Oxidative hemolysis and osmotic fragility of erythrocytes in renovascular hypertensive and normotensive rats

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Introduction: The imbalance of reactive oxygen species (ROS) in renovascular hypertension (RVH) that mediates oxidations of biological molecules and the membrane may cause oxidative cellular damage. The erythrocyte membrane is intrinsically prone to ROS-induced oxidative damage. Abnormal susceptibility of erythrocyte membrane to oxidative damage is known to reflect similar abnormalities in other organs and tissues.

Objective: To evaluate the membrane oxidative hemolysis and the osmotic fragility characteristics of erythrocyte between renovascular hypertensive and normotensive rats.

Setting: Burapha University

Research design: An experimental design

Animals: Male Sprague Dawley rats

Methods: The constriction of left renal artery was used to induce hypertension. The oxidative hemolysis of erythrocytes was performed by using the azo-compound 2, 2′-Azobis (2-amidinopropane) dihydrochloride (AAPH) as peroxyl radical initiator. The osmotic fragility of erythrocytes was performed in PBS containing various concentrations of NaCl.