[Abstract:0743] ***Mood disorders***

Antidepressant-like effects of gallic acid: dual effect on serotonergic and catecholaminergic neurotransmissions

Nazli Turan, Ozgur Devrim Can, Yusuf Ozturk

Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey
e-mail address: nazlituran@anadolu.edu.tr

Objective: Gallic acid (GA), 3,4,5-trihydroxybenzoic acid, is a phenolic acid derivative and a natural polyphenol found in tea leaves, grapes, berries and plants like Thuja, Quercus, Rhus, Camelia. Several studies have described the antidepressant-like activity of GA. However, pharmacological mechanisms underlying this effect have not yet been clarified. Therefore, in this study, we planned to investigate possible mechanisms underlying the antidepressant-like activity of gallic acid (GA).
Methods: Adult BALB/c female mice, weighing 30–35 g, were used for the experiments. The putative antidepressant-like effect of GA (30 and 60 mg/kg) was investigated using modified forced swimming test (MFST) and tail suspension test (TST), two predictive methods for screening antidepressant effects. Further, spontaneous locomotor activity of the mice was evaluated by activity cage tests. The experimental protocol was approved by the Local Ethical Committee on Animal Experimentation of Anadolu University, Eskisehir, Turkey.
Results: Obtained data demonstrated that GA, administered at 60 mg/kg dose, decreased the immobility time of mice in both in TST and MFST. In MFST, GA, administered at the same dose induced a significant prolongation in both of the swimming and climbing time of mice with respect to the control values. These findings clearly indicate the antidepressant-like activity of GA administered at 60 mg/kg. A 30 mg/kg dose was ineffective in both tests. In the activity cage tests, GA did not induce any significant alteration in the total number of spontaneous locomotor activities. This finding indicates that the effect of GA reducing the immobility time in the TST was not accompanied by changes in locomotor activity, as assessed in the activity cage tests. The anti-immobility effect of GA in the TST was reversed with administrations of α-methyl-para-tyrosine methyl ester (AMPT), an inhibitor of catecholamine synthesis (100 mg/kg, i.p.) and with p-chlorophenylalanine methyl ester (PCPA), an inhibitor of serotonin synthesis (100 mg/kg, i.p., administered for 4 consecutive days). These results suggest that the anti-depressant-like effect of GA is mediated through an increase in not only serotonin but also catecholamine levels in the synaptic cleft. However, other mechanisms, for example mechanisms involving the opioidergic, GABAergic, glutaminergic, and nitrergic systems, may also have contributed to the anti-depressant-like action observed in the present study. Therefore, other possible mechanisms should also be investigated with further studies.
Conclusion: To our knowledge, this is the first study to show findings that indicate the mechanisms underlying depressant-like effect of GA. This phenolic compound may become a new antidepressant drug candidate with a dual mechanism of action, if clinical studies validate its therapeutic effect in humans.
Keywords: gallic acid, antidepressant, mechanism of action

Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S144

[Abstract:0782] ***Mood disorders***

Marriage stories of individuals with bipolar disorder in relation with the illness

Ikbal Inanli, Ibrahim Eren, Tahsin Etli, Mehmet Arslan, Mehmet Er, Ali Metehan Caliskan, Yusuf Emre Yilmaz

Department of Psychiatry, Konya Training and Research Hospital, Konya-Turkey
e-mail address: esra_ucar88@hotmail.com

Objective: Bipolar disorder is a chronic psychiatric disorder with variable course and significant impact on patients' social, occupational, marital and general functioning. The mood symptoms of individuals with bipolar disorder are determined by multiple effects including biological and environmental factors. For example, the quality of social support influences both relapse rates and relapse polarity of the disease, and marital relationship is considered the most important source of social support. marital function among those who are married is often impaired and they have higher divorce rates. Several studies in the literature indicate that being married has a positive impact on functionality, and also reduce the number of episodes and increases adherence to treatment. Earlier studies tend to focus on how marriage affects the illness. The focus of our study is to investigate whether the bipolar disorder stimulates the number of marriages, how this illness impacts on decisions like getting married and divorced, and what the relationship between marriage and clinical features

of patients with bipolar disorder is.

Methods: The study enrolled 205 participants who were over 18 years old, diagnosed with bipolar disorder I and II, and in the euthymic state. They were assessed by using a data form that evaluates their socio-demographic, clinical and marriage status.

Results: According to our study results, out of 205 participants, 114 (55.6%) are women and 91 (44.4%) are men. 175 (85.4%) are diagnosed with bipolar disorder 1 and 30 (14.6%) have bipolar disorder II. Their ages range between 18 and 68 years. In terms of their marital status, 37 (18.0%) of them were never married, 122 (59.5%) were married and divorced, 40 (19.5%) were divorced, 4 (2.0%) of them were widowed and 2 (1.0%) were in a common-law marriage. This study also finds that 136 (66.3%) of all participants married once, 22 (10.8%) of them married twice, 8 (3.9%) married three times, 1 (0.5%) married four times and 1 (0.5%) of them married five times. According to our results, 41 marriage decisions out of the total 213 were made when the participant was in an active episode. 24 of 41 were in manic-mixed episode, 11 were in depressive episode and finally 6 were in hypomanic episodes; 28 divorce decisions out of a total of 88 were made when the patient was in an active episode, 23 of 28 were in manic-mixed episode, 4 were in a depressive episode and 1 was in a hypomanic episode. 27 out of 78 divorced female patients said that their partners divorced them because they were diagnosed with bipolar disorder and/or used medications.

Conclusion: Individuals with bipolar disorder experience different clinical episodes. Patients' decisions to get married, or remarried and divorced seem to be affected by the episode they are in. Additionally, the gender of patients influences these decisions. All these findings show that treatment of bipolar disorder should be comprehensive and holistic, which comprises all areas of their life.

Keywords: bipolar disorder, marriage, gender

Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S144-S5