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Title :	Comparison of beta oxidation of fatty acid enzymes activity in diabetic and normal rat hearts and effect of ranolazine
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Abstract :	<p>Introduction: Clinical and experimental evidence suggests that diabetes increased rates of fatty acid oxidation in the myocardium. Ranolazine is a new antianginal drug that affects as an inhibitor of fatty acid beta-oxidation in hearts. The objective of this study was to examine the effect of different concentrations of ranolazine on cardiac fatty acid oxidation in streptozocin (STZ)-diabetic rats. Method : After 8 week of STZ-injection, rat hearts were isolated and homogenated. The activities of 3-hydroxy acyl CoA dehydrogenase, hydratase and thiolase related to trifunctional protein were determined by spectrophotometric methods in rat hearts. Results: The activity of 3-hydroxy acyl CoA dehydrogenase, and hydratase was increased but 3-ketoacyl-CoA thiolase activity is decreased in diabetic hearts compared to normal ones. Ranolazine (10 $\mu\text{mol/L}$) partially inhibited enzyme complex activity such as hydratase and 3-ketoacyl-CoA thiolase in rat heart. But there is not any significant effect on 3-hydroxy acyl CoA dehydrogenase. Conclusion: Ranolazine in therapeutic concentration (10 micro molar) has partial inhibitory effects on fatty acid beta-oxidation.</p>
Keywords :	ranolazine, cardiac fatty acid oxidation, diabetes, 3-KAT