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Antiplatelet Activity of Carnosic Acid, a Major Component of *Rosemarinus Officinialis*

Jung-Jin Lee , Kyung-Sup Lee, Mi-Ra Cho, Yong-Ri Jin, Dong-Ju Son*, Young-Hyun Pak*, Yeo-Pyo Yun

College of Pharmacy, Chungbuk National University, Cheongju, Korea
*College of Natural Science, Soonchunhyang University, Asan, Korea

Carnosic acid (5-[2-(3-furyl)ethyl] decahydro- 5-hydroxy- 1,4a,6-trimethyl-1,8-naphthalene carbolactone) is a major component of *Rosemarinus officinialis,* and was reported to have antibacterial and antioxidant activity. In this study, the antiplatelet activity and mechanism of carnosic acid were investigated. Carnosic acid potently inhibited the collagen-, arachidonic acid (AA)-, U46619- and thrombin-induced aggregation of rabbit platelet in a dose dependent manner, with IC_{50} values of 39 ± 0.3 , 34 ± 1.8, 29 ± 0.8 and 48 ± 2.9 μM. Antiplatelet mechanism of carnosic acid was also investigated. Pretreatment of rabbit platelets with carnosic acid significantly inhibited the collagen-induced AA liberation from membrane phospholipids. Carnosic acid also dose-denpendently inhibited the $[Ca^{2+}]_i$ mobilization. Also Cytotoxity of carnosic aicd on the rabbit platelet didin't show. These results suggest that antiplatlelet effect of carnosic acid may be mediated mainly by the inhibition of arachidonic acid liberation through suppressing $[Ca^{2+}]_i$ mobilization.

Key words : Carnosic Acid; antiplatelet activity; arachidonic aicd; Ca^{2+}mobilization; Rosemary extract