Abstract

Coronary artery disease constitutes a major cause of morbidity and mortality worldwide. Since platelets are involved in the development of atherosclerosis, the use of anti-platelet agents reduces the incidence and severity of this disease. Both policosanol, a mixture of primary high molecular weight aliphatic alcohols purified from sugar cane wax, and grape seed extract (GSE), which mainly contain polyphenolic compounds, have been shown antiplatelet activity in experimental and clinical studies. This work compared the effects of policosanol and GSE on platelet aggregation induced ex vivo by ADP and collagen in plasma rich in platelets of rats. Rats were randomized into seven groups: a vehicle control, three groups treated with policosanol (25.50 and 200 mg/kg, respectively) and three groups with similar doses of GSE. Single oral doses of policosanol and GSE administered to rats significantly inhibited ADP-and collagen induced platelet aggregation compared with the control group. ADP-induced aggregation was inhibited up to about 23 % by the highest dose of policosanol (22.8 %) and GSE (22.6 %). In turn, collagen induced aggregation was reduced up to 78.6 % (policosanol) and 83.7 % (GSE). The effects of Policosanol, not of GSE, on collagen-induced platelet aggregation were dose dependent, meanwhile the effects of both substances on ADP-induced platelet aggregation were devoid at dose dependence. Comparisons between treated groups did not show significant differences. In conclusion, both substances reduced similarly platelet aggregation to ADP and collagen being more effective in collagen induced platelet aggregation.

Keywords

Policosanol, grape seed extract, platelet aggregation, rats.