

PROBLEMS OF STREPTOKINASE THERAPY IN CHILDHOOD. A.H. Sutor and W. Künzer.
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A generally accepted dosage regimen of streptokinase (SK) therapy is not available for the pediatric age group. In our experience with 35 children we found the determination of proactivator plasminogen (PP) by a capillary blood method very helpful for guidance of the initial and maintenance SK-therapy. Children with shock and consumption coagulopathy (due to gram negative sepsis, due to hypovolemia or due to metabolic disorders) have low PP-values and need an initial SK-dose of 4000 U/kg, followed continuously by 1000 U/kg/h for at least 24 hrs. Some children with local thromboses and the hemolytic-uremic-syndrome have high PP values which require an initial SK dose of 6000 U/kg and a maintenance dose of 1500 U/kg/h. PP-values during adequate SK-therapy drop to less than 3 %. Higher PP-values during SK-therapy indicate an underdosage of SK and require an increase of the SK-dose to prevent hyperplasminemia which may be followed by bleeding complications.

EFFECT OF DRUGS AND MEMBRANE POISONS ON PLATELET ADHESION TO A METAL. T. Lucas, F. Bonavita, N. Ramasamy and P. N. Sawyer. Electrochem & Biophys Labs, Dept. Surg., SUNY, DMC, Brooklyn, N.Y., USA

The effect of anticoagulants and membrane poisons on the adhesion of human platelets to a platinum electrode was studied in an in-vitro electrochemical optical test system. The potential of the electrode was varied from -600 mv vs NHE to +600 mv vs NHE in 100 mv steps. Platelets were resuspended in phosphate buffered saline. The cell concentration was 3×10^5 cells/ml. Experiments were conducted at 22°C. Thirty samples were examined. The number of platelets adhering to the electrode at each potential was observed and indirect ADP assays were conducted. The results were the following; (i) anodic potentials equivalent to injury potentials +200mv vs NHE enhanced platelet adhesion, (ii) Heparin, ASA and 3, 5 dichloro-salicylic acid reduced platelet adhesion, (iii) protamine sulfate and chlorpromazine enhanced adhesion, (iv) sulfhydryl (SH) blocking agents (mercuric acetate and mercuric benzoate) reduced platelet adhesion 65%, (v) iodoacetic acid (carboxyl and thiol group reducing agents) reduced platelet adhesion by 98%. The simple test system can be employed to evaluate the physical-chemical nature of platelet recognition and adhesion to a prosthetic surface. Based on this study platelet adhesion to a metallic surface with known electrochemical characteristics appears to be mediated by a number of surface reactive groups. Alteration or neutralization of these active groups leads to platelet inactivation and blocks adhesion.

COAGULATION AND FIBRINOLYTIC FINDINGS IN CEREBROSPINAL FLUID OF VARIOUS NEUROLOGICAL DISEASES. I. Maruyama, R. Fukuda, M. Kazama*, A. Igata and T. Abe*. Kagoshima University School of Medicine, Kagoshima and Teikyo University School of Medicine, Tokyo, Japan.

The coagulation and fibrinolytic factors in cerebrospinal fluid (CSF) of various neurological diseases as well as their inhibitors were examined.

- CSF of inflammatory diseases in central nervous system (CNS) was proved to have elevated FDP, plasminogen and inhibitors which were rapidly increased at the first stage, showing no obvious relation with those in blood.
- CSF of neoplasmas showed markedly elevated macromolecular FDP manufactured in CSF, plasminogen and inhibitors which were gradually increased along the courses.
- In cases of cerebral hemorrhage, almost all the coagulation factors, FDP and inhibitors were found in CSF. These substances seemed to be originated from bled blood and FDP was consisted of smaller molecules, D and E.
- Subarachnoidal bleeding gave CSF with plenty amount of fibrinogen and other coagulation and fibrinolytic components from blood including F.XIII which was not proved usually in CSF. The administration of tranexamic acid for prevention of recurrent attacks might possibly allow fibrin deposition on subarachnoidal membrane and develop normal pressure hydrocephalus with the collaboration of activated F.XIII.
- CSF with Froin's sign sometimes showed markedly elevated fibrinogen and soluble fibrin monomer complex which had no relation to those in blood.