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Poster Presentation

Maternal Administration of Nano-Hesperetin Prevents Increase of Kidney's Enzymes and Reduction of Stress-Oxidative in Rat Model of Autism

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Abstract

Autism spectrum disorders are severe neurodevelopmental disorders, marked by impairments in reciprocal social interaction, delays in early language and communication and the presence of restrictive, repetitive and stereotyped behaviors. Depend on the statistic, 1 child from each 68 children face with ASD. This statistic shows that probably, the environmental factors play the important role in ASD. Based on this, the aim of this research is to investigate the relation of maternal-offspring in ASD during pregnancy and lactation. In the experimental research, pregnant rats were divided into six groups including: Sham (received water and saline orally), disease group (injected 500 mg/kg valproic acid at gestational day 13) and treatment groups (received 10 and 20mg/kg/day/nano-Hesperetin). Treatment groups received nanocrystal orally for 7 weeks during pregnancy and lactation. The relation of maternal and offspring in ASD was estimated by checking brain anti-oxidant (CAT, SOD, GPx) and kidney's enzymes (AST, ALT, ALP). The results showed that probably injection of valproic acid increases kidney's enzymes ($p \leq 0.001$) and decrease anti-oxidant enzymes ($p \leq 0.001$) in maternal and offsprings compared with control group and treatment of nano-Hst effectively decrease kidney's enzymes (10 and 20mg/kg; $p < 0.001$) and increase anti-oxidant enzymes ($p < 0.001$) compared with disease group in maternal and offspring. The results of this research showed that probably there relation of maternal and offspring related to ASD and oral administration of nano-Hst prevents reduction of anti-oxidant and increase of kidney's enzymes in valproic acid model of autism-like.

Keywords: ALP, AST, ALT, Autism, Valproic Acid

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