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Acta Medica Iranica

2009;47(4) : 7-13

" STUDY OF CORRELATION BETWEEN SYSTOLIC BLOOD PRESSURE AND ANGIOTENSIN CONVERTING ENZYME (ACE) ACTIVITY IN STZ INDUCED DIABETIC RATS. "

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Abstract:

Background: Diabetes mellitus is a worldwide health problem affecting 1-2% of the population. It is responsible for numerous morbidity and mortality consequences due to vascular events such as hypertension, nephropathy and retinopathy. The precise mechanism of hyperglycemia-induced vascular damage is not clearly known. Alteration in Renin Angiotensin-Aldosterone System (RAAS) and increased Angiotensin Converting Enzyme (ACE) activity is known to be involved in pathogenesis of vascular disorders. This study sought to investigate correlation between systolic blood pressure and ACE activity in STZ induced diabetic rats. Methods: Two groups of 8 male Sprague Dawely rats including control (C) and diabetic group (D) were used in this study. Diabetes induced by injection of 60 mg/kg STZ intraperitoneally. Blood pressure was measured using tail cuff method. ACE activity was determined by HPLC method. Results: At the end of study (four weeks after induction of diabetes) systolic blood pressure increased significantly in D group compared to control rats. ACE activity was increased in aorta, heart, lung and serum of D group which this increment was more pronounced in aorta and heart. Renal ACE activity reduced significantly in this group compared to control. Conclusion: It is concluded that increased ACE activity particularly cardiovascular ACE, could be involved in the diabetes induced hypertension and vasculopathy.

Keywords:

STZ induced diabetic rats

TUMS ID: 1218

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