

## **P-1326 - EFFECTS OF BACOPA MONNIERI ON VGLUT1 DENSITY IN FRONTAL CORTEX, STRIATUM AND HIPPOCAMPUS OF SCHIZOPHRENIC RAT MODEL**

T.Wetchateng, P.Piyabhan

Institute of Preclinical Science, Faculty of Medicine, Thammasat University, Klongluang, Thailand

One common symptom of schizophrenia is cognitive deficiency. Previous studies showed that *Bacopa monnieri* (Brahmi) improves cognitive function in schizophrenic rat model, induced with sub-chronic phencyclidine (PCP). Vesicular glutamate transporter 1 (VGLUT1) has been suggested as valuable markers of glutamatergic terminals that affects cognitive function. Deficit of VGLUT1 has previously been reported in the prefrontal cortex, striatum and hippocampus in schizophrenia. The aim of this present study is to investigate the effects of Brahmi extract on VGLUT1 density in frontal cortex, hippocampus and striatum of schizophrenic rat model.

Wistar rats, weighting 200-220 g, were used (n=18 per group);

**Group 1:** Received PCP injection for 7 days then orally administered Brahmi for 14 days;

**Group 2:** Received PCP injection for 7 days then orally administered vehicle for 14 days. Frontal cortex, hippocampus and striatum were collected from all groups of animals and carried out in western blotting and immunodetection for VGLUT1.

VGLUT1 density of all brain areas was measured, using Scion-Image software and then compared between group 1 and 2 (*t-test*).

Mean VGLUT1 density of group 1 is significantly higher than that of group 2 in frontal cortex (p=0.023), striatum (p=0.046) and CA1 (p=0.02), but not CA2/3 of hippocampus.

The results concluded that Brahmi can improve cognitive deficiency in schizophrenic rat model. Its cognitive enhancement effect is due to increased VGLUT1 density in frontal cortex, striatum and CA1 of the rat model of schizophrenia. Therefore an increase of VGLUT1 might be one possible mechanism of the cognitive enhancement effect of Brahmi.