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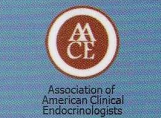
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چاقی و دیابت

سندرم متابولیک

کنگره بین المللی
دومین



Comparative Study of The Effects of Type 1 And Type 2 Diabetes on Learning And Memory in Male Wistar Rats

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Introduction: Neuropathy is one of the most common complications of diabetes leading to learning and memory deficits in human populations and also in experimental animals. Both types of diabetes have disturbing effects on cognitive functions. The aim of this study was to investigate the comparative effects of type1 and type2 diabetes on cognitive functions in rat.

Methods and Materials: Twenty one male wistar rats (three months old) were divided into 3 groups as follows; control, diabetes type 1 and diabetes type 2. Type 1 diabetes mellitus was induced by a single intraperitoneal injection of STZ (60 mg/kg body weight) and for type II diabetes mellitus, drinking water containing fructose (10%) had been given to rats for 8 weeks. Two months after the induction of both types of diabetes, learning and memory abilities were measured using water maze.

Results: Type 1 diabetic rats showed a significant increase in time and distance to reach the platform compared to control group. Although type 2 diabetic rats showed such an increase compared to control group, it was not meaningful. The comparison between two experimental groups did not show any meaningful difference, although type 1 diabetic rats showed an increase in time and distance to reach the platform.

Conclusion: Although both types of diabetes can lead to cognitive dysfunction, this abnormality is more obvious in type 1 diabetes than the other type. Such dysfunctions in type2 diabetes are probably age-related and they will be manifested more obviously by increasing age.