

August 21, 2009

**RE: NEUROANATOMICAL BASIS OF ACUPUNCTURE TREATMENT FOR SOME COMMON ILLNESSES - Acupuncture in Medicine, June 2009, Vol 27, No 2**

Dr Cheng is to be commended for his article on the Neuroanatomical Basis of Acupuncture (Acupuncture in Medicine, June 2009, Volume 27, Number 2). However, Cheng has based his conclusions on the analysis of acupuncture formulae for common illnesses, as prescribed by five acupuncture academies. This approach, using consensus acupoints, is unfortunately vague, since they are surface markings intended as guides for acupuncturists, whereas target receptors are often deeply situated and can vary from person to person. Furthermore, the diagnoses are also vague: for example, "Low Back Pain" is a common unspecific complaint that can be derived from many different causes; likewise, sciatica.

In commenting on the Gunn model for pain of radiculopathic origin, he referred to muscle shortening, but neglected the other segmental manifestations of peripheral neuropathy. 'Neuropathy' (ie, altered function in the peripheral nerve, with or without altered structure) includes dysfunction not only in the motor, but also in the sensory and autonomic (vasomotor, pilomotor, sudomotor) nervous systems. He has also not mentioned the electromyographic evidence of neuropathy in tender muscles, including increased insertion activity, polyphasic action potentials and prolongation of the motor-unit action potentials. Frequently, a partial interference pattern is obtained despite maximum voluntary effort.<sup>1</sup> Needle stimulation is generally effective in causing both physical evidence of neuropathy as well as abnormal potentials to resolve.

Trophedema (see Figure 1)<sup>2</sup>, a significant sign of radiculopathy and smoldering para-inflammation<sup>3</sup>, has not been mentioned.

Cheng commented on the "local effect" produced by needling. Physiologically, except when there is total denervation, there can be no local effect as any stimulation immediately creates a spinal reflex: this is the difference between Galvanic and Faradic stimulations.

The many practitioners who use the radiculopathy model depend on consistent physical signs of radiculopathy to identify the offending segment(s), thereby quickly locating neuropathic muscles needing stimulation.

The Gunn rationale for intramuscular stimulation (IMS) has been reviewed and endorsed by many physiologists. Dr James Henry, Scientific Director, Chair in Central Pain, Professor of Psychiatry and Behavioral Neurosciences and Anesthesia, McMaster University: "IMS is based on Cannon's hypotheses regarding homeostasis and the dysfunction that arises in a physiological system when this homeostasis is interrupted, such as by denervation or withdrawal of normal neuronal function (spondylosis is a common cause) - "when a unit is destroyed in a series of efferent neurons, an increased irritability to chemical agents develops in the isolated structure or structures, the effect being maximal in the part directly denervated". It has been shown that all structures, including their associated spinal reflexes, can develop supersensitivity. In contemporary terms, this would account for the central sensitization that is being so well-characterized as accounting for neuropathic pain, as well as some of the peripheral signs that accompany neuropathic pain."<sup>4</sup>

A reviewer of a report on Acute Respiratory Distress Syndrome commented: "I think this report is extremely fresh and thought provoking. It certainly provides an entirely new paradigm for viewing ARDS. The use of physiologic principles adds strength to the rationale behind the treatment. The end result is remarkable. An "eastern" view of his report could be adding "chi" to deficient meridians. Dr Gunn's use of modern "western" physiologic principles to explain ancient wisdom is part of the vital link that Integrative Physicians strive for. The use of physiologic principles to explain complex phenomenon in a fresh new way should be a cornerstone for Integrative Medicine. This is necessary if Integrative Medicine is to become a respected aspect of Medicine in general. In the end, the results speak for themselves, and fortunately this time the results are good."<sup>5</sup>

Acupuncture can be considered as a most useful modality for treating spondylosis and the ensuing radiculopathy. In doing so, it can alleviate a wide variety of secondary effects.

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**References:**

1. Gunn, CC; Milbrandt, WE, *Tenderness at Motorpoints*, The Journal of Bone and Joint Surgery, September 1976Vol 58-A No 6 pp815-825
2. Loeser, JD et al, Bonica's Management of Pain, Third Edition, Chapter 28, Neuropathic Myofascial Pain Syndromes (CC Gunn), 2001
3. Nature Insight, 24 July 2008Vol454IssueNo7203
4. Henry, L James, *Letter to the Editor*, Pain Res Manage, March/April 2008Vol13No2
5. Gunn, CC, *Acute Respiratory Distress Syndrome Successfully Treated with Low Level Laser Therapy*, Journal of Complementary and Integrative Medicine, 2005Vol 2Issue1 (Published First 2005)<http://www.bepress.com/jcim/vol2/iss1/5/>, DOI: 10.2202/1553-3840.1019
6. Bradley, WG; Disorders of Peripheral Nerves, Blackwell Scientific Publications, 1974

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