

[The Effect of Caffeic Acid Phenethyl Ester on Development of Left Ventricular Dysfunction in Cirrhotic Rats](#)

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Abstract

Background: Cardiomyopathy is one of the major complications of cirrhosis. Free radical scavenging and antioxidant substances can reduce cardiomyopathy and cardiovascular mortality of cirrhosis. Caffeic Acid Phenethyl Ester (CAPE) is one of the major compounds of polyphenols with anti-inflammatory and free-radical scavenging activities.

Objectives: The present study aimed to identify the association between mitochondrial mutations in tRNA(Glu) and Cytb genes and CHD in Iranian patients.

Materials and Methods: In this study, thirty male Sprague-Dawley rats (200 - 250 g) were divided into three groups (sham, cirrhotic, and cirrhotic treated with CAPE). CAPE was administrated (1 mg/kg/day, ip) for 5 weeks. Bile Duct Ligation (BDL) was applied in order to induce cirrhosis. Five weeks after surgery, left ventricular function was evaluated by Langendorff system, and data of the sham group were considered as ventricular function before the BDL surgery. For histopathological evaluation also, livers of all the rats were removed and processed for light microscopy. Then, all the serum biochemical parameters were measured. After all, the data were entered into the SPSS statistical software, version 18 and were analyzed using one-way ANOVA followed by LSD test. The data were presented as mean \pm SEM and $P < 0.05$ was considered to be statistically significant.

Results: The maximum rate of increase and decrease in ventricular pressure (\pm dp.dt-1), which was reduced by cirrhosis ($P < 0.001$) improved significantly by CAPE ($P < 0.001$).

Conclusions: The findings indicated that CAPE improved the left ventricular function in cirrhotic rats. Thus, it may be considered to be a new therapeutic approach in future cirrhotic cardiomyopathy.