

Original Article

Effect of sub-acute insulin treatment on short-term non-spatial working memory in mice

Isyaku U. Yarube, Joseph O. Ayo, Rabiou A. Magaji, Isma'il A. Umar

ABSTRACT

Insulin is well known as a trophic hormone that regulates glucose, protein and lipid metabolism in target tissues. It was, until recently, considered as a peripheral hormone that had no effect on the central nervous system. It is now well established that insulin occurs in the brain where it exerts many physiological effects. The aim of the study was to determine the effect of sub-acute insulin administration on non-spatial working memory in mice. Twelve mice of both sexes, weighing between 18 - 22 g, were divided into two groups and treated with either insulin or de-ionized water (control) for seven days. Short-term working memory was assessed using novel object recognition task. Time spent exploring the objects did not differ between the groups. Novel object recognition and discrimination ratio was also similar for the control and insulin-treated animals. It is concluded that sub-acute administration of insulin has no effect on short-term non-spatial working memory in treated mice.

Key Words: Insulin, Short-Term Memory, Non-Spatial Memory, Working Memory, Sub-Acute Treatment
