O5 THE EFFECTS OF ANTICOAGULANTS ON CHOLANGIOCARCINOMA CELL INDUCED PLATELET AGGREGATION: A COMPARISON BETWEEN SODIUM CITRATE AND HEPARIN

Tipsuchon Aiamsa-ard, Pravit Akarasereenont, Sirikul Chotewuttakorn, Athiwat Thaworn

Department of Pharmacology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok 10700, Thailand.

Thrombin receptor antagonist - hirudin.
induced aggregation.

ABSTRACT

During the transport of tumor cells in the blood, a variety of interactions can occur with host blood cells. Many studies showed that platelet activation by tumor cells could lead to the formation of tumor microthrombi. However, different results have been reported. Here, we examined whether anticoagulants, sodium citrate and heparin, using in platelet rich plasma (PRP) preparation affected platelet aggregation induced by Human Cholangiocarcinoma (HuCCA). Platelet aggregation was measured by aggregometer. PRP was prepared from either sodium citrated- or heparinized- blood. Primary HuCCA cells were cultured in our laboratory. Cells were cultured in T-75 Flasks with Dulbeco Modified Eargle's Medium (DMEM) containing 15 % fetal bovine serum, 100 units/ml penicillin G and 100 μg/ml streptomycin. Cells were grown to confluence until uses, after which cells were detached and, then, resuspended in DMEM to yield a concentration of $1x10^7$ cells/ml. 150 μl of cell suspension or DMEM (control), therefore, were added to 850 μl of either sodium citrated PRP (sPRP) or heparinized PRP (hPRP). To study cellular mechanisms by which HuCCA induced platelet aggregation, signaling agents such as apyrase, indomethacin, EDTA and hirudin will be used. HuCCA is able to induced platelet aggregation in a direct tumor cell-platelet contacts. Interestingly, HuCCA induced platelet aggregation was different in sPRP and hPRP. HuCCA could induce platelet aggregation in some subjects of sPRP whereas induced in all subjects of hPRP. Moreover, EDTA and indomethacin inhibited platelet aggregation induced by HuCCA in both sPRP and hPRP. Hirudin inhibited platelet aggregation induced by HuCCA in hPRP but not in sPRP whereas apyrase inhibited platelet aggregation induced by HuCCA in sPRP but not in hPRP. Thus, this finding suggested that anticoagulants used for platelet function studies could affect on signaling mechanism of tumor cells induced platelet aggregation (TCIPA).

15% CA pt → develop episode of clinical thrombosis
mucin secreting adrenocarcinoma.
CCA = thrombosis
thrombosis 1) - coagulate p'way : sod. citrate, heparin
2) - plt
3) - fibrinolytic syst