

EFFECT OF BISPHENOL A AND PASSIVE AVOIDANCE LEARNING ON NR1 SUBUNIT OF NMDA RECEPTOR DISTRIBUTION IN HIPPOCAMPUS, AMYGDALA, CEREBELLUM AND PREFRONTAL CORTEX OF MALE RAT

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Bisphenol A is used in manufacture of polycarbonate plastics, epoxy resins and as nonpolymeric additive in plastics. On the other hand bisphenol A induces harmful effects on the mammalian CNS, so the aim of present study was to investigate the effect of bisphenol A and Passive avoidance learning on NR1 subunit of NMDA receptor distribution in hippocampus, amygdala, cerebellum and prefrontal cortex of male rats.

Thirty male rats weighting 260- 350 g were used. Animals were divided into 3 groups: 1- Sham group (sesame oil the same volume of experimental); 2- experimental 1 (received bisphenol A 5 mg/kg/day); 3- experimental 2 (received bisphenol A 50 mg/kg/day). Bisphenol A was used by oral intake for 15 days. passive avoidance Learning and memory were performed by a shuttle-box. Distribution of NR1 subunit of NMDA receptor was investigated by immunohistochemical procedure. For determination of color difference the software of Image Analyzer were used. Data was analyzed by one ways ANOVA measuring and Tucky's test as post-hoc tests. The level of significant was $P < 0.05$.

Data showed that bisphenol A in immunohistochemical procedure according to image analyzer program in two dose of present study significantly decreased distribution of NR1 subunit of NMDA receptor in hippocampus, amygdala, cerebellum and prefrontal cortex of male rats.

According to this results bisphenol A impaired distribution of NR1 subunit of NMDA receptor in hippocampus, amygdala, cerebellum and prefrontal cortex of male rats.