

pharmacological effects of this agent on asphyxia were examined from the aspects of coagulation and platelet functions.

*E. Coeugniet* (Medical Department TA, Rigshospitalet, Copenhagen, Denmark): **Disseminated Intravascular Coagulation During Severe Diseases in 0-12 Months old Children (Study on 54 Cases).** (126)

Disseminated intravascular coagulation (DIC) occurred during severe infections with: gram-negative bacteria (24 cases), gram-positive bacteria (3 cases), acute hemolysis (11 cases), pneumonias with hypoxic syndrome (16 cases). Adjuvant factors: Hypovolaemia and metabolic acidosis (34 cases), malnutrition and hypoproteinaemia (32 cases). 38 patients were boys. Early clinical symptoms: alteration of the general state, impossibility of blood collectings because of hypercoagulability, bleeding after injections, haematemesis, melena, purpura, renal failure. Rapid laboratory diagnosis: ethanol test, paracoagulation with protamine sulphate, decrease of thrombocytes number, thrombin clotting time. The most important differential diagnosis is hypoprothrombinaemia by vit. K deficiency or by liver failure which could also complicate DIC (6 cases). During "critical" periods of diseases usually complicated by DIC the DIC prophylaxis is proposed (heparin 100-200 i.u./kg/day i.v. + dipyridamole 5 mg/kg/day i.v. or orally. The treatment of DIC: heparin 1000 i.u./kg/day i.v. or, in order to decrease the risk of secondary bleedings because of heparin an association: heparin 400 i.u./kg day i.v. + dipyridamole 5-10 mg/kg/day i.v. or orally.

*G. Hornstra and E. Haddeman* (Unilever Research Vlaardingen, Vlaardingen The Netherlands): **Essential Fatty Acid Deficiency, a New Model for Basis Research in Thrombogenesis.** (127)

Platelet membranes are of primary importance in platelet thrombotic phenomena, whereas in the regulation of platelet function prostaglandins are thought to play a major role. Since essential fatty acids (EFA's) are of great physiological importance, both as membrane components and as precursors of prostaglandins, EFA-deficiency may present an interesting model for basic research into thrombotic mechanisms.

In rats EFA-deficiency caused impaired formation of arterial thrombi but aggregation of blood platelets in response to ADP, both in vivo and in vitro is normal. In contrast, platelet aggregation induced by collagen and Thromboxan® is definitely depressed, as is the release of newly absorbed 5-HT. Thrombin-induced release is enhanced. Platelet factor 3 content and -availability is significantly reduced. Platelet morphology, platelet count and recalcification plasma clotting times are normal.

It is concluded that decreased arterial thrombosis tendency in EFA-deficiency is caused by decreased thrombotic properties of the blood platelets. Disturbed platelet membrane integrity and - prostaglandin production will be discussed as possible mechanisms of action.

*K. K. Wu, R. W. Barnes and J. C. Hoak* (Venous Thrombosis Laboratory, University of Iowa College of Medicine, Iowa City, Iowa 52242, U.S.A.): **Role of Platelets in Recurrent Deep Vein Thrombosis.** (128)

To evaluate the role that platelets play in the pathogenesis of recurrent deep vein thrombosis (DVT), a platelet count ratio method was used for the detection of platelet aggregates and an aggregometric technique was used to measure spontaneous aggregation (SPA) in 27 patients with idiopathic recurrent DVT. Seventeen patients were found to have decreased platelet aggregate ratios (mean  $0.63 \pm \text{SEM } 0.02$ ) which were significantly lower than those of normals ( $0.90 \pm 0.02$ ,  $p < 0.01$ ). Twelve of the 17 patients had SPA. The mean platelet survival half-time of 5 patients with increased platelet aggregates was  $2.9 \text{ days} \pm 0.49$ , significantly decreased from that of normals ( $4.2 \pm 0.10$ ,  $p < 0.05$ ). Platelet survival values were normal in patients with normal platelet aggregate ratios. Five patients who failed to improve on oral anticoagulant therapy responded to aspirin and dipyridamole with normalization of platelet aggregates and disappearance of SPA.

An additional patient responded to sulfinpyrazone. When the drug was discontinued, pulmonary embolus recurred. These findings suggest that recurrent DVT may involve heterogeneous groups of patients and platelets may play an important pathogenetic role in some of them. The approach to the problem with this panel of 3 tests appears useful in the selection of patients for treatment with antiplatelet agents.

*S. Sagar, V. V. Kakkar and Duncan P. Thomas* (King's College Hospital Medical School, London SE5 8RX, England): **Postoperative Deep Vein Thrombosis in Patients on Oral Contraceptives.** (129)

A causal relationship has been established between the use of oral contraceptives and venous thromboembolism occurring in previously healthy women. There is also evidence that the risk of thromboembolism is further increased if patients undergo a surgical operation while on oral contraceptives (M. P. Vessey et al., Brit. med. J., 3, 123, 1970). In the present study, activated Factor X inhibitor (XaI) levels were measured in blood samples withdrawn from 48 women before, during and after a minor dental operation. In 26 patients not on oral contraceptives, the mean preoperative Factor XaI level was 92.0% (S. E. M.  $\pm$  4.1), and no significant changes occurred in response to surgery. In 22 patients taking oral contraceptives, the mean preoperative Factor XaI level was 83.3% (S. E. M.  $\pm$  3.7) and during the operation there was a significant fall to a mean level of 70.6% (S. E. M.  $\pm$  4.8) ( $P < 0.05$ ). Factor XaI levels returned to preoperative values within a week of operation. These findings indicate that even a minor operation causes a significant fall in Factor XaI levels in women on oral contraceptives.

*O. Ponari, E. Civardi, R. Potì and A. G. Dettori* (Centre for Haemostatic Diseases, Ospedali Riuniti, Parma, Italy): **Fibrinolytic and F. VIII Response to Various Stimuli in Occlusive Arterial Disease.** (130)

The responsiveness of fibrinolytic activity and of plasma Factor VIII level to both venous occlusion (v.o.) and i.v. nicotinic acid (N. A.) was investigated in a group of patients with occlusive arterial disease.

A marked hyperfibrinolysis, with average decrease of ELT of -55%, was seen after v.o. in such patients, with a rise of F. VIII (average value +30%). A control group of comparable age but with no signs of atherosclerosis, showed similar changes after v.o. (ELT about -65% and F. VIII +60%). A comparable hyperfibrinolytic response was also found in a group of young (< 40 y.) normal subjects.

I.V. administration of N. A. (100 mg) obtained variations of ELT of similar magnitude (-50%) in both groups (patients and age-matched controls). Changes in F. VIII were absent or only moderate.

The responsiveness to v.o. in single cases showed no correlation with an index derived from main risk factors (both clinical and biochemical) for thrombosis.

Our results do not agree with the hypothesis that an altered responsiveness of vascular fibrinolytic system is an important factor in the pathogenesis of occlusive arterial disease.

*K. Gjesdal and D. Sørli* (University Hospital, Tromsø, Norway): **Platelet Studies During Vascular Surgery.** (131)

Platelet counts, *in vivo* aggregates and platelet factor 4 (PF-4) were studied in 5 patients during femoro-popliteal revascularization. Blood samples were taken from radial artery, superior vena cava and the popliteal vein before clamping of the common femoral artery, at the end of the ischaemic period, 5 minutes after release of the clamps and just before wound closure.

Platelet counts fell transiently to 80%. Reversible platelet aggregates were more frequent on the venous side. The initial and final values from v. poplitea approximated to those from the v. cava. Both during ischaemia and after onset of flow, the popliteal vein samples had a higher aggregation percentage than arterial and central venous blood. Extremely high values (60%) were found in 2 cases with prolonged arterial clamping (3 h). The