



 **Current Issue**

 **Browse Issues**


 **Search**



 **About this Journal**

 **Instruction to Authors**

 **Online Submission**

 **Subscription**

 **Contact Us**



 **RSS Feed**

Acta Medica Iranica

2009;47(4) : 156-159

"In vitro inhibition of human erythrocyte Acetylcholinesterase activity by Zinc and Mercury "

"Abdollahi M, Entezari M, Akhgari M "

Abstract:

The effects of zinc and mercury on human erythrocyte acetylcholinesterase activity were studied. Blood used in this study was obtained from 24 apparently healthy individuals and after hemolysation, was treated with 3 different concentrations of zinc and mercury. Significant suppressions in acetylcholinesterase activity were recorded in treated samples by zinc and mercury. When compared to controls the remaining activity was found to be 53% with the highest concentration of zinc (2.1 mg/dl, $p < 0.01$), 72% with the middle (1.4 mg/dl, $p < 0.01$) and 85% with the lowest one (0.7 mg/dl, $p < 0.01$). In the case of mercury, the remaining activity was found to be 55% with the highest concentration (8.4 ng/g, $p < 0.01$), 72% with the middle (5.6 ng/g, $p < 0.01$) and 79% with the lowest one (2.8 ng/g, $p < 0.01$). Mercury showed a good correlation between doses used and decreases in activity ($r = 0.98$). Zinc also showed a linear correlation ($r = 0.99$). The direct interaction of metal ions with acetylcholinesterase is proposed as a mechanism for depressed enzyme activity. It is concluded that zinc and mercury contamination during acetylcholinesterase measurement can be a source of error that must be taken into account.

Keywords:

Acetylcholinesterase . Human erythrocyte

TUMS ID: 1209

Full Text HTML  Full Text PDF  859 KB

top ▲

[Home](#) - [About](#) - [Contact Us](#)

TUMS E. Journals 2004-2009
Central Library & Documents Center
Tehran University of Medical Sciences

Best view with Internet Explorer 6 or Later at 1024*768 Resolutions