

THE COMPARATIVE EVALUATION OF  $\gamma$ -LINOLENIC ACID AND DIHOMO- $\gamma$ -LINOLENIC ACID, THEIR ESTERS AND POSSIBLE PRECURSORS AS POTENTIAL ANTITHROMBOTIC/THROMBOLYTIC AGENTS. A.K. Sim and A.P. McCraw. Inveresk Research International, Inveresk Gate, Musselburgh, Midlothian, Scotland.

$\gamma$ -linolenic acid, dihomo- $\gamma$ -linolenic acid and Naudicelle, a naturally-occurring rich source of essential unsaturated fatty acids have been evaluated as potential antithrombotic agents. A sequential series of tests was used to compare each substance *in vitro* (human plasma), *in vivo* using an artificially induced thrombus in the microcirculation of small laboratory animals and *ex vivo* in non-human primates with a spontaneous pathological thrombotic tendency. Finally the test substances were compared in man after oral administration. Particular reference was made to the effects of the compounds on platelet function, the fibrinolytic system, thrombus formation and on circulating blood lipids. The compounds which are possible prostaglandin precursors, have been shown to have a positive (antithrombotic) effect in the test systems used. Platelet aggregation was inhibited over 24 hours in non-human primates and in man at oral dose levels of 1.5 mg/kg. In addition plasma cholesterol and triglycerides were decreased by up to 50% on the same dose regime.

ASPIRIN-PERSANTIN PROPHYLAXIS IN ELECTIVE TOTAL HIP REPLACEMENT. A.J. Silvergleid, R. Bernstein, D.S. Burton, J.B. Tanner, J.F. Silverman and S.L. Schrier. Stanford University School of Medicine, Stanford, California, 94035.

A prospective, double-blind clinical study was performed to evaluate the combination of dipyridamole (Persantin) 225 mg/day and acetyl salicylic acid (ASA) 1 g/day prophylaxis of post-operative venous thromboembolism in elective total hip replacement. Patients were stratified according to age, and randomly assigned to receive drug or placebo. All patients were followed with  $^{125}\text{I}$ -labelled fibrinogen scanning for one week post-operatively, or until fully mobile. Venography was performed in 67/129 patients; in 27 patients the venogram was obtained to confirm a positive fibrinogen scan, in 40 patients an elective venogram was obtained on the 7th post-operative day to evaluate the operated thigh (a blind area for scanning). Thrombosis (by scan or venogram) was found in 16/66 (24%) in the control group, and in 21/63 (33%) in the treated group. Overall incidence was 37/129 (29%). Correlation of scan with venography was 90%. There were no clinically significant pulmonary emboli in either group. We conclude that the combination of ASA and dipyridamole as given in this study is not effective prophylaxis in elective total hip replacement.

$\beta$ -THROMBOGLOBULIN AND DEEP VEIN THROMBOSIS IN SURGICAL PATIENTS. RC Smith, CV Ruckley, Jeanette Duncanson, NC Allan, Joan Dawes, DS Pepper and JD Cash. Departments of Surgery and Haematology, Western General Hospital, Radio-immunoassay Unit and Blood Transfusion Service, Edinburgh.

Preliminary studies suggested that  $\beta$ -Thromboglobulin ( $\beta\text{TG}$ ) assay might be of diagnostic value in venous thrombosis (DVT). This study examined TG levels in 16 normal subjects, 24 patients presenting with phlebographically proven DVT or pulmonary embolism (PE) confirmed by lung scan and 46 patients screened by  $^{125}\text{I}$ -fibrinogen test (IFT) for post-operative DVT. The mean in 46 normal samples was 33 ng/ml  $\pm$  SD 19 ng/ml, only two had levels above 70 ng/ml. 12 of 24 patients presenting with DVT/PE had values  $>70$  ng/ml on presentation and all but three had values of  $>70$  at some stage during subsequent daily sampling. The onset of DVT as detected by IFT in 13 patients was associated with a mean rise in  $\beta\text{TG}$  but the difference was not significantly different from normal values. We confirm the association between elevated  $\beta\text{TG}$  and venous thrombosis but the variability of the results with current sampling techniques limit its value as a diagnostic test.