

14th International Conference on **Generic Drugs and Biosimilars**
&
9th Global Experts Meeting on **Neuropharmacology**

November 15-16, 2018 | Berlin, Germany

**Attenuation of stress induced depressive behavior by non-steroidal anti-inflammatory drugs in rats:
Role of antioxidant enzyme**

Tahira Perveen and Shaista Emad
University of Karachi, Pakistan

Dissimilar stress situations induce changes in behaviors through the modulation of physiological, immunological, neuronal, hormonal and biochemical functions. Dissimilar stress paradigms are often used as a model of neurological disturbances. Several studies indicate that inflammation is increased in the periphery as well as in the brain in both the depressive and manic phases of the bipolar disorder. Inflammatory pathways may contribute to the excessive release of stress hormones, imbalances of oxidative status and changes in neurotransmission system. The aim of current study is to investigate stress induced depression in rats and its diminution by the use of non steroidal anti-inflammatory drugs (NSAIDs). Treatment with cyclooxygenase inhibitors, which restrain proinflammatory cytokines and prostaglandin production, has gained eminence in a number of psychiatric diseases. In present study, different stress paradigms such as restraint stress, noise stress and shaker stress were given to rats to induce depression and preventive role of commonly prescribed non-selective NSAIDs, were investigated. Behavioral changes were monitored by open field and forced swim test, neuroendocrine changes by estimating plasma corticosterone levels and changes in antioxidant enzyme were also investigated. Results obtained from present study showed positive outcomes of NSAIDs in attenuation of stress induced behavioral, endocrine and antioxidant enzyme changes in rats. In view of the findings from the present study, NSAIDs may be used as an adjunct therapy to potentiate the effectiveness of antidepressant drugs against depression.

tahiraatiq@hotmail.com