EFFECTS OF BULGARIAN RED AND WHITE WINES ON PRIMARY HEMOSTASIS AND EXPERIMENTAL THROMBOSIS IN RATS

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A number of epidemiological studies have demonstrated that moderate red wine consumption significantly decreases the risk of ischemic heart disease. Our earlier studies provide evidence that Italian red wine modulates primary hemostasis and prevents experimental venous thrombosis in rats, independently of its alcohol content, by a nitric oxide (NO)-mediated mechanism. In the present study, we have tested whether Bulgarian red and white wines can influence thrombotic process and primary hemostasis in rats. NO and PGI₂ were evaluated as possible mediators of these effects. We have found that red wine treatment (for 10 days) induced a marked prolongation of bleeding time, decrease in platelet adhesion to fibrillar collagen, reduction in venous thrombus weight and shortening of occlusion time in arterial thrombosis model. The fall in venous thrombus weight was also observed after white wine supplementation. Red wine affects hemostasis and venous thrombosis after its iv injection 15 min before experiment. These effects were prevented by NO inhibitor (L-NAME) and PGI₂ inhibitor (indomethacin). Our results demonstrate the ability of Bulgarian wines to modulate primary hemostasis and prevent venous and arterial thrombosis in rat.

Key words: wine, thrombosis, hemostasis, rat

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