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Research Highlight

INDUCTION OF CYTO-PATHOLOGICAL ALTERATIONS IN BODY BY CAPTOPRIL

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Captopril (Brand name: Capoten) is an angiotensin-converting enzyme inhibitor which is used for the treatment of hypertension[1] and congestive heart failure, that's why it is also referred as cardio protective drug[2].

Scientists have done a research on patients which were treated with Captopril in order to study the histopathological response of liver. It is also suggested that patients treated with Captopril are more likely to suffer with hepatic injury and jaundice[3]. Therefore, a research was done on rats to check the hepatocytic vaculor degeneration. Rats were treated with Captopril at dose of 1000 mg kg^{-1} over a 3 months toxicity investigation[4] and hepatocytic vacuolar degeneration was found in dead rats.

On the other hand, Furosemide is a diuretic drug which is used to treat cardiovascular and renal diseases[5]. It is reported that Furosemide causes liver damage and huge hepatic necrosis in mice because of its diuretic action[6,7].

Therefore, an experiment was conducted in order to evaluate the side effects of Captopril on organs including heart, liver and kidney. The purpose of this experiment was also to assess the role of Furosemide whether it inhibits or promotes the side effects of Captopril[8].

For this purpose, scientists employed 2 dose levels of Captopril; low dose of 0.01 mg for 6 days a week, for the duration of 4 weeks as well as elevated dose of 0.23 mg for 6 days a week, for 4 weeks. Changes produced by Captopril were found to be statistically proportional to the dose utilized[8].

Afterwards, another 2 groups were investigated. One of these groups was subjected to the low Captopril dose only with Furosemide (0.02 mg) and the other received the high Captopril dose only with the same Furosemide dose for the same period of treatment[8].

Conclusively, Captopril administration at low and high dose induced cyto-pathological alterations in myocardial tissue, liver as well as kidney at the ultra structural level in tested mice. However, Furosemide was found to restrain both the decrease in body weight and mortality rate induced by the adminis-tration of Captopril alone. It is suggested that Furosemide is unable to inihibit the cyto-pathological alterations in mice.

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