



Bridges Between Chiropractic and TCM (Part 2): Neural Theories of Acupuncture



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Introduction

Acupuncture not only garners the attention of the world as a vitalistic philosophy of health but also in terms of pain and pain control. It has been shown repeatedly that acupuncture is effective in treating pain; it works 70% to 85% of the time, far greater than the placebo, which only has about 30% efficiency [1,2]. This compares favorably to the effects of potent drugs in treating chronic pain (morphine helps in 70% of these cases) [3]. A problem with attributing acupuncture's effects to the placebo (which is based on a "suggestive way" or the fact that one just wants to believe that it works), was the fact that veterinarians in China have used acupuncture successfully to treat animals for years. Dr. Bruce Pomeranz [4], working at the University of Toronto, has conducted modern research into the mechanisms of acupuncture [5]. By activating small myelinated nerve fibers, acupuncture applications send impulses to the spinal cord, midbrain and pituitary-hypothalamus in the diencephalon. Pomeranz et al. also discovered a relationship between TCM and the endorphin system, which "caused a great deal of excitement in the field of the scientific investigation of acupuncture." Much of the neurological research done by Pomeranz and colleagues [5] brought acupuncture methods and outcome studies closer to the scientific world. Melzack considers acupuncture to be a form of gate-control analgesia, where acupuncture pain relief is thought to be due to the phenomenon of pain inhibition by stimulation of large nerve fibers [6-8].

The Nervous System & Qi

Pain researchers Wall & Melzack [8] as well as Travell et al. [9] note the high correspondence (about 80%) between the location of acupuncture points and active and latent myofascial trigger points (MTrPs). Though discovered independently and labeled differently, in relation to pain control they may represent the same

phenomenon. Baldry notes that acupuncture points transmit by A-delta afferent innervation (sensitive to sharply pointed stimuli or heat), while MTrPs predominately use C-afferent innervation (sensitive to chemical, mechanical or thermal stimulus) [10]. Which route of reflex stimulation is producing a therapeutic effect and whether other mechanisms all work together is still open to debate? This debate can be widened if one considers the vast array of other reflex influences upon body function, including endorphin release, neurolymphatic and neurovascular reflexes, and other reflex phenomena presented in the chiropractic clinical literature [6, 11-12]. In acupuncture, the treatment point for a meridian imbalance is frequently found on the opposite side (and even the opposite end) of the body from that of the diseased organ or area of symptoms. In a number of research studies one of these distant and contralateral treatment sites can have an effect in one or two seconds [1,2,5,6]. This speed of conduction excludes the blood and lymphatic systems and leaves the nervous system as the primary mechanism of TCM. Li et al. [13] demonstrated that the density of afferent peripheral nerve endings in the skin and the muscles is much greater at acupuncture points. Li et al. [13] postulate that acupuncture points may actually be areas of high-density nerve endings and receptive fields. The neural theories of TCM-and the integration of TCM with the sensorimotor system assessed and treated by chiropractors-once again suggest themselves. It is obvious that the most important anatomical reality in or near acupoints are nerves. The immediate acupoint analgesia upon stimulation of these channels, areas and points strongly suggests that a neural theory of acupuncture is important. The conceptual link between acupuncture effects and the nervous system, and particularly the chiropractic understanding of the muscular system's relevance in the diagnosis and treatment of pathophysiologies of many types, is clearly evident. (Discussed

Part 3 of this series) Functional magnetic resonance imaging (fMRI) has shown that stimulation to specific acupuncture points produces regionally specific, quantifiable effects on related neurological structures in the human brain [14,15]. Cho et al. [15] showed with fMRI that stimulating Bladder-67 (related to visual function) [16] in the lateral portion of the foot activated a region of the occipital lobe – associated with the interpretation of light entering the eye. In chiropractic, Duffy [17] correlated disturbances in the bladder meridian with manual muscle test findings, and Sprieser [18] has shown the relationship between chiropractic treatment to the bladder meridian and improved symptoms for 50 patients with interstitial cystitis.

Goodheart, the founder of applied kinesiology [19], reported on a chiropractic method for diagnosis of the underlying causes of vision and hearing loss in an Italian nun, involving the bladder meridian. Goodheart found that when the patient put her eyes into the same distortion position as her neck and shoulders, all of the original manual muscle test findings returned, including positive manual muscle testing of the pulse points for the bladder and the kidney meridians. Because the bladder meridian

problem recurred, Goodheart tapped BL-1 followed by BL-67 (the beginning and ending technique, now well established in applied kinesiology). While tapping on BL-1 while simultaneously correcting a respiratory cranial dysfunction, the patient said, “I am seeing flashes of light”, to which Goodheart replied that it was probably because he was touching her eye. But the patient told him that she was seeing light with the other eye. He continued to tap and unobtrusively turned on an otoscope and moved it from side to side. The patient said she still saw flashes but they seemed to be moving side to side. When the otoscope was moved up and down, she said that now the direction of the light perceived had changed to up and down. The next time this Italian nun was seen, all of her vision had slowly but surely returned and maintained itself ever since. Correcting the imbalances in the movement of Qi throughout the body improves the homeostasis of the individual, just as a chiropractor does in removing a subluxation from the patient. These two systems (subluxation and the movement of Qi) are united by the nervous system, which offers another physiological possibility for explaining the clinical phenomena and effects of acupuncture treatment, further bridging Eastern and Western and specifically Chiropractic therapeutics.



Figure 1: Muscle testing.



Figure 2: Acupuncture point touching

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