P68 Effect of Ursodeoxycholic Acid on Ischemia/Reperfusion Injury in Isolated Rat Heart

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In this study, the effects of ursodeoxycholic acid (UDCA) on ischemia/reperfusion injury were investigated on retrograded aortic perfusion model. Hearts from Sprague-Dawley rats were perfused with oxygenated Krebs-Henseleit solution (pH 7.4, 37□) on a Langendorff apparatus. After equilibration, hearts were treated with ursodeoxycholic acid 10, 20, 40 and 80□ M or vehicle (0.04% DMSO) for 10 min before the onset of ischemia. Following 25 min of global ischemia, ischemic hearts were reperfused and allowed to recover for 30 min. The physiological (i.e. heart rate, left ventricular diastolic pressure, coronary flow and time to contracture formation) and biochemical (lactate dehydrogenase, LDH) endpoints were evaluated. In vehicle group, time to contracture formation (TTC) value was 19.5 min during ischemia, LVDP was 20.8 mmHg at the endpoint of reperfusion and LDH activity in reperfusate was 59.7 U/L. Cardioprotective effects of UDCA following ischemia/reperfusion consisted of a reduced TTC (EC_{25} = 16.1□ M), reduced LDH release and enhanced recovery of contractile function during reperfusion. Especially, the treatments of UDCA 80□ M remarkably increased LVDP (68.1 mmHg) and reduced LDH release (33.2 U/L). Our findings suggest that UDCA ameliorates ischemia/reperfusion-induced myocardial damage, in agreement with physiological and biochemical parameters.