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Poster Presentation

Effect of Hesperetin During Pregnancy and Lactation on Locomotor Activity and Anxiety-Like Behaviors in Animal Model of Autism

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Abstract

Introduction: Autism spectrum disorders (ASD) are a heterogeneous group of neurodevelopmental disorders that are defined with a wide range of behavioral impairments including social and communication deficits. Apart from these core symptoms, a significant number of ASD individuals display higher levels of anxiety. The present study is designed to understand the antioxidant efficacy of hesperetin (HET) on locomotor activity and anxiety-like behaviors in an animal model of ASD. **Materials and Methods:** In the experimental research, pregnant rats were divided into four groups including: control, disease group (injected 500 mg/kg valproic acid at gestational day 13) and treatment groups (received 10 and 20 mg/kg/day hesperetin for7 weeks during pregnancy and lactation). Locomotor activity and anxiety-like behavioral in offspring were measured in the open-field test. **Results:** The results showed that injection of valproic acid increases locomotor activity and anxiety-like behaviors ($p \leq 0.001$) and treatment of hesperetin effectively decrease locomotor activity ($p<0.001$) and increases duration that spends in middle area of Open field ($p<0.01$) compared with disease group. **Conclusion:** The results showed that oral administration of hesperetin improves locomotor disorder and anxiety-like behaviors in valproic acid model of autism-like.

Keywords: Locomotor Activity, Anxiety, Autism, Valproic acid

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