PULSUS
WWW.PULSUSCONFERENCE.COM

Int J Ment Health Psychiatry 2018, Volume 4
DOI: 10.4172/2471-4372-C2-012

Global Experts Meeting on

Psychiatry and Mental Health

July 23-24, 2018 Rome, Italy

Effects of baicalein on AC-cAMP-PKA signaling pathway in prefrontal cortex of rats with attention deficit hyperactivity disorder

Ni Xinqiang, Liao Yingzhao, Chen Jing and Liu Hua
Shenzhen Traditional Chinese Medicine Hospital, China

Objective: To study the effects of baicalein on spontaneous activity, impulsivity, learning-memorial ability, and the Adenylate Cyclase (AC)-cyclic adenosine monophosphate (cAMP)-Protein Kinase A (PKA) signaling pathway in Pre Frontal Cortex (PFC) of rats with Attention Deficit Hyperactivity Disorder (ADHD).

Methods: 50 four week old SHR rats aged 4 were randomly divided into the model group, methylphenidate (MPH) group (2 mg/kg) and low-dose, mid-dose and high-dose group (100, 200, 400 mg/kg) baicalein groups and WKY rats of the same age were selected as the normal control group (n=10 in each group). Rats were orally gavaged for 4 weeks in the dark-phase. Open Field Test (OFT), Elevated Plus Maze (EPM) and Novel Object Recognition Test (NORT) were conducted to evaluate the spontaneous activity, impulsivity and learning-memorial ability of rats individually at the end of treatment. AC, cAMP and PKA quantity were determined with Enzyme-Linked Immunosorbent (ELISA) method.

Results: Movement distance in OFT was shortened in high-dose baicalein group and mid-dose baicalein group ($P<0.05$) afterwards, vertical movements also decreased in all baicalein groups. Percentage of the times entering the open arms in the EPM was significantly reduced in the mid-dose baicalein group ($P<0.05$), staying duration in the total period in the EPM was also reduced in all baicalein groups ($P<0.05$). The preference index in the testing phase of NORT increased in the mid-dose baicalein group ($P<0.05$). Levels of AC and cAMP in the prefrontal cortex increased in all baicalein groups ($P<0.05$), while PKA increased in high-dose and mid-dose baicalein group ($P<0.05$).

Conclusion: Baicalein could increase the levels of AC, cAMP and PKA in prefrontal cortex of ADHD rats, which may shed some light to the mechanism how baicalein could relieve the spontaneous activity and impulsivity, improve learning-memorial ability of ADHD rats.

nxqbio@hotmail.com

Notes: