Conclusion: The present study suggests that Fel Ursi, Bovis Calculus and Moschus pharmacopuncture solution has no anti-bacterial effects on bacterial species including S. aureus, S. epidermidis, P. aeruginosa, A. niger, F. oxysporum and C. albicans that cause keratitis. These results suggest that more research on other herbal medicines for use as eye drops for the treatment of keratitis is required.

Keywords: Fel Ursi, Bovis Calculus and Moschus pharmacopuncture solution, Keratitis, Eye irritation, Staphylococcus aureus, Staphylococcus epidermidis, Pseudomonas aeruginosa


Induction of Apoptotic Cell Death in NCI-H460 Human Lung Cancer Cells due to Egg-white-combined Chalcanthite

Eun-A Choi, Kyung-Hee Kim, Byong-Chul Yoo, Hwa-Seung Yoo

Abstract

Background: The anticancer effects of herbal medicine have been reported for various types of cancer, but a systematic approach to explain the molecular mechanism(s) has not yet been established.

Objective: The purpose of this study is to investigate apoptotic cell death induced by egg-white-combined chalcanthite in NCI-H460 human lung cancer cells.

Methods: The inhibitory effects of the chalcanthite were estimated by the 3-(4,5-dimethylthiazol-2-yl) 2,5-diphenyl tetrazolium bromide (MTT) assay. Cancer cells stained with 4’6-diamidino-2-phenylindole (DAPI) showed condensed and fragmented nuclei. The expressions of cleaved caspase-3, bcl-2, and bax were detected by western blotting. To establish a basis of understanding for the anti-cancer mechanism, we harvested whole proteins from NCI-H460 human lung cancer cells at 24 hrs after treatment with egg-white-combined chalcanthite. Protein expression was profiled by using the 2DE-based proteomic approach.

Results: These NCI-H460 human lung-cancer-cell samples were treated with three kinds of samples, IS3, IS4 and IS5 that vary in the mixing ratios of egg-white to chalcanthite. IS4 inhibited the growth of NCI-H460 human lung cancer cell most effectively; the expression of cleaved caspase-3 also increased in a concentration-dependent manner. Various changes in protein expression were monitored, and the most frequent dysregulation was found in Vimentin and Lamin-A/C.

Conclusion: Egg-white-combined chalcanthite inhibited the growth of NCI-H460 human lung cancer cells by inducing apoptotic cell death via caspase-3 activation. Based upon the present findings, further study should focus on monitoring various cancer survival factors after artificial regulation of the proteins identified, which should provide a basis for understanding the anticancer effect(s) of chalcanthite at the molecular level.

Keywords: Chalcanthite, Lung cancer, Proteome, 2-DE, MALDI-MS


Analysis of the Meridian Energy and its Pattern of Change With Time by Measuring the Skin Capacitance on Source Points

Soo-Byung Kim, Sun-Min Kwon, Hyoun-Seok Myong, Kyoung-Joung Lee, Hee-Jung Kang, Yun-Kyoung Yim, Yong-Heum Lee

Abstract

Objectives: This study investigated the balance/imbalance of skin capacitances between left and right meridians and analyzed the patterns of change of the electric energy on meridians with time.

Methods: The electric potential was measured at five source points (LU9, PC7, HT7, LI4 and SI4) bilaterally for 4 hours. The energy balance/imbalance between left and right was investigated, and the patterns of change with time were analyzed.

Results: The amplitudes of the meridian energies on five source points and the energy balance/imbalance between left and right varied in each individual. When a source point showed a balanced meridian energy bilaterally, the patterns of change of the meridian energy with time were similar between left and right. On the other hand, when a source point showed an imbalanced energy between left and right, the patterns of change of the meridian energy were also different between left and right.

Conclusion: Through this study, we propose a new diagnostic method for determining the meridian energy.

Keywords: Meridian, Source point, Skin capacitance, Energy balance, Change pattern
Study on Acupoints and Muscles Used for Cosmetic Acupuncture
Misung Yang and Misook Shin

Abstract
Objective: This study was performed to investigate the acupoints and the muscles used for cosmetic acupuncture. The data in this paper should allow most clinicians practicing cosmetic acupuncture to understand the theoretical background and to treat cosmetic diseases more diversely.

Method: We collected useful information about cosmetic acupuncture from selected books and websites in order to select major acupoints and muscles.

Results: The most frequently used acupoints for cosmetic acupuncture are LI20, ST1, ST2, ST3, ST4, ST5, ST6, ST7, ST8, SI18, SI19, BL1, BL2, BL3, BL4, TE17, TE18, TE19, TE20, TE21, TE22, TE23, GB1, GB2, GB3, GB4, GB5, GB6, GB7, GB8, GB13, GB14, GV20, GV21, GV22, GV23, GV24, GV25, GV26 and CV24. The head and the neck muscles, including the SCM muscle, plastyma, frontalis, corrugators supercilii, orbicularis oculi, auricularis, temporalis, masseter, pterygoid, zygomaticus, and risorius can be used for cosmetic acupuncture.

Conculsion: Most acupoints and muscles are located in the face and the head, which seems to be related to concerns about face wrinkles.

Keywords: Cosmetic acupuncture, Acupoint, Muscle

Effects of Electroacupuncture on the Excitability of Medial Vestibular Nuclei in Rats
Jae Hyo Kim, Sung Ho Lee, In Chul Sohn, Young Sun Kim, Min Sun Kim

Abstract
Objective: The vestibular system detects head movement and serves to regulate and maintain the equilibrium and orientation of the body. Vestibular imbalance is known to lead to vestibular symptoms, such as nausea, vomiting, vertigo and postural disturbance. The objectives of the present study were to examine a modification of the dynamic activities of medial vestibular nucleus (MVN) neurons following electroacupuncture (EA) of GB43 (Hyepgye).

Methods: In Sprague-Dawley rats weighing 250–300 g, dynamic responses induced by sinusoidal whole body rotation about a vertical axis at 0.2 Hz were observed in MVN neurons of rats during EA at 0.2 ms, 40 Hz and 600±200 μA at GB43 (Hyepgye). Also, expression of cFos protein was observed 2 hours after EA for 30 minutes.

Results: In the dynamic response of vestibular neurons, the excitatory or inhibitory responses of gain were predominant in the ipsilateral MVN neurons during EA, but were not predominant in the contralateral MVN neurons. Most neurons showing decreased gain were classified as having an inhibitory response of spontaneous discharge during EA, and those showing increased gain were classified as having an excitatory response to spontaneous discharge during EA. Also, EA of the left GB43 (Hyepgye) for 30 minutes produced an expression of cFos protein in MVN and in inferior olive (IO) and solitary tract nuclei (SOL). Spatial expressions of cFos protein were predominant in the contralateral MVN, ipsilateral inferior olive and bilateral solitary tract nuclei nuclei.

Conclusion: These results suggest that the excitability of MVN neurons was influenced by EA of GB43 (Hyepgye) and the EA may be related to the convergence on MVN.

Keywords: Medical vestibular nuclei, Electroacupuncture, GB43 (Hyepgye), Rat

Effects of Prunella Vulgaris Pharmacopuncture on the Lipopolysaccharide-induced Acute Inflammatory Rat Model
Jong Wook Lee, Hyang Sook Lee, Eun Lee, Joon Moo Lee

Abstract
Objectives: This study investigated the anti-inflammatory effects of Prunella vulgaris pharmacopuncture in the lipopolysaccharide (LPS)-induced inflammatory rat model.
Methods: Sprague-Dawley rats were divided into 5 groups: normal control (n=8), LPS control (n=8), LPS+Prunella vulgaris pharmacopuncture at CV4 (CV4, n=8), LPS+Prunella vulgaris pharmacopuncture at ST36 (ST36, n=8), and LPS+Prunella vulgaris pharmacopuncture at CV12 (CV12, n=8). Pharmacopuncture was given every two days for 4 weeks, followed by inflammation induction with peritoneal LPS injection (5mg/kg). Proinflammatory cytokines, including interleukin-1β (IL-1β), interleukin-6 (IL-6), tumor necrosis factor-α (TNF-α), interleukin-10 (IL-10) and thio-barbituric acid reactive substance (TBARS) from blood and liver tissue, were compared before and 5 hours after inflammation induction.

Results: In the CV4 and the CV12 groups, the plasma IL-1β, IL-6 and TNF-α levels were increased by LPS injection and significantly decreased at 5 hours after injection (p<0.05). For the CV12 group, the plasma IL-10 concentration was significantly increased (p<0.05). Liver IL-1β and IL-6 levels were significantly decreased in the CV4 and the CV12 groups (p<0.05) while the normal and the LPS control groups showed no significant differences in the TNF-α and the IL-10 levels. The plasma TBARS concentration was significantly decreased in the CV12 group, while no significant difference existed between the LPS control and the pharmacopuncture groups.

Conclusion: Based on the present findings, Prunella vulgaris pharmacopuncture at CV12 may have a potentially preventive anti-inflammatory effect in the LPS-induced inflammatory rat model.

Keywords: Pharmacopuncture, Prunella vulgaris, Anti-inflammation, CV12

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Review on the Seven Acupoints for Stroke

Bong-Hyo Lee, Sung-Chul Lim, Kyung-Min Lee, Jae-Su Kim, Tae-Young Jung

Abstract

Objectives: The purpose of this study is to review the seven acupoints for stroke and to reveal the meaning of their composition.

Methods: The authors reviewed several studies related to the seven acupoints for stroke. The authors also investigated the composition of the seven acupoints for stroke and found a mechanism explaining their function and clinical utility.

Results and Conclusion: The seven acupoints for stroke are composed: 1 acupoint of the Governer Vessel, 2 acupoints of the Yang Myoung meridian, and 4 acupoints of the So Yang meridian. The seven acupoints for stroke can be used to treat many central nervous diseases related to stress.

Keywords: Stroke, CVA, Infarction, Stress