

EFFECT OF ORAL CONTRACEPTIVES ON FACTOR VIII CLOTTING ACTIVITY AND FACTOR VIII RELATED ANTIGEN IN KNOWN HAEMOPHILIA CARRIERS. *Penelope Stableforth, *Katharine M. Dormandy and Roger M. Hardisty. *Royal Free Hospital, and Institute of Child Health, London, England.

The factor VIII clotting activity (VIII:C) and factor VIII related antigen (VIII:AG) were determined on 3 occasions in 14 known haemophilia carriers, each paired with an age-matched control, both groups being on oral contraceptives (O.C.), and 18 known carriers each paired with an age-matched control, neither group on O.C. The VIII:C/VIII:AG ratio was less than 0.7 in 14 out of 14 carriers on O.C. and greater than 0.7 in 13 out of 14 controls on O.C. 16 out of 18 carriers not on O.C. had a ratio less than 0.7 while 16 out of 18 controls not on O.C. had a ratio greater than 0.7. Statistical analysis showed that there was no significant difference in the accuracy of carrier detection in this group of known carriers, whether or not they were on oral contraceptive pills.

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STUDIES ON SPONTANEOUS PLATELET AGGREGATION (PA II) IN PATIENTS WITH VASCULAR DISEASE. H.J. Krzywanek and K.Bredden. Dept. of Angiology, Medical Center, University Frankfurt a.M., Germany.

Aggregation tests were performed in 345 patients with peripheral occlusive arterial disease (PAD), 274 patients with coronary heart disease (CHD), and 502 diabetics (D). 263 healthy volunteers (N) served as controls. As in previous studies an age dependent increase of strongly enhanced spontaneous platelet aggregation in obviously healthy subjects can be demonstrated, reaching 28% in the 50-59 years' age group. In the various patient groups the incidence of enhanced aggregation is much higher throughout all age groups than in the controls.

The overall incidence of missing spontaneous platelet aggregation vs. strongly enhanced aggregation is summarized below. The difference between normals and the various patient groups is significant (χ^2 -test, $\alpha < 0.0001$).

	N	PAD	CHD	D
Missing aggregation (%)	61.1	40.3	36.5	34.7
Strongly enhanced aggregation (%)	18.6	42.9	41.2	41.0

A prospective investigation has been started to establish whether enhanced spontaneous platelet aggregation is a risk factor and an early indicator of progressive atherosclerosis.

PRIMARY SHAPE CHANGE OF THROMBOCYTES AND PLATELET AGGREGATION AFTER ADMINISTRATION OF ACETYL SALICYLIC ACID (ASA). H.J. Krzywanek and K.Bredden. Department of Angiology, Center of Internal Medicine University of Frankfurt a.M. Germany.

Studies using interference contrast microscopy (Nomarski optics) with immediate glutar-aldehyde fixation of blood at venepuncture revealed the disc like shape of native thrombocytes. Soon after blood drawing platelets in citrate blood or PRP are swelling and the formation of pseudopodes can be observed. If citrate blood is incubated at 37°C, 38% of the thrombocytes have formed pseudopodes after 30 min. The form variation is inhibited in some platelet defects (storage pool disease, aspirin like defect) and is enhanced in certain malignancies (Hodgkin's disease, bronchial carcinoma). After oral intake or intravenous administration of 1.0 g ASA the primary shape change is partly inhibited for a period of six hrs. with the greatest effect at two hrs. In contrast to this short lasting effect on primary shape change the inhibition of ADP or collagen-induced aggregation by a single dose of ASA can be demonstrated for at least four days.

We suggest that the short lasting inhibition of the primary shape change of platelets may be responsible for the efficacy of ASA in postoperative thrombosis prophylaxis. Regular intake of ASA in doses of 0.5 g each at 6 - 8 hrs. intervals may be necessary to achieve a continuous antithrombotic effect. Our results may explain why studies on thrombosis prophylaxis with aspirin using 0.6 g (BMRC, 1973) or 0.3 g (Elwood, 1974) per day were inconclusive whereas 3 x 0.5 g reduced the thrombosis frequency significantly (Zekert, 1973, Loew, 1973).