

August 13-14, 2018
Paris, FranceAm J Pharmacol Pharmacother 2018, Volume 5
DOI: 10.21767/2393-8862-C1-003

HYPERGLYCEMIA INDUCES SPATIAL WORKING MEMORY AND SOCIAL MEMORY IMPAIRMENTS IN SWISS ALBINO MICE

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Cognitive deficit is an emerging health concern in diabetic patients and hyperglycemia and reactive oxygen species are well believed to be among the prime candidates mediating the behavioral impairments and memory deficits. The study was conducted to evaluate the effect of hyperglycemia on spatial working memory and social memory on Swiss albino mice. The animals were divided into three (3) groups of six each (n=6). Group I served as normal control and received distilled water, group II, and III were hyperglycemic. Hyperglycemia was induced using Alloxan (150 mg/kg). All administrations were done intraperitoneally. A digital glucometer was used to determine the blood glucose level. Spatial working memory and social memory were assessed using spontaneous alternation in the Y-maze and novel object recognition task (NORT) respectively. The results showed that hyperglycemia significantly ($p < 0.05$) induces spatial working memory and social memory deficits when compared to control. This study demonstrated that hyperglycemia induces cognitive impairment in both spatial working memory and social memory.

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