THE CLASSIFICATION OF THE PLATELET AGGREGATION PATTERN BY TWO ADP SOLUTION (DOUBLE-ADP METHOD) AND ITS CLINICAL EVALUATION. TAKEFUMI MATSUI, YASUO OHOKI, YUICHI OKINAGA AND OSAMU MATSUI. Hyogo Prefectural Awaji Hospital, Sumoto, 656, Japan.

A new method to describe platelet aggregability was devised. Two concentrations of 0.4 μmol and 2 μmol ADP were added to two platelet-rich plasma obtained from the same patient at the same time, and the recording aggregation patterns by use of two channel aggregometer were classified into four types according to the simple criteria of visual impression. The distribution type in healthy adult belonged to either type I (76%) or II (20%), which represents normoaggregability whereas that in diabetic patients in comparison with aged matched control was a majority in type III and IV, which represents hyperaggregability. And the degree and severity of retinopathy in diabetics paralleled the increase of aggravated type. Although platelet aggregation seems to be related to the abnormal concentrations of alpha 2-macroglobulin, alpha 1-antitrypsin, fibrinogen, antithrombin III and blood lipids, the type classification was slightly affected by each of the increase of alpha 2-macroglobulin and fibrinogen, and the decrease of antithrombin III. The effect of aspirin and diet cure on hyperaggregability could be evaluated simply and clearly by the type classification of platelet aggregation based on our double-ADP method. This method is thus of considerable and suitability for clinical use.

HEPARIN CONCENTRATIONS IN PLASMA DURING SURGERY IN HEPARIN LOW-DOSE. H. O. Kruse-Blinkenberg and J. Gormsen. The Municipal Hospital, Copenhagen, Denmark.

The concentration of heparin in plasma was measured by the method of Denson & Bonnar and by a method using a chromogenic substrate for activated factor X (S-2222, Bofors, Sweden), pre-, per- and postoperatively in 126 patients undergoing major abdominal-thoracic, gynaecologic or orthopedic surgery. The patients received heparin (Heparin (R), Novo) 5,000 units 2 hours preoperatively and every 8 hours postoperatively for 1 week. No significant correlation was found between concentrations of heparin, sex, age, presence of malignant diseases, the type of operation or frequency or extent of per- and postoperative bleeding. Zero values were found immediately postoperatively in 41 of 126 patients, most frequently after abdominal surgery.

The correlation between the values found by the 2 methods was satisfactory.

PROPERTIES AND ORIGIN OF C1-INACTIVATOR RESISTANT FIBRINOLYTIC ACTIVITY. C. Kluit, Gaubius Institute, Health Research Organization TNO, Herenstraat 5d, Leiden, The Netherlands.

Intrinsic and extrinsic activators contribute to the total fibrinolytic activity in plasma. It was found that a percentage of the activity in euglobulin fractions on fibrin plates is not inhibited by C1-inactivator. Studies were carried out to determine the origin and properties of this C1-inactivator resistant fibrinolytic activity (C1-RFA). The C1-RFA is specifically increased in situations of stimulated fibrinolysis, e.g., in plasma after 15 min venous occlusion. Extrinsic activators (urokinase, human tissue activator and activator from perfused cadaver limbs) are resistant to C1-inactivator. This suggests that C1-RFA could be attributed to extrinsic activators.

Study on the properties of C1-RFA in plasma after venous occlusion showed that the activity could be preserved in vitro by freezing the plasma. After coagulation in this plasma, C1-RFA was low suggesting strong adsorption to fibrin. The C1-RFA diminished gradually (50% in 90 min) at 37°C in vitro in plasma and blood, but was stable in euglobulin fractions. This indicates that its "lability" is due to inhibitors not found in euglobulin fractions but which are present in blood (also postmortem) and plasma after venous occlusion. In vivo disappearance of elevated activities is much more rapid than in vitro, which suggests a different clearing mechanism in vivo under conditions of stimulated fibrinolysis.