Shafiqa Naeem Rajput

Abstract

Title: The Atropine ameliorates fear associated PTSD symptoms by impairing brain reconsolidation in rats

Shafiqa Naeem Rajput, Zehra Batool, & Saida Haider,
Neurochemistry and Biochemical Neuropharmacology Research Unit, Department of Biochemistry, University of Karachi, Karachi 75270, Pakistan

Keywords: Memory, Fear, Reconsolidation, Atropine, PTSD.

I. Abstract Body (up to 250 words)

ABSTRACT:
Atropine, an anticholinergic drug is a cholinergic muscarinic receptor antagonist. It has numerous cholinergic effects. The present study was designed to evaluate the effects of atropine on reconsolidation of newly formed fear memory in rats using pavlovian fear conditioning apparatus. It has been reported that central or systemic administration of anticholinergic drugs such as atropine causes fear memory impairment during reconsolidation. In reconsolidation, stored information is rendered labile again after being reactivated, pharmacological manipulations at this stage result in an inability to retrieve the fear memories, suggesting that they are erased or persistently inhibited. This fear memory impairment phenomenon can be valuable to treat post traumatic stress disorders (PTSD). To evaluate the effects of atropine on reconsolidation of newer fear memory by development of animal models of PTSD, 12 rats were taken and divided into control and atropine groups and subjected to pavlovian fear conditioning trials in order to develop animal model of PTSD. To evaluate the reconsolidation impairment of fear memory by atropine, PR-STM and PR-LTM tests were performed to evaluate short term and long term memory after conditioning. The present findings suggest that atropine at dose of 1mg/kg significantly decreases freezing behavior thus successfully diminishes the fear memory in rats. These results suggest that atropine when given shortly after a traumatic experience can impair the reconsolidation process by erasing fear memory traces which may help in preventing Post Traumatic Stress Disorders.

II. Image:



III. Reference:

1 Natália G. Fiorenza1, Dagieli Sartor1, Jociane C. Myskiw1 And Iván Izquierdo1,2 (2011) Treatment Of Fear Memories: Interactions Between Extinction And Reconsolidation 83

2 Izquierdo I, Furini CRG, Myskiw JC.(2016) Fear Memory. Physiol Rev 96: 695–750,.

3 **Biography:**

Shafiqa Naeem Rajput has completed her Masters in Biochemistry at the age of 24 years from University of Karachi Pakistan and worked as Research Associate at International center of chemical and Biological sciences. Currently she is exploring the field of research and innovation.

4 **Presenting author details**



Full Name: Shafiqa Naeem Rajput
Contact number: +923322294166
Category: Oral presentation