Book Review: Computer-controlled Acupuncture® (CCA®) Edited By Gerhard Litscher And Zang Hee Cho

D Mayor

Citation

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Abstract

The rather worrying title of this extraordinary book does not thankfully imply that our profession is about to be invaded by robot practitioners. It is in fact about various high tech methods of monitoring acupuncture, and in 18 short chapters brings together much information that is not otherwise readily available.

David F Mayor MA MBAcC is currently preparing a textbook on electroacupuncture for the publishers Churchill Livingstone.

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Professor Cho (Irvine, California) will now be familiar to many readers as a pioneer in the field of fMRI who has turned his attention to the effects of acupuncture at points with different traditional functions. In their chapter here, his group again investigates how manual acupuncture can selectively affect regional cerebral blood flow (in the visual cortex with GB37, and in the auditory cortex with GB43 or SJ5).

Professor Litscher (Graz) has, with a number of coworkers, been using infrared spectroscopy and a newly evolved transcranial Doppler sonography (TCD) system to determine changes in blood flow in the brain in response to acupuncture, in combination with new and highly sensitive EEG methods. This ability to detect both together is potentially very powerful. Seven of the chapters in the book concern this exciting work. In addition, a study on peripheral infrared thermography demonstrates how variable temperature responses can be to identical manual needling in different subjects (unfortunately there was no mention of whether this variation depended on initial temperature and circulatory dynamics). In a further chapter, Litscher's group shows how laser doppler flowmetry may help to separate responders and nonresponders to acupuncture, using a nonspecific 'formula' for enhancing qi and so improving peripheral microcirculation (bilateral P6, St36, Sp6, and Ren6 with moxa in addition).

They also show that the same points enhance cranial blood flow, and then go on to demonstrate more specific effects: needling these points increases mean blood flow velocity (Vm) in the middle cerebral artery while leaving unchanged that in the supratrochlear artery (a branch of the ophthalmic artery). On the other hand, needling points specifically selected for their effect on the eye has the opposite effect (this group included both local and distal points). These differences are all the more interesting as both arteries derive from the internal carotid. In a further study, gently needling LI20 enhanced Vm in the anterior cerebral artery, but needling of Bl67 in the posterior cerebral artery, in keeping with the traditional functions of these two points for olfaction and vision, respectively.

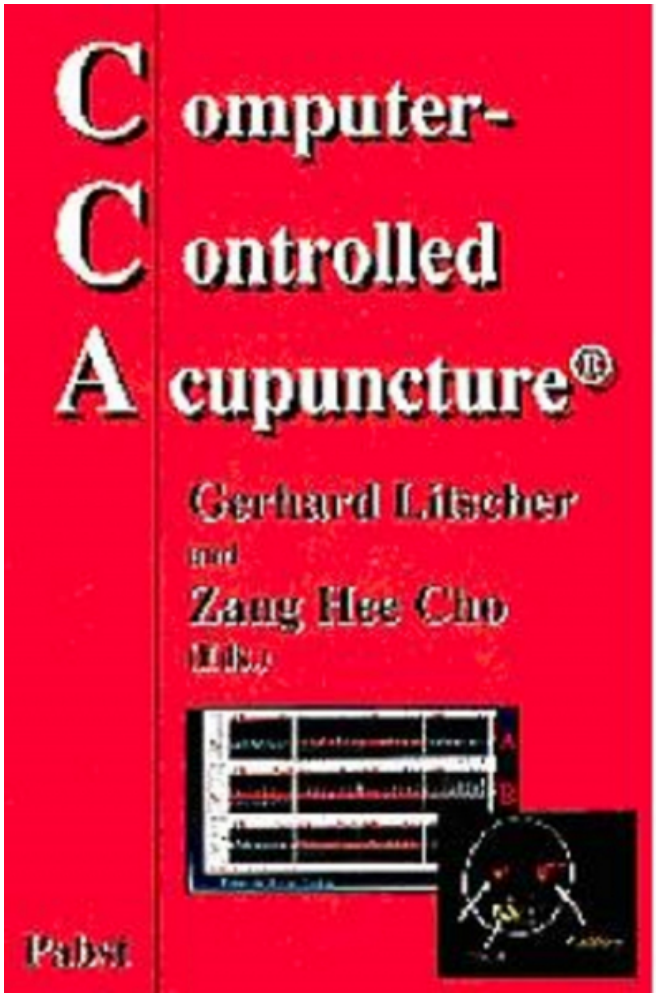
Litscher's group also demonstrate how needling has more of an effect on both cerebral circulation and acoustically-induced 40 Hz cortical responses than laser acupoint stimulation (with commonly accepted parameters for both methods). Whether comparison of 20 minutes of needle retention with 30 seconds of irradiation is really meaningful is another question (in another study published elsewhere,[1] similar results were obtained with 20 seconds stimulation for both modalities; in addition, there was less effect at a

nonacupoint than at the acupoints used).

The remaining chapters are by Nissel on chaos theory, quantum physics and acupuncture, Streitberger's group on their placebo method (well known to those who attended the October 2000 BMAS Scientific Meeting), Klima and others on 'laserpuncture,' together with contributions from Raftis on a new chin and cheek acupoint microsystem used in conjunction with Yamamoto's scalp acupuncture, a factual little article on Ötzi the iceman by the group responsible for interpreting his tattoos in acupuncture terms, and an incomprehensible offering from Wang Weikung's Taipei group on the 'blood pressure pulse spectrum' (having read at least ten of their articles now, I feel little the wiser - maybe I am just stupid).

All in all, this is an important little book for those who are looking for scientific evidence of the effects of acupuncture and of different acupoints. Although many of the studies included are really pilots, with only small groups of subjects, together they are persuasive and fascinating. And although no conclusions are possible from this work on the existence or nonexistence of meridians, the central role of the brain in acupuncture is emphasized once again. Using the tools of 'Computer-Controlled Acupuncture ®' could provide a lot more answers to the age-old question of how acupuncture works.

Figure 1



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Author Information

David F Mayor, MA MBAcC