T’ai Chi Chinese believe that circulating and balancing Chi is the secret to a long and healthy life. Early in the morning in most of the public parks in China, and also in our own Chinatown, large groups of people, mostly elderly, gather to do their daily T’ai Chi practice. When you watch their slow, graceful movements it is hard to believe these agile students are often in their 70s and 80s. Some of the more simple forms these people practice, such as T’ai Chi Chih, are often referred to as a moving meditation or Qigong (Chi Kung).

T’ai Chi has been known to have many health benefits because of its profoundly calming effect on the nervous system. Also, the weight-bearing movements are known to improve balance and strengthen bones. However, until recently most of these benefits have been claimed by practitioners’ personal experiences.

Now these benefits from practitioners are being supported by scientific and medical studies. USA Today reported in 1996 on a study confirming the practice of T’ai Chi will normalize blood pressure. Students who had their blood pressure taken before and after a T’ai Chi class recorded a lower pressure of 10-15 points.

In 1990, Dr. Steve Wolf from the Department of Rehabilitation Medicine at Emory University did a study to show the benefits of T’ai Chi on balance. The test results were that older people taking part in a 15-week T’ai Chi program reduced their risk of falls by 47.5%. Those students who continued to do T’ai Chi over a 6-month period maintained improved strength and balance.

Most recently, the Wall Street Journal reported the results of a study by Dr. Michael R. Irwin of the UCLA Neuropsychiatric Institute on the effects of T’ai Chi Chih on the immune system of a group with the shingles virus. Over a period of 15 weeks of three 45-minute T’ai Chi Chih classes per week, the participants in the study saw an increase of 50% in immune system response. One of the conclusions made by Dr. Irwin was T’ai Chi Chih could play an important role in protecting against other infectious diseases, such as hepatitis and HIV. Dr. Irwin is conducting a second study using more participants, which should be completed by the end of next year.

Other studies on the effects of T’ai Chi Chih have been carried out, including studies on the physiological benefits, postural control, Rheumatoid Arthritis, cures of hypertension, asthma, schizophrenia and faster recovery from long-term illness and delay in the decline of cardio-respiratory function in older adults.

During my last seven years as a teacher of T’ai Chi Chih, I have had many reports from students on other healing benefits. Some of them include relief from back pain, colitis, headache and neck tension, and injuries or burns that have healed much faster. Also reported are mental benefits such as lifting depression, clearer thinking, greater creativity, and one student even noticed she was playing difficult musical passages with much greater ease after doing T’ai Chi. It has been reported that part of Tiger Wood’s greatest success is due to his daily practice of T’ai Chi/Qigong. Future research will help to better define the benefits of T’ai Chi with the hope that more medical professionals will incorporate the method in their treatment plans.

References


