PLATELET AGGREGATION IN PATIENTS WITH ISCHEMIC HEART DISEASE, TRANSIENT CEREBRAL ISCHEMIA AND PERIPHERAL THROMBO-ATHEROSCLEROSIS. J. Gormsen, J.D. Nielsen and L. A. Andersen. The Municipal Hospital, Copenhagen, Denmark.

The threshold concentrations of ADP and adrenaline inducing platelet aggregation in vitro were determined in a Payton aggregometer in 90 normal controls, 30 patients with ischemic heart disease (IHS), in 34 with transient cerebral ischemia (TCI) and 22 with peripheral thrombo-atherosclerosis (PTA). The threshold concentrations were significantly lower in normal women ≥ 50 years old than in normal women < 50 years old.

Compared with the corresponding control groups significantly lower threshold concentrations were found in following groups of patients: men and women ≥ 50 years with IHS ($p < 0.005$ and $p < 0.001$ respectively), men + women < 50 years with IHS ($p < 0.05$), men + women with TCI ($p < 0.01$), men + women ≥ 50 years with PTA ($p < 0.002$ and $p < 0.001$ respectively), men + women < 50 years with PTA ($p < 0.005$).

PLATELET PHOSPHOLIPID CHANGES IN ATHEROSCLEROSIS. A. Z. Aktulga and O. N. Ulutin. University of Istanbul, Cerrahpasa School of Medicine, Istanbul, Turkey.

The platelet phospholipids content and their per cent distribution in atherosclerotic cases and in thromboembolic cases related to atherosclerosis was investigated with respect to normals. In normals the total phospholipid phosphorus value was found to be $10.88 \pm 0.24 \mu\text{g}/10^9$ platelets whereas this value changed to $14.29 \pm 0.39 \mu\text{g}/10^9$ platelets in atherosclerosis. The individual phospholipids follow the decreasing order of phosphatidyl choline, phosphatidyl ethanolamine, sphingomyeline, phosphatidyl serine, phosphatidyl inositol. In atherosclerotic cases although no difference was observed in this order, there was an increase in the quantity of certain phospholipids. In these cases the coagulation mechanism, the fibrinolytic activity, the platelet functions, and the serum lipid contents were also investigated in comparison to the above findings.

PLATELET AGGREGATION AND PLASMA CATECHOLAMINES IN HYPERTENSION. N.D. Vlachakis and L. Aledort. Department of Medicine, Mount Sinai Hospital, New York, New York, U.S.A.

In 19 patients, with essential hypertension (EH) while on placebo therapy and 8 age matched normals (NC), platelet aggregation studies and plasma norepinephrine (NE) and epinephrine (E) were obtained at rest and at the end of 3 min isometric handgrip exercise (IHE) (2/3 of maximal voluntary contraction) in the upright position. The percent of light transmission at $1 \mu\text{M}$ ADP concentration (LT) and the biphasic aggregation threshold (BAT) in response to ADP were measured in fresh platelet rich plasma at 300,000 platelets. In NC the LT was 26 ± 4.8 , the BAT was 2.8 ± 0.9 , NE was 242 ± 30 , pg/ml and E was 36 ± 3.3 , while in EH the corresponding values were 27.6 ± 2.6 for LT, 3.4 ± 1 for BAT, 222 ± 22 for NE and 36 ± 2.8 for E. The IHE increased LT significantly in both groups and decreased BAT significantly only in EH, while NE and E increased significantly in both groups. In 7 patients the administration of propranolol (PR) for 6 weeks or longer decreased LT and increased BAT as well as increased both NE and E, but neither change was significant. The sudden discontinuation of PR did not produce significant changes in NE, E, LT and BAT from the placebo period, when measurements were obtained one to ten days thereafter. To 7 subjects the intravenously administration of NE for 15 min produced an increase of plasma NE from 338 ± 43 to 1774 ± 159 associated with a significant increase in LT and significant decrease in BAT. Thus uncomplicated EH does not appear to be associated with abnormal platelet aggregation or increased NE or E. However, plasma catecholamines affect platelet function.