PP-048  fMRI research of voluntary movement control
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Objective: In order to identify the neural correlates of voluntary movements of hand and ankle, we selected the blood oxygenation level dependent (BOLD) functional magnetic resonance imaging (fMRI) to study the activation changes of the brain while executing voluntary movements.

Methods: Right handed healthy volunteers were scanned at MAGNETOM Trio 3.0 Tesla magnetic resonance imaging scanner while performing the movement tasks with their hands and ankles. Image datasets were spatially normalized according to the standard coordinate, and spatially smoothed with isotropic Guassian Kernel. Statistical parametric maps were generated respectively.

Results: Dominant hand movement mainly activated contra-lateral primary motor cortex, bilateral supplementary motor area and cerebellum, the total activation of the central spots is 3.15–6.68. Non-dominant hand movement mainly activated bilateral SMA, cerebellum and basal ganglion, and it is 2.31 times of the dominant hand. Bilateral ankle voluntary movements mainly activated bilateral M1, SMA and cerebellum, the total activation of the central spots is 3.15–7.41.

Conclusion: A large set of structures in the cerebral cortex and cerebellum are involved in voluntary movements. At the same time, the basal ganglion is also the important regulation and control central nucleus during voluntary movement.

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PP-049  DA receptor function of striatum neuron after exercise-induced fatigue
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Objective: According to observe the effecting of dopamine receptor antagonist on ventrolateral and dorsolateral striatum neuron electrical activity after exercise-induced fatigue, and reveal the regulation mechanism of dopamine system.

Methods: Ten days load increasing swimming exercise was used to establish exercise-induced fatigue model. During the experiment courses, when the steady was firing recorded with glass microelectrode, SCH23390 and Spiperone (10μmol) were injected to the right ventricle (A: 0 mm, L: 1.6 mm, H: 3.4 mm) and investigate the firing changes.

Results: (1) About 28.57% of neurons affected by SCH23390 in the control group, Among them there were 16.67% (7/42) neuron excitability increased, while 11.90% (5/42) decreased. There was certain latent period in SCH23390's regulation role, and SCH23390 can induce single firing to bursting firing. (2) About 56.10% of neurons affected by Spiperone, Among them there were 9.76% (4/41) neuron excitability increased, while 46.34% (19/41) decreased. In experimental group, the effect of Spiperone on the discharge of neurons, the inhibitory effects were significantly higher than the excitatory effects (P<0.05).

Conclusion: After exercise-induced fatigue, SCH23390 can induce the change from single firing to bursting firing. Spiperone can enhance the inhibitory effects in striatum neurons.

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PP-050  Changes of of the hypothalamus–pituitary–adrenal axis (HPA) in rheumatoid arthritis with depression
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Background: Patients with the rheumatoid arthritis (RA) always suffered from the depression. Changes of the hypothalamus-pituitary-adrenal (HPA) axis is related with the RA and the depression. This work is to observe if there is the changes of the HPA in the RA with depression.

Methods: Modeling the RA with depression rat model with complexed ideas. Radioimmunoassay methods were used to determine the hypothalamic corticotropin-releasing hormone (CRH) content, pituitary adrenocorticotropic hormone (ACTH) content and corticosterone (COR) level in the adrenal.

Result: The hypothalamic CRH content, pituitary ACTH content and adrenal COR levels were significantly increased in the rheumatoid arthritis with depression rats (p < 0.01).

Conclusions: There is hyperfunction of HPA axis in RA with depression, and it is related to the high cytokine secretion.

PP-051  Immunobiochemical evaluation of killed leishmania vaccine (KLV) adjuvant in t ion of visceralization of Leishmania major in Balb/c mice
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Background: KLV have been applied for its immunogenicity in human and mice model. BCG as adjuvant is inducing humoral and cellular immune responses during leishmaniasis. In this study, both KLV and BCG were applied in order to investigate the inhibition rate of L. major replication and visceralization in mice.

Materials and Methods: Promastigotes of L. major were harvested from culture, counted and used to infect Balb/c mice. Primarily, mice were injected with KLV/BCG, and then they were infected by L. major intradermally with 2×106 promastigotes. Six weeks after infection, a small nodule was appeared leading to a large lesion and visceralisation. Effects of KLV/BCG, physiopathological changes, lesion size, delay of lesion formation, proliferation of amastigotes inside MQs. Application of KLV/BCG decreased visceralization in liver and induced liver, spleen and plasma NO. Although, application of BCG solely increased visceralization inliver, but KLV/BCG represented effects in concentrations of plasma Cu and there is no significant different in SGOT and SGPT.

Result: Hepatomeal has significant different in BCGroup. It is concluded that both KLV/BCG represented no cytotoxic effects on the host, but partly decreased lesion size; and decrease number of amastigotes inside MQs. Application of KLV/BCG decreased visceralization in liver and induced liver, spleen and plasma NO. Although, application of BCG solely increased visceralization inliver, but KLV/BCG represented effects in concentrations of plasma Cu and there is no significant different in SGOT and SGPT.

Conclusion: like topical application of BCG, injectable BCG presented no ameliorative affects on CL.BCG efficacy may be associated with route, dose and number of injection, which require more investigations.