O3 INHIBITION OF PLATELET AGGREGATION AND REDUCTION OF GPIIB/IIIA RECEPTOR BY PROGESTERONE

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ABSTRACT

Several studies have suggested that hormone replacement therapy (HRT) may attenuates the increased risk of cardiovascular disease in postmenopausal woman. The effects of progestin in the combined HRT is widely used to attenuate the endometrial-cancerogenic effect of estrogen. However the effects of progesterone on the atherogenic process have not been understood. In the preliminary study, *in vitro* effects of progesterone (P) and medroxyprogesterone acetate (MPA) on ADP-and collagen-induced-platelet aggregation were examined using impedance aggregometry. As well as the quantification of the expression of CD41 antigen, a marker of platelet GP IIb-IIIa receptor which play a critical role for platelet aggregation and pathogenesis of atherosclerosis. Preincubation of citrated whole blood fromThai male healthy volunteers 3 minutes with P(1-1000 nM) or MPA (1-1000 nM) caused a concentration-dependent inhibition of ADP (50uM) and collagen (0.3mg/ml) induce-platelet aggregation. Furthermore P and MPA also reduced CD41 expression in dose-dependent manner, assessed by using a single-color FACS cell analysis. These results suggesting that the reduction of GP IIb/IIIa receptor expression by P and MPA may contributed, in part, to its anti-aggregatory effect and that its anti-aggregatory effect might be one of the factors involved in the decrease of the incidence of atherosclerotic cardiovascular disease in postmenopausal HRT.

Key words : platelet aggregation, GP IIb-IIIa receptor, progesterone