Literary Investigation on the Origin of Poppy and Other Narcotics
Chung-San Lim, Young-Ju Han, Kye-Sung Kang, Kwang-Ho Lee, Doo-Young Kim, Ki-Rok Kwon

Abstract
Objectives: To develop orally-administered analgesics and locally-injected pharmacopuncture analgesics, such as opioids.
Methods: A literary investigation of the origin of the poppy (Papaver somniferum L) and other narcotics was conducted to examine the potential of developing useful oral analgesics and injectable pharmacopuncture analgesics. Opium, a gum-like mass derived from the air-dried white fluid of the immature poppy fruit, contains ca. 20 types of alkaloids, including morphine, codeine, thebaine, and papaverine. Natural opioids and synthetic alkaloid derivatives are the constituents of opioid analgesics, and their effects and side effects depend on the peculiarities of specific receptors. Extreme caution is required in selecting proper dosage, the appropriate analgesic type, and the indications for successful pain management.
Results and Conclusion: With the enactment of the “Narcotic control protocol”, herbs such as cannabis and poppy are no longer available for use by Korean medical doctors, who are thus faced with difficulties in managing severe pain in a clinical environment. A systematic method for pain management consideration is required to overcome the limitations on these analgesics.

Clinical Study on the Sensation of Patients with Spinal Cord Injury that is Improved by Using Sweet Bee-Venom
In-Sun Park, Il-Ji Yoon

Abstract
Objectives: In spite of increased numbers of patients with spinal cord injuries, there is no reliable and related treatment guide in either conventional or complementary medicine and, in oriental medicine, not many clinical cases of patients with spinal cord injury. The effect of sweet bee-venom (BV) was investigated regarding subacute-stage patients with spinal cord injuries.
Methods: A 31-year-old female patient with a spinal cord injury was treated with a herb medicine (TID), electro-acupuncture (BID), a sweet BV injection (QOD), physical treatment (QD), and conventional medicine.
Results: A satisfactory result was achieved by using sweet BV injection, with the patient’s American Spinal Injury Association (ASIA) grade improving from 34 to 52 and the patient’s Frankle classification shifting from A to B.
Conclusion: It was concluded that sweet BV injections improved the sensation of patients with spinal cord injuries and that further study of this disease and this treatment is required.

The Study of a Noncontact/Noninvasive Pulse-analyzing System Using Optical Coherence Tomography (OCT) for Oriental Pulse Diagnosis
Chang-Su Na, Dae-Hwan Youn, Young-Sun Kim, Chang-Ho Lee, Woon-Sang Jung, Jee-Hyun Kim, Chan-Hun Choi

Abstract
Objectives: Optical coherence tomography (OCT) has emerged as an important optical imaging modality in noninvasive medical diagnostics. This study was designed to measure the similarity of diagnoses obtained via the traditional method of manually feeling the pulse and a noncontact/noninvasive pulse-analyzing system of OCT using the length scale units of traditional medicine, Chon, Kwan, and Chuk.
Methods: Four Korean medical doctors and a pulse-analyzing OCT system were employed to measure the rapidity, dimension, and power of the pulse waves of 25 volunteers. The individual doctors first measured the volunteers’ pulse waves separately and then the pulse waves were measured by OCT performed on the right Chon, Kwan, and Chuk.
Results: The study showed that the traditional method and the OCT-based method had 88% correspondence for the values of the slow and rapid pulse conditions, 64% for the small and big pulse conditions, and 72% for the weak and strong pulse conditions.
Conclusion: Based on the agreement between the two types of measurements, it is suggested here that the OCT-based pulse diagnosis method should be useful in complementing the traditional method for pulse diagnosis.

Journal of Meridian and Acupoint, Volume 26, No. 2, 15–25

Comparative Study of the Differences among PC9, TE3, PC5, and TE1 and their Effects on the EEG

Woo-Jin Choi, Seung-Gi Lee, Kyung-Mo Park

Abstract

Objectives: To understand influences on an electroencephalogram (EEG) produced by conducting acupuncture stimulations and to compare changes at the acupoints on the body before and after normal people were treated with acupuncture at PC9 and TE3, termed the Wood points, and at PC5 and TE1, termed the Metal points, from the Five Shu points of the Yin Pericardium Meridian and Yang Triple Energizer Meridian.

Methods: The study was performed on 30 healthy female volunteers aged in their 20’s. A comparative analysis was performed using EEG data collected continuously for 5 minutes before and through 20 minutes of acupuncture stimulation at PC9, TE3, PC5, and TE1 and for 5 minutes afterwards.

Results: Comparison of the EEG data before and after the treatment at PC9 showed no significant differences in all waves. Compared with the pre-acupuncture period at TE3, the \( \delta-\theta \) wave decreased significantly \((p<0.05)\) during stimulation and compared with the pre-acupuncture period at PC5, the \( \delta-\theta \) wave and the high \( \alpha \) wave increased significantly \((p<0.05)\) during stimulation. Also, the mid \( \beta \) and high \( \beta \) waves decreased significantly \((p<0.05)\) during the acupuncture and post-acupuncture periods. Relative to the pre-acupuncture period at TE1, the \( \delta-\theta \), \( \theta \), and high \( \alpha \) waves increased significantly \((p<0.05)\) during stimulation, and the low \( \beta \) wave decreased significantly \((p<0.05)\).

Conclusion: When acupuncture stimulation was performed at the Wood points, brain waves were stable, but when acupuncture was performed at the Metal points, the brain appeared “wakened”. From these findings, it is hypothesized that the Wood properties, from which growing starts in all things, are related to EEG fast waves and that the Metal properties, which stabilize and converge in all things, are related to EEG slow waves.

Journal of Meridian and Acupoint, Volume 26, No. 2, 27–38

Effect of Acupuncture for Changing the Levels of Erythrocyte Sedimentation Rate, and the Levels of C-Reactive Protein and Cytokines in the Sera of Rheumatoid Arthritis Patients

Seung-Tae Kim, Yun-Ju Kim, Hyangsook Lee, Sun-Mi Choi, Changshik Yin, Ji-Young Lee, Hi-Joon Park, Hyejung Lee

Abstract

Objectives: Rheumatoid arthritis (RA) is a chronic autoimmune disease, principally characterized by synovial inflammation of the joints. We previously reported the effect of acupuncture on RA, but the mechanism of action remained unclear. Various factors, such as oxidative stress and angiogenesis, are involved in the pathogenesis of RA and, recently, cytokines have also been reported to play a major role in RA. Thus, the potential for acupuncture to induce changes in the erythrocyte sedimentation rate (ESR) and in cytokine concentrations, including vascular endothelial growth factor (VEGF), angiogenin, epidermal growth factor (EGF), C-reactive protein (CRP), and rheumatoid factor (RF) in the sera of RA patients.

Methods: Forty-three patients, who met the American College of Rheumatology (ACR) criteria for RA, were formed into an acupuncture group \((n=21)\), which underwent 14 sessions of partially individualized acupuncture treatment for 6 weeks, and a control group, which endured no treatment \((n=13)\) over the same period, and the concentrations of ESR, CRP, and RF evaluated. In addition, changes in cytokine activity were assessed to determine the mechanism of acupuncture, using a protein cytokine assay of patient sera.

Results: Acupuncture significantly decreased concentrations of ESR and CRP, but RF was unchanged after 6 weeks of treatments. Moreover, acupuncture reduced the concentrations of VEGF, angiogenin, and EGF in patient sera. Interestingly, concentrations were related to angiogenesis, an important process in the pathogenesis of RA. The concentrations of oncostatin, interleukin (IL)-1\( \alpha \), IL-8, leptin, monocyte chemotactic protein-1, macrophage-derived chemokine, macrophage inflammatory proteins-1, platelet-derived growth factor BB, and RANTES (Regulated on Activation, Normal T Expressed and Secreted) were not changed significantly by treatment.

Conclusion: The effect of acupuncture for relieving RA symptoms can be partially explained by inhibition of angiogenesis factors in the sera of RA patients.
Effects of Hominis Placenta Pharmacopuncture on the Blood Picture and Antioxidative Activity in Rats

Joonmoo Lee

Abstract

Objectives: To investigate the effects of Hominis placenta pharmacopuncture on the blood profile and antioxidative activity in rats.

Methods: Sprague-Dawley rats were divided into three groups; control (n=5), pharmacopuncture at CV12 (CV12 group, n=5), and pharmacopuncture at ST36 (ST36 group, n=5) and pharmacopuncture performed once every other day for 4 weeks. Blood cell counts were performed and liver superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GSH-Px) activities analyzed.

Results: Red blood cell and plasma cell volumes were significantly higher in the ST36 group compared with the control group. Hematocrit, total protein, and albumin values were not significantly different among the groups, neither were the white blood cell count and percentage of neutrophils, lymphocytes, and eosinophils. However, monocytes and basophils were significantly increased in the ST36 and the CV12 groups, respectively. SOD and CAT in the CV12 and ST36 groups were more significantly activated than the control group, while GSH-Px activity showed no significant difference among the groups.

Conclusion: Based on these findings, Hominis placenta pharmacopuncture may have a positive impact on the antioxidative capacity, apparently by activating various functions of the body.

Effects of Electroacupuncture on the Visceromotor Response to Colonic Distension in TNBS-induced Colonic Inflammation in Rats

Yun Young Choi, Sung Hun Ahn, Oh Sang Kwon, Sang Rok Seo, In Chul Sohn, Jae Hyo Kim

Abstract

Objectives: Single colorectal instillation of trinitrobenzenesulfonic acid (TNBS) causes a dose-dependent increase in the visceral motor response (VMR) and in severe inflammation. The effects of electroacupuncture (EA) at different acupoints were compared for treatments of acute colitis induced by TNBS intracolonic injection in rats.

Methods: After an overnight fast, a single colorectal administration of TNBS, at 5 mg/kg and in 50% ethanol, was administered under isoflurane anesthesia to male Sprague-Dawley rats weighing 250–400 g. Electrodes for electromyography (EMG) were stitched into the external oblique musculature under general anesthesia, and acupoints LI4, ST25, and ST36 each stimulated using EA. A balloon was inserted intra-anally and the VMR to colorectal distention (CRD) quantified by EMG recording.

Results: Observation of visceral hyperalgesia in the time series showed that the VMR increased significantly 3 days after TNBS injection. EA at either ST25 or ST36, but not LI4, suppressed the VMR to colorectal distention at 3 days after injection. Pretreatment with naltrexone (10 mg/kg, i.p.), opioid antagonist, or phentolamine (5 mg/kg, i.p.) inhibited the VMR suppression of 10-Hz EA to ST36 and pretreatment with either naltrexone or phentolamine inhibited the effects of 10-Hz EA to ST25.

Conclusion: EA at either ST25 or ST36 strongly inhibited the colorectal hypersensitivity accompanying TNBS-induced colitis and that it was mediated differently through the endogenous opioid and the adrenergic systems.