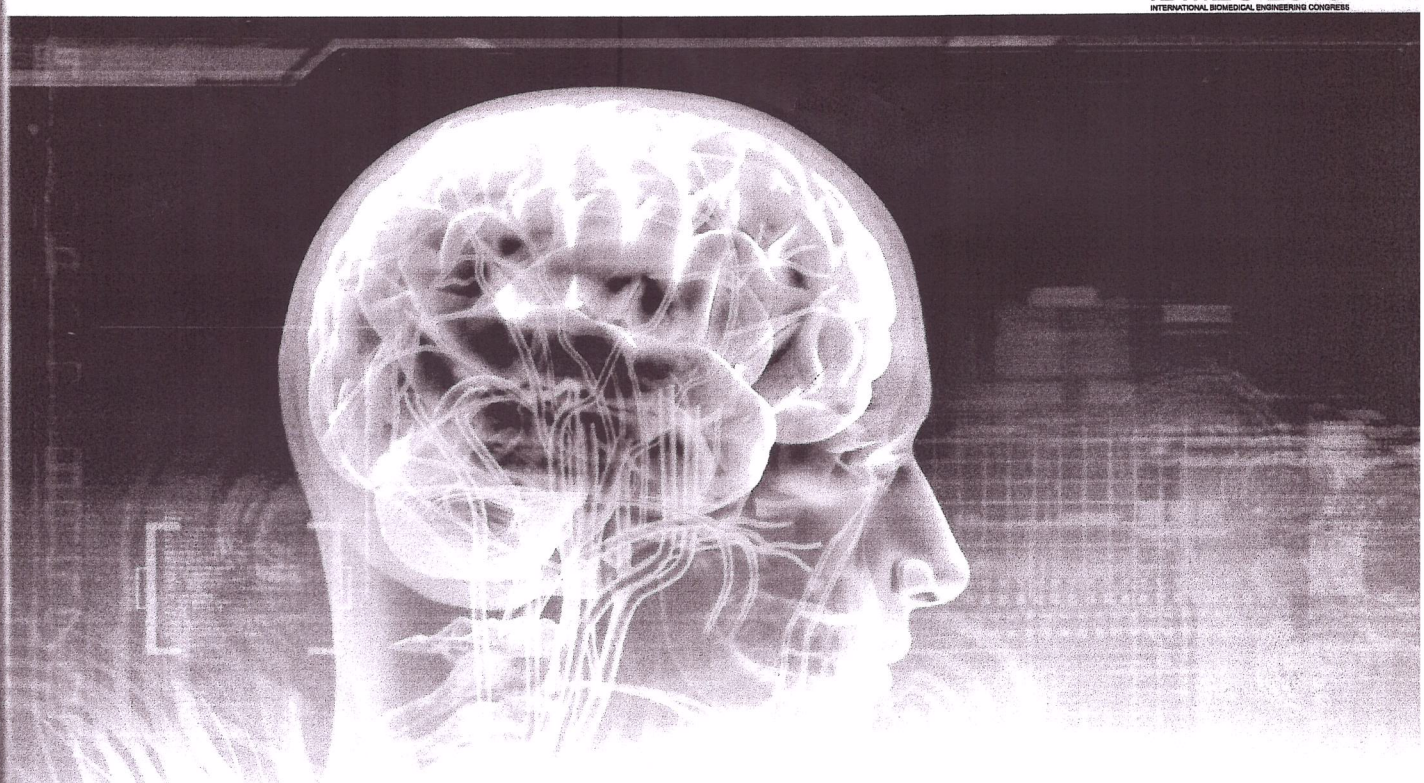
NEAR EAST UNIVERSITY
www.neu.edu.tr

NEAR EAST UNIVERSITY
IBMEC 2018
INTERNATIONAL BIOMEDICAL ENGINEERING CONGRESS



ABSTRACTS BOOK

IBMEC'18

NEU İRFAN GÜNSEL CONGRESS CENTER

24-27 May 2018

SECOND INTERNATIONAL BIOMEDICAL ENGINEERING CONGRESS

TITLE EVALUATION OF PROTECTIVE EFFECT OF MYRTUS COMMUNIS ON SCOPOLAMINE-INDUCED AMNESIA MODEL

Asli Aykac[1,*], Dilek Ozbeyli[2], Busra Ertas[3], Oya Orun[4], Murat Uncu[5], Goksel Şener[3]

[1]Department of Biophysic, Near East University, Nicosia, Cyprus

[2]Department of Physiology, Marmara University, Istanbul, Turkey

[3]Department of Pharmacology, Marmara University, Istanbul, Turkey

[4]Marmara University, Department of Biophysics, Istanbul, Turkey

[5] Department of Clinical Biochemistry, Near East University, Nicosia, Cyprus

ABSTRACT

It is aimed to determine the possible beneficial effects of Myrtus communis is treatment on impaired cognitive functions in scopolamine-induced amnesia model and its relation with cholinergic system using western blot method. Control was performed using passive avoidance and object recognition tests in groups of Scopolamine (1mg/kg/ip; 14d), Scopolamine + Galantamine (1.5mg/kg/ip; 14d) and Scopolamine + Myrtus communis episodic memory evaluations were made. Following behavioral experiments, BDNF, M_1 muscarinic and AChE receptor expressions were analyzed by western blotting, with decapitation of amygdale, hippocampus, and frontal cortex regions of the rats. According to both object recognition and passive avoidance test results, impaired cognitive functions were significantly ($p<0.001$) reversed in the amnesia group treated with Myrtus communis compared to scopolamine and amnesia group. Reductions in scopolamine and amnesia-induced groups in the amygdale and hippocampus regions were found whereas BDNF, M_1 and AChE receptor expressions were determined to be reversed by Myrtus communis therapy ($p< 0.01$). The positive effects of Myrtus communis, which is used in the traditional medicinal plants among the public, are thought to bring an alternative approach to Alzheimer's patients, which is one of the most common problems of today, as well as patients with similar memory problems.

KEYWORDS: Myrtus communis, scopolamine, BDNF, M_1, AChE

Correspondence Author e-mail: aykacasli@yahoo.com