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RECOMMENDED ARTICLES

In this issue of the journal, recommended articles which cited articles of the Journal of Acupuncture and Meridian Studies are selected and from the Journal of Pharmacopuncture (ISSN: 1226-4849) published in English.

(1) Evidence-based Complementary and Alternative Medicine, Volume 2015, Article number 303769

Fascia and Primo Vascular System

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Abstract
The anatomical basis for the concept of acupuncture points/meridians in traditional Chinese medicine (TCM) has not been resolved. This paper reviews the fascia research progress and the relationship among acupuncture points/meridians, primo vascular system (PVS), and fascia. Fascia is as a covering, with common origins of layers of the fascial system despite diverse names for individual parts. Fascia assists gliding and fluid flow and holds memory and is highly innervated. Fascia is intimately involved with nourishment of all cells of the body, including those of disease and cancer. The human body's fascia network may be the physical substrate represented by the meridians of TCM. The PVS is a newly found circulatory system; recent increased interest has led to new research and new discoveries in the anatomical and functional aspects of the PVS. The fasciology theory provides new insights into the physiological effects of acupuncture needling on basic cellular mechanisms including connective tissue mechanotransduction and regeneration. This view represents a theoretical basis and means for applying modern biomedical research to examining TCM principles and therapies, and it favors a holistic approach to diagnosis and treatment.

(2) Neural Regeneration Research, Volume 10, Issue 7, Pages 1101-1106

Evidence for Novel Age-dependent Network Structures as a Putative Primo Vascular Network in the Dura Mater of the Rat Brain

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Abstract
With chromium-hematoxylin staining, we found evidence for the existence of novel age-dependent network structures in the dura mater of rat brains. Under stereomicroscopy, we noticed that chromium-hematoxylin-stained threadlike

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structures, which were barely observable in 1-weekold rats, were networked in specific areas of the brain, for example, the lateral lobes and the cerebella, in 4-week-old rats. In 7-week-old rats, those structures were found to have become larger and better networked. With phase contrast microscopy, we found that in 1-week-old rats, chromium-hematoxylin-stained granules were scattered in the same areas of the brain in which the network structures would later be observed in the 4- and 7-week-old rats. Such age-dependent network structures were examined by using optical and transmission electron microscopy, and the following results were obtained. The scattered granules fused into networks with increasing age. Cross-sections of the age-dependent network structures demonstrated heavily-stained basophilic substructures. Transmission electron microscopy revealed the basophilic substructures to be clusters with high electron densities consisting of nanosized particles. We report these data as evidence for the existence of age-dependent network structures in the dura mater, we discuss their putative functions of age-dependent network structures beyond the general concept of the dura mater as a supporting matrix.

Keywords: brain, chromium-hematoxylin staining, dura mater, Fascia, hormone, nerve regeneration, neural regeneration, primo vascular system

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(3) PLoS ONE, 2014, Volume 9, Issue 5, Article number e97502

Prolonged Repeated Acupuncture Stimulation Induces Habituation Effects in Pain-Related Brain Areas: An fMRI Study

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Abstract

Most previous studies of brain responses to acupuncture were designed to investigate the acupuncture instant effect while the cumulative effect that should be more important in clinical practice has seldom been discussed. In this study, the neural basis of the acupuncture cumulative effect was analyzed. For this experiment, forty healthy volunteers were recruited, in which more than 40 minutes of repeated acupuncture stimulation was implemented at acupoint *Zhusanli* (ST36). Three runs of acupuncture fMRI datasets were acquired, with each run consisting of two blocks of acupuncture stimulation. Besides general linear model (GLM) analysis, the cumulative effects of acupuncture were analyzed with analysis of covariance (ANCOVA) to find the association between the brain response and the cumulative duration of acupuncture stimulation in each stimulation block. The experimental results showed that the brain response in the initial stage was the strongest although the brain response to acupuncture was time-variant. In particular, the brain areas that were activated in the first block and the brain areas that demonstrated cumulative effects in the course of repeated acupuncture stimulation overlapped in the pain-related areas, including the bilateral middle cingulate cortex, the bilateral paracentral lobule, the SII, and the right thalamus. Furthermore, the cumulative effects demonstrated bimodal characteristics, i.e. the brain response was positive at the beginning, and became negative at the end. It was suggested that the cumulative effect of repeated acupuncture stimulation was consistent with the characteristic of habituation effects. This finding may explain the neurophysiologic mechanism underlying acupuncture analgesia.

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(4) Journal of Pharmacopuncture, Vol. 17, No. 1, pp. 27-34, 2014

Single Intramuscular-dose Toxicity of Water soluble Carthmi-Flos Herbal Acupuncture (WCF) in Sprague-Dawley Rats

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Abstract

Objectives: This experiment was conducted to examine the toxicity of Water soluble Carthmi-Flos herbal acupuncture (WCF) by administering a single intramuscular dose of WCF in 6-week-old, male and female Sprague-Dawley rats and to find the lethality dose for WCF.