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Biochemical and physiological studies of ischemia reperfusion in (doca)-salt hypertensive rat heart

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Using a (DOCA)-salt rat model we aimed to test on Langendorff heart system at a constant pressure, physiological parameters:(coronary flow(C.F.), heart rate(H.R.) and left ventricle developed pressure(LVDP) as well as biochemical markers both in myocardium and in plasma, in order to characterize modifications induced by DOCA-salt treatment .We used 20 rats of 10 months old divided into two groups of 10 rats each: control and treated. The treated group has received for 4 weeks 2 s.c. injections /week with DOCA (20mg/b.w in solution of 0.9% NaCl+0.2% KCl) according to the protocol. 10-14 days after treatment, the animals have been sacrificed (CF), (HR)(LVDP) and total lipids, cholesterol, HDL, LDL,lipid peroxides as well as GGT,LDH,CK have been assessed using standard biochemical methods and Randox and Sigma kits.

Results: There was an increase in (C.F), (H.R.) and (LVPD) in DOCA-salt treated hearts ,accounting for an intense mechanic cardiac activity generated by the hypertension following DOCA-salt treatment, accompanied by an increase in lipid peroxides, in CK and LDH as markers of myocardial lesion and a reduction of GGT activity in myocardial tissue probably due to hypoxia generated by the cardiac insufficiency generated by the increase in arterial blood pressure and a decrease in antioxidant potential.

Conclusion:DOCA-salt hypertension is associated with rapid development of high blood pressure, vascular growth, vascular stiffening, and cardiac hypertrophy with increasing in mechanical activity of the heart accompanied by high levels of CK and LDH, as markers of myocardial lesion, and a decrease in GGT activity generated by cardiac insufficiency and a decrease in antioxidant potential.

Biography

Flory Revnic graduated at King`s College,University of London,Biophysics Departments at the age of 25 and completed her PhD(Muscle physiology) at the age of 29, Bucharest University. She is principal investigator the head of Cell and molecular biologiy Department at NIGGAna Aslan, Bucharest, Romania. She has published more than 85 papers in reputed journals and has been serving as an editorial board member of Romanian Journal of Gerontology and Geriatrics and Galenus and a reviewer of Archieves of Medical Science Journal.

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