

Neurotoxicity of valproic acid in wistar rats : effects on memory

Introduction : Memory is the function that allows us to integrate, retain and restore information to interact with our environment. Several neural networks are taken into account in multiple forms of memorization. The influence of valproic acid on neurodevelopment is documented. VPA causes behavioral alterations in rodents.

General objective : To evaluate the neurotoxicity of valproic acid on memory in Wistar rats.

Materials and methods: A total of 48 Wistar rats were divided into three groups: (1) distilled water group, (2) VPA 200 mg/kg group, and (3) VPA 400 m/kg group. The products were administered daily by gavage for thirty days. After treatment, all animals were subjected to behavioral tests, particularly those of memory. Rats were selected from each batch for histologically oriented necropsies and for mating with untreated rats. The young rats resulting from the matings were subjected to behavioral tests.

Results: The variables of the different behavioral tests were noted. Rats exposed to VPA and young rats born from them showed a significant decrease in success rate and performance on behavioral tests. The results revealed stress and anxiety to us. Histological abnormalities were observed in the VPA-exposed groups.

Conclusion : VPA administered to Wistar rats at the doses studied causes memory alterations. This exposure leads to behavioral abnormalities, reduced pass rates on memory tests, stress and seizures in VPA-treated rats.

Keywords : Neurotoxicity; Valproic acid; Memory ; Behavioral tests; Rat