PROPRANOLOL PREVENTS THE DEVELOPMENT OF VENOUS THROMBOSIS IN RATS BY A PLATELET-DEPENDENT MECHANISM

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To clarify if one of the most common antihypertensive drugs, propranolol, can prevent venous thrombotic process, rats were treated with propranolol (PRO; 5 mg/kg ip) in an acute or chronic (14 days) manner. Both regimens resulted in a marked reduction of the systolic blood pressure (p < 0.001) and, probably as a consequence, in the shortening of the bleeding time (p < 0.01). After ligation of the vena cava, the incidence of the venous thrombosis and the thrombus weight decreased significantly in both propranolol-treated groups (p < 0.01) when compared to control rats. The anti-thrombotic effect of PRO was not accompanied by any changes in activated partial thromboplastin time, prothrombin time or euglobulin clot lysis time. However, long-term administration of PRO resulted in a reduction of the ADP-induced platelet aggregation.

Key words: propranolol, venous thrombosis, platelet aggregation, rat