MONITORING ORAL ANTICOAGULANTS IN HEPARINIZED PATIENTS. W.D. Williams, University of California Medical Center, San Francisco, Calif., U.S.A.

The assessment of hypocoagulability induced by oral anticoagulants in patients who are heparinized is very often difficult. The determination of the prothrombin time in such samples has been shown possible by a procedure developed in our laboratory by the removal of heparin from plasma samples. Five different patients on heparin therapy, all of whom were subsequently coumadinized during the period of heparinization, have been evaluated by this method. Heparin is selectively removed by chelation and the procedure has been shown by experimental methods not to alter the determination of either prothrombin or partial thromboplastin times. Prothrombin time determinations on all five patients, prior to initiation of coumadin therapy and during the administration of heparin, were all found to be normal after the chelation of the plasma. Further, we were able to show a progressive prolongation of the prothrombin time as coumadinization took effect. The method is rapid, simple, inexpensive, and reproducible. It offers the clinician early knowledge of the effect of oral anticoagulants in the presence of heparin.

COMPARISON OF TWO TESTS FOR PREDICTION AND/OR DIAGNOSIS OF THROMBOSIS.

H. Ridgway, C. Weirich, V. Broom, R.J. Speer and J.M. Hill. Wadley Institutes of Molecular Medicine, Dallas, Texas, U.S.A.

Two laboratory procedures: the heparin thrombin clotting time (HTCT) of O'Brien et al and the platelet catalytic activity (PCA) of King and Joffe are being investigated for their usefulness in prediction and/or diagnosis of a thrombotic or hypercoagulable state in patients with a variety of diseases. Included are patients with current thrombosis, patients with a past history of thrombotic disease, as well as those with a negative history. The HTCT has been reported to correlate with release of platelet factor 4 from platelets destroyed in thrombotic episodes. The PCA was designed and used by King and Joffe to predict successfully post-operative venous thrombosis. In this study, both the PCA and HTCT showed a useful correlation with other laboratory and clinical findings in patients with previous and current thrombosis. In addition, clinical situations in which these tests appear to give misleading results will be presented and analyzed. While this study represents relatively small numbers of patients, the degree of correlation seems to indicate that both the HTCT and PCA have value in assessment of hypercoagulability and thrombosis.

'IN VIVO' AND 'IN VITRO' EFFECTS OF SOME VASOACTIVE DRUGS ON PLATELET FUNCTION AND ON COAGULATION / FIBRINOLYSIS SYSTEM. A.G. Dettori, O. Ponari, C. Manotti, A. Megha and M. Pini. Centro per le Malattie Emostatiche, Ospedali Riuniti di Parma, Parma, Italy.

Three substances widely used as vasoactive drugs are known to have an inhibiting effect on platelet aggregation 'in vitro'. We investigated the changes induced on thrombelastogram, routine clotting tests, euglobulin lysis time (ELT), platelet count, aggregation, and adhesiveness by i.v. administration of these drugs to man. The same indices were also studied 'in vitro' by adding comparable concentrations of the substances to human blood or plasma.

Aminophylline did not produce any significant variation in ADP- or collagen-induced aggregation either 'in vitro' (50 to 200 µg/ml) or 'in vivo' (240 mg). A trend to disaggregation was seen only in a few cases. Shorter ELT were found 30 and 120 minutes after injection.

A papaverine derivative (Metaverinum, 150 mg) showed a similar 'in vivo' pattern: minor changes in platelet function tests and a moderate activation of fibrinolysis were seen. The drug acted 'in vitro' as a powerful inhibitor of aggregation (from 30 µg/ml) while fibrinolysis was only activated at the highest concentration (120 µg/ml).

Bencyclan, capable of inhibiting platelet function 'in vitro' at very low concentrations (0.25 µM) did not show similar effects 'in vivo' (50 mg) apart from a reduced platelet adhesiveness to glass.