Study on the Safety of a 830-nm, 905-nm Laser Used for Laser Acupuncture Therapy
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Abstract
Objectives: Because continued attempts have been made to make good use of laser acupuncture in Korean medicine, the safety of laser acupuncture must be ensured if its use is to be increased. The aim of this study was to examine the safety of laser acupuncture therapy using on 830-nm laser and a 905-nm laser.
Methods: Fifteen rats were randomly divided into three experimental groups: Intact: no therapy group, LAT830: laser acupuncture therapy (830 nm) group at GB34$\text{GB39}$, LAT905: laser acupuncture therapy (905 nm) group at GB34$\text{GB39}$. During eight weeks of treatment, LAT830 and LAT905 were treated twice weekly at a frequency of 20 Hz and an intensity of 20 mW. Test parameters were mortality, body weight, food consumption, hematological values, blood-chemistry values, urinalysis values, absolute organ weight and relative organ weight.
Results: No statistically significant differences were found among the three groups. The values measured in the LAT830, LAT905 and Intact (no therapy) groups were similar, indicating that laser therapy used on 830-nm lasers and a 905-nm laser had no abnormal influence on reactions in living bodies. Little difference in the liver weight was observed on the relative organ weight tests between the laser-treated groups (LAT830, LAT905) and the Intact group.
Conclusions: In conclusion, laser acupuncture therapies with an 830-nm laser and a 905-nm laser caused no abnormal reactions in living bodies. More studies are needed to further establish the safety of many other laser acupuncture therapies.
Key Words: safety; laser 830 nm; Laser 905 nm; laser acupuncture

Effects of Acupuncture at the GV20 and the GV22 on an Electroencephalogram (EEG)
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Abstract
Objectives: The aim of this study was to use a power spectrum analysis to examine the effects of Acupuncture at the GV20 and the GV22 on normal human beings.
Methods: An electroencephalogram (EEG) power spectrum exhibits site-specific and state-related differences in various frequency bands. Eight-channel background EEGs were carried out on 30 subjects (24 females and 4 males).
Results: In the $\delta$ (theta) band, the power values decreased significantly at the 8-channel average value (p<0.03) and especially at T3 (p=0.02), T4 (p<0.001) and P3 (p<0.03). In the $\alpha$ (alpha) band, the power values showed no significant changes. In the $\beta$ (beta) band, the power values increased significantly at the 8-channel average value (p=0.02) and especially at T4 (p=0.003), P3 (p=0.03) and P4 (0.02). The value of the $\beta/\delta$ (beta/theta) ratio increased significantly at the 8-channel average value (p=0.002) and especially at Fp2 (p=0.05), F4 (p=0.007), T3 (0.012), T4 (0.005), P3 (0.007) and P4 (0.03)
Conclusions: Through these data, we conclude that acupuncture at the GV20 and the GV22 on normal human beings may activate the cerebral cortex through a functional mechanism.
Key Words: GV20; GV22; Acupuncture; brain wave; electroencephalogram
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Acupuncture and Spontaneous Regression of a Radiculopathic Cervical Herniated DiscGalectin-3-independent Down-regulation of GABABR1 due to Treatment with Korean Herbal Extract HAD-B Reduces Proliferation of Human Colon Cancer Cells
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Abstract

Objectives: Many efforts have shown multi-oncologic roles of galectin-3 for cell proliferation, angiogenesis, and apoptosis. However, the mechanisms by which galectin-3 is involved in cell proliferation are not yet fully understood, especially in human colon cancer cells.

Methods: To cluster genes showing positively or negatively correlated expression with galectin-3, we employed human colon cancer cell lines, SNU-61, SNU-81, SNU-769B, SNU-C4 and SNU-C5 in high-throughput gene expression profiling. Gene and protein expression levels were determined by using real-time quantitative polymerase chain reaction (PCR) and western blot analysis, respectively. The proliferation rate of human colon cancer cells was measured by using a 3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide (MTT) assay.

Results: Expression of γ-aminobutyric acid B receptor 1 (GABABR1) showed a positive correlation with galectin-3 at both the transcriptional and the translational levels. Downregulation of galectin-3 decreased not only GABABR1 expression but also the proliferation rate of human colon cancer cells. However, Korean herbal extract, HangAmDan-B (HAD-B), decreased expression of GABABR1 without any expressional change of galectin-3, and offset γ-aminobutyric acid (GABA)-enhanced human colon cancer cell proliferation.

Conclusions: Our present study confirmed that GABABR1 expression was regulated by galectin-3. HAD-B induced galectin-3-independent down-regulation of GABABR1, which resulted in a decreased proliferation of human colon cancer cells. The therapeutic effect of HAD-B for the treatment of human colon cancer needs to be further validated.

Key Words: HAD-B; GABABR1; galectin-3; human colon cancer; proliferation; 5-fluorouracil
treated with acupuncture and normal saline pharmacopuncture. To estimate the efficacy of controlling pain, we checked the visual analog scale [VAS], and to estimate the improvement of the symptoms, we evaluated by pain rating scale [PRS] and the Oswestry low-back pain disability index [ODI].

**Results:** A comparison of the experimental and the control groups showed more significant improvements in the VAS, PRS, and ODI for the experimental group than for the control group.

**Conclusions:** Chukyu (spine-healing) pharmacopuncture can be used for effective treatment in patients with lumbago and skelalgia.

**Key Words:** lumbago; skelalgia; chukyu (spine-healing) pharmacopuncture

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