

SCM Seminar

Date	: 23 Oct 2015 (Friday)
Time	: 4:00 p.m. – 6:00 p.m.
Venue	: SCM809
Language	: English
Facilitator	: Prof. Bian Zhao Xiang

Prof. Chae Younbyoung

Acupuncture and Meridian Science Research Center
Kyung Hee University, Seoul, Korea

Brain responses to acupuncture stimulation: from the perspective of cognitive neuroscience

Abstract

Objectives: Acupuncture and its underlying mechanisms have attracted much scientific interest in the past few decades. From the perspective of neuroscience, acupuncture-induced sensation is not only coming from the bottom-up modulation of ‘simple needling’ in the somatosensory receptor, but also from the reciprocal interaction with the top-down modulation of the brain. Enhanced body schema triggered by acupuncture stimulation can influence the homeostatic control system through a modulated salience network of the brain. We investigated commonalities and differences in brain responses to enhanced bodily attention around the acupuncture points with or without actual stimulation. **Methods:** Fourteen participants received acupuncture needles at both PC6 (median nerve) and HT7 (ulnar nerve) acupoints in the left hand. To enhance bodily attention to acupoints, participants were required to respond to the locations of stimulations at PC6 or HT7 in a two alternative-forced choice task. Two fMRI scans were taken in a block design: session 1 labeled with manual stimulation (actual stimulation with randomized acupoint stimulation) and session 2 labeled with electro-acupuncture (no physical stimulation; pseudo-stimulation). **Results:** In the conjunction analysis, both actual and pseudo-stimulation produced brain activations in the insula, anterior cingulate cortex, secondary somatosensory cortex, superior parietal cortex, and brain deactivations in the medial prefrontal cortex, posterior cingulate cortex, inferior parietal cortex, and the parahippocampus. In the contrast analysis, actual stimulation exhibited greater brain activations in posterior insula, posterior operculum and the caudal part of anterior cingulate cortex, compared to pseudo-stimulation. **Conclusions:** We demonstrated that enhanced bodily attention triggered by acupuncture stimulation is able to activate the salience network and deactivate the default mode network - regardless of actual stimulation. Our findings suggest that the component of enhanced attention to a certain part of the body plays an important role in the brain responses to acupuncture stimulation.

Dr. Inseon Lee, MS, KMD

Psychosomatic Medicine and Psychotherapy Department
University of Tübingen

Acupuncture and Functional dyspepsia

Abstract

Functional dyspepsia (FD), one of the gastrointestinal disorders, is defined as the presence of symptoms believed to originate in the gastroduodenal region without the evidence of any organic, systemic or metabolic disease that might explain the symptoms. FD patients suffer from postprandial fullness, early satiation, epigastric pain and burning. However, due to the unknown mechanism and heterogeneous pathogenic factors and symptoms, the management strategies are still lacking. Acupuncture has been used throughout the world, especially in Asia to treat a wide range of disorders. As there are several studies showing the clinical effect of acupuncture reducing dyspeptic symptoms and increasing quality of life in FD patients, it could be a new treatment option for doctors and patients. Furthermore, recent neuroimaging techniques have contributed to the study of the brain-gut axis impairment in functional dyspepsia patients. In this talk, I'll introduce the Neurogut project, European training in neural regulation of intestinal function (scientific coordinator Prof. Dr. Paul Enck, Tuebingen university), and the systematic review of previous neuroimaging studies of FD patients. Further studies will examine the psychophysiological behavior and brain dysfunctions of FD patients compared to healthy volunteers, and potential effect of acupuncture on FD patients.

☆☆ *All are welcome* ☆☆