

Chronic pain and the search for alternative treatments

Brian Goldman, MD looks at some of the nondrug treatments being used to treat chronic pain.

Would Hippocrates be satisfied with the way today's physicians treat chronic pain? Probably not. Nothing we do is entirely free of harm, our surgical treatments often fail to work and the drugs we prescribe may produce harmful side effects.

This is causing a growing number of physicians to seek alternative methods of treatment. There are numerous alternative therapies for treating chronic pain, everything from chiropractic to transcutaneous electrical nerve stimulation and acupuncture.

Acupuncture, which generally involves the insertion of hair-like needles into the body's "trigger points," produces an aching sensation and also causes stimulation of specific nerve fibres. This apparently sends the brain a signal, causing it to release pain-relieving endorphins. With electroacupuncture, an electrical current is applied to the acupuncture needles to intensify the effect.

"All of the studies done show acupuncture has a mild analgesic effect which is unlikely to be a very effective method of treating people with chronic pain.

As the acupuncture debate continues, an east-west meeting of the minds is taking place at the Gunn Pain Clinic in Vancouver. Here, a Canadian physician has fused oriental acupuncture with western concepts of neurophysiology to produce a pain-management technique that is surprisingly effective.

Intramuscular stimulation (IMS) was developed in Vancouver in the early 1970s by Dr. Chit-Chan Gunn, then a staff physician at the Workers' Compensation Board of British Columbia (WCB), where he had become interested in the plight of workers disabled by severe back pain.

Gunn and his colleagues studied patients with low back pain who did not return to work and compared them with patients who did. They found a subtle, reproducible difference. Patients unable to resume work had numerous skeletal muscles whose fibres were shortened and tender when palpated; those who returned to work tended to have normal skeletal muscles.

This observation was the first piece in a puzzle that led to Gunn's discovery of IMS. In 1973, the WCB asked him to write a report on acupuncture. He observed the technique in China, but was unimpressed. "The Chinese doctors did not have a physiological basis to explain acupuncture—they were more or less using it as a recipe from a cookbook."

The board then sent Gunn to New York City to train in electromyography (EMG). On his return, he inserted EMG needles into the muscles overlying traditional acupuncture points to study the electrical activity; at times he used an electrical current to stimulate the region.

"As we were sticking needles into certain points, such as the motor point or muscle-tendon junction, we found that the muscles began to relax," recalls Gunn. "I was really astonished when I treated a patient at the WCB who had low back pain for months. When I did an EMG examination followed by stimulation through the needle, the man came to me the next day and said that his pain was completely gone and he was returning to work. Incidents like that convinced me this was a technique worth studying."

Gunn believes many patients with chronic pain have tender, shortened muscles because of occult neuropathy of the segmental nerves that supply the affected skeletal muscles. The theory is consistent with Cannon's Law, a long-forgotten rule of physiology that states neuropathy causes end-organs (in this case, the muscles) to become more sensitive or tender. Gunn believes that during IMS, the needle creates a current that makes up for the loss of muscle stimulation.

Gunn has been asked to teach IMS to physicians in more than a dozen countries, and is just beginning to gain recognition from North American doctors. Once a month, he teaches his technique to pain specialists at the University of Washington. "I think it's a very interesting and provocative theory," says Dr. J. Loeser, Director of the Multidisciplinary Pain Center at the University of Washington. "Since we've had Dr. Gunn down here, there isn't any question in my mind that patients benefit from the strategies that he uses to treat them, but not all patients. Nothing works for all patients."