Annals of General Psychiatry

Poster presentation

Psychoimmunological effects of dioscorea in the ovariectomized rats: role of anxiety level

Ying-Jui Ho*[1], Wen-Yu Hsu[1], Ching-Fu Wang[1], Ting Tseng[1], Chun-Wen Cheng[2], Ying-Cheng Hung[3], Cheng-Chin Hsu[4], Mei-Ding Kao[5] and Yuan-Feen Tsai[6]

Address: [1]Division of Clinical Psychology, School of Psychology, Taiwan, [2]Institute of Biochemistry, Taiwan, [3]Institute of Immunology, Taiwan, [4]School of Nutrition, Chung Shan Medical University, Taiwan, [5]Department of Food and Nutrition, Providence University, Taiwan and [6]Department of Physiology, College of Medicine, National Taiwan University, Taiwan

* Corresponding author

from International Society on Brain and Behaviour: 2nd International Congress on Brain and Behaviour
Thessaloniki, Greece. 17–20 November 2005

Published: 28 February 2006

Annals of General Psychiatry 2006, **5**(Suppl 1):S310 doi:10.1186/1744-859X-5-S1-S310

Background

It has been reported that the anxiety level in the rats is correlated to the interleukin-2 (IL-2) in the brain. The present study aimed at investigating the effects of dioscorea (will yam), a Chinese medicine, on the emotional behavior and the IL-2 level in the brain of ovariectomized (OVX) rats.

Materials and methods

One month after the ovariectomy, female Wistar rats were screened in the elevated plus-maze (EPM) test for measuring the anxiety level and were then orally administered by dioscorea (250, 750, and 1500 mg/kg/day). Three weeks later, these animals were then tested again in the EPM and in the forced swim test (FST).

Results

The anxiety behavior of rats in the EPM was increased in a half of the OVX rats. In addition, there was a trend of elevation of IL-2 in the cerebral cortex of these high anxiety (HA) OVX rats. After the chronic treatment of dioscorea, the decreasing of anxiety and the IL-2 level was observed in the HA OVX rats. The despaired behavior in the FST was inhibited by the highest dose of dioscorea.

Discussion

These results indicate that the ovariectomy-induced anxiety and the changes of neuroimmunological function in the cortex are reversed by the treatment of dioscorea. Furthermore, individual differences need to be taken into account when psychoneuroimmunological issues are measured, determining anxiety levels in the EPM seems to serve as a useful approach.