

Supplementary Abstracts

Thromboplastin

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TISSUE EXTRACT INDUCED PLATELET STIMULATION, PRIMARY HEMOSTASIS AND THROMBOSIS. K. Breddin, N. Bender, M.C. Kirchmaier, Division of Angiology, Department of Internal Medicine, J.W. Goethe University Frankfurt a.M., F.R.G.

Subcutaneous tissue, blood vessels, muscle and different organs of different species (Human, pig, dog and rat), contain an activity which within seconds transforms disk shaped platelets into spheroid forms with pseudopodes (stimulated platelets) in freshly drawn citrated blood or whole blood.

Morphologic platelet changes were investigated using interference contrast microscopy. Retention was measured with a modified glass bead filter.

Platelet stimulation was accompanied in vitro by enhanced adhesion and enhanced aggregability. The tissue extracts did not induce platelet aggregation. The active fractions were free of thromboplastic activity. In vivo reversible platelet stimulation could be demonstrated in rat mesenteric vessels. Even in the presence of the platelet stimulating tissue extracts platelets retained their disklike shape if incubated at 37°C.

It is likely that local release of this Hemostasis Activating Factor (HAF) from damaged cells intensely and rapidly enhances primary hemostasis in the presence of von Willebrand factor. Atheromatous material is rich in platelet stimulating activity. The role of local platelet stimulation at defective endothelial cells, vessel wall ruptures and atheromatous plaques as a trigger for thrombus formation has to be established.

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THE USE OF HIGH PERFORMANCE LIQUID CHROMATOGRAPHY IN THE EXAMINATION OF THE LIPID CLASS COMPOSITION OF THROMBOPLASTIN REFERENCE PREPARATIONS. K. J. Stevenson. National (UK) Reference Laboratory for Anticoagulant Reagents and Control, Withington Hospital, Manchester, UK.

A pressure liquid chromatographic method has been developed for separation and quantitation of lipid classes of reference thromboplastins.

The method employs a column of high capacity silica, eluted with a three-component gradient system. Detection is by a "moving-wire" flame ionization detector. Fractions of column effluent may be collected for further examination.

Three reference thromboplastins of rabbit, bovine and human (British Comparative Thromboplastin) origin have recently been prepared for the European Economic Community. Markedly contrasting lipid class compositions of these preparations have been detected with this method. The human preparation contains more lipid (13 g/l) than the rabbit (7 g/l) and bovine (3 g/l) preparations and less negatively-charged phospholipid (7.5% compared with 11% and 18% respectively). The animal preparations contained plasmalogens not found in the human material. The significance of these differences in terms of the predicted stability of these reference reagents is considered.