
*Res. Dept., FRESENIUS-Medizintechnik, Bad Homburg, West Germany and °Med. Klinik I., Städtisches Krankenhaus, Kaiserslautern, West Germany.

The method of 'Resonance-Thrombography' was invented by H. HARTERT in 1970 and is now introduced as a screening test for various bleeding disorders. The RTG-curve mainly depends on the number of platelets as well as platelet-function, amount of fibrinogen and factor XIII.

A successful theoretical approach to describe this dependency is given by means of a one-dimensional, linearized model of apparatus and coagulation process. The experimental results and the simulated curves agree within the experimental errors. The model further provides the possibility to derive time-constants and cross-linking-factors for the fibrinogen-polymerisation and the interaction of platelets with fibrin.

FACTOR XIII, TISSUE TRANSAMIDASE AND MALIGNANCY. A. Zuch, J. Kloczko, M. Bielawiec, K. Buluk and Pilecka

Department of Haematology and General and Experimental Pathology, Medical School, Bialystok, Poland.

The aim of the investigation was to compare the activity of factor XIII in patients with malignant neoplasma with the changes in the blood plasma of rats with Guering epitheliomas and to evaluate the effects of this tumour on the activity of tissue transamidase capable of stabilizing fibrin.

The investigations were carried out on 125 patients with several neoplasmas and 50 healthy subjects. A significant decrease in f.XIII activity in plasma was found in these patients, as well as decrease in the concentration of free SH groups on which its activity depends. Similar changes in the blood plasma were noted in rats examined 30 days after transplantation of the Guerin tumor. In the organs of these rats a fall in transamidase activity was observed. On the other hand the tumor rich in SH groups contains a very large amount of enzyme which like f.XIII is capable converting fibrin polymer into cross-linking fibrin. Concentration of this transamidase in neoplastic tissue was significant higher than in the tissue of the control animals.

Our results suggest that activity of transamidase and SH groups are connected with neoplastic process and that decrease of f.XIII activity in the blood plasma is the result of its consumption during intravascular coagulation initiated by neoplasma.