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Document Title : *Behavioural Evidence for an interaction between Ethanol and colcium Channel Antagonist Amlodipine in Mice*

دلائل سلوكية علي التداخل بين الايثانول ومضاد قناة الكالسيوم (أملودبين) في الفئران

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Abstract : Chronic alcoholism has been associated with a wide variety of aggressive activities and organs damage in humans. This might be due to the increase in intra-neuronal calcium. The aim of this study was to examine the ability of different regimens of amlodipine administration to modulate locomotor and aggressive activity. Alcohol blood level was assessed. In addition, some kidney, liver and cardiac functional and stuctural alterations were investigated. Ten weeks old mice received i.p. injection for three weeks dose. (0.2 mgikg) amlodipine (calcium entry blocker) and two doses (1.0 and 4.0 gikg) of alcohol administered alone or under different regimens of amlodipine. The combination, combination withdrawal, substitution and alcohol withdrawal subjects of each dose of alcohol were divided into four groups [N=8 for the behavioural tests, N:;16 for the other tests]. Eight subjects served as control. Animals exposed to alcohol and different regimens of amlodipine were subjected to tube- restraint test showed no significant changes in biting frequencies and biting latency. Alcohol, amlodipine and alcohol combination with amlodipine caused significant changes in the time spent in locomotion, number of rears, wall rears and number of squares crossed. Amlodipine substitution showed significant changes in the latency and number of squares crossed compared with alcohol withdrawal group. In both alcohol doses and, alcohol withdrawal group,significant changes in serveral blood constituents were found, comprising increase in Urea ,Creatinine,Calcium and in the enzyme activities ofAPL,GOT,GPT,and LDH, with significant decrease in activities of the enzymes ALP,GOT,GPT,and LDH in alcohol combination, but amlodipine group (gp) and amlodipine substitution gp. did not show significant changes. Alcohol blood level did not show significant changes by using different regimens of amlodipine in the present study. Histopathological study was conducted by light microscopy. Chronic alcohol caused minute morphological changes in kiqney, heart and liver tissues, such as cloudy swelling, degenerative changes and hepatic fatty changes, respectively, wich were considered less hazardous I being self reversible with alcoholic abstainence. It can be, therefore, concluded that arnlodipine substitution may aid in controlling alcohol withdrawal manifestation -on pharmacodynamic rather than pharmacokinetic basis. Though concomitant arnlodipine administration can mask some of the alcohol depressive reactions, it could not protect against the development of its withdrawal symptoms.

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