Anti-hyperlipidemia Effects of a Water extract of Artemisiaiwayomogi Kitamura and Curcuma longa Linne. (ACE) in mouse model induced poloxamer 407

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Purpose: To investigate anti-hyperlipidemic effects of ACE against poloxamer 407(P-407)-induced hyperlipidemia of C57/BL 6 mice model. Serum and hepatic tissue lipid profiles, hyperlipidemia related - gene expressions and protein levels of the hepatic tissue were measured.

Methods: C57BL/6 mice were orally administrated with distilled water, Artemisia iwayomogi Kitamura(AR)50 mg/kg or Curcuma longa Linne(CU)50 mg/kg, ACE(25 or 50 or 100 mg/kg) or Lipitor(50 mg/kg) for 13 weeks (n=10 or 11 per group). Mice were injected P-407(500 mg/kg) two times in every weeks. After 13 weeks, we measured serum lipid parameters such as total cholesterol (TC), triglycerides (TG), and hyperlipidemic gene and protein expressions were evaluated in the hepatic tissues.

Results: P-407 (500 mg/kg) injection caused considerable increases of serum TC, TG and free fatty acid (FFA). The serum levels of total reactive oxygen species and hepatic tissue levels of lipidperoxidation were also increased by P-407. Treatment with ACE, however significantly normalized the above alterations. The fat accumulations were occured and accumulated in the hepatic tissue, whereas those alterations were improved by treatment with ACE by measuring histopathological inspection. Additionally, gene expression levels including SREBP-1c, FAS, SCD-1, PPAR-α, and TNF-α in hepatic tissue were altered by P-407 injected, while ACE group also significantly normalized them.

Conclusion: Finally, it was concluded clearly that ACE showed antihyperlipidemic effects in P-407-induced hyperlipidaemic mice. ACE is worked in the prevention of experimental hyperlipidemia.

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The Characteristics of Action Potentials in Primo-vessels and the Effects of Acetylcholine Injection

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Purpose: In this study, we analyzed the action potentials from Primo-vessels and observed the effects of acetylcholine on the pulse component.

Methods: Male 7-week-old SD rats were used for tissue preparation. The large intestine surface Primo-vessels were removed from the rats and placed on a Sylgard. An electrode was placed in the tissue. The tissue was perfused with Kreb’s solution. This solution was at pH 7.4 and 36 °C. Acetylcholine was diluted 1000 times and injected into the solution.

Results: The pulses had rapid depolarizing and repolarizing phases. The amplitude was slightly but not significantly increased after injection. The FWHM for the pulses were around 30 ms for both sections. However, there was a significant variation in the period. After injection, the period decreased by half.

Conclusion: Primo-vessels’ function was considered transferring electrical signals rather than carrying material due to the very short FWHM. Primo vascular system can be controlled by acetylcholine.

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Does musical electro-acupuncture better than electro-acupuncture in curing Alzheimer’s disease: seeing from Morris water maze and micro-PET

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Purpose: Alzheimer’s disease (AD) is a chronic, debilitating neurodegenerative disease with no effective therapies existing. Some research suggested that electro-acupuncture treatment may be an alternative therapy for AD; however, it also had its own limited. We intended to introduce a new treatment—musical electro-acupuncture and evaluate its effect on AD.

Methods: Morris water maze and micro-PET were used to evaluate the effects of musical electro-acupuncture and electro-acupuncture treatments on senescence accelerated mouse-P8 (SAMP8), an animal model of Alzheimer’s disease.

Results: From the Morris water maze (MWM) test, we found the treatment of electro-acupuncture and musical electro-acupuncture can both improve the spatial learning and memory ability of SAMP8 mouse; and from the micro-PET test, we proved that after the musical electro-acupuncture treatment the level of uptake rate of glucose in hippocampus was higher than electro-acupuncture group.

Conclusion: These results suggest that the treatment of electro-acupuncture and musical electro-acupuncture may both provide a viable treatment option for AD, and the musical electro-acupuncture is better than electro-acupuncture.

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