THE EFFECT OF FIBRINOGEN DEGRADATION PRODUCTS ON IN VITRO LYMPHOCYTE FUNCTION. H.A. Harvey, C. Albright, A. Lipton. Department of Medicine, The Milton S. Hershey Medical Center of The Pennsylvania State University, Hershey, Pennsylvania, 17033.

Fibrinogen Degradation Products (FDP) are increased in the sera of patients with advanced cancer and other immunosuppressive states. We studied the effect of micromolecular FDP on the function of normal human lymphocytes.

FDP were obtained by prolonged digestion of human fibrinogen with plasmin. Plasmin was prepared from plasminogen by activation with Streptokinase in 0.1M tris buffer, pH 8.0 at 37°C. After dialysis and lyophilization, terminal FDP were reconstituted in phosphate buffered saline, sterilized and added in varying concentration to a lymphocyte microculture system, sRBC and EAC rosette assays and a Lexy plate Migration Inhibition Factor assay (MIF).

FDP exhibited dose dependent inhibition of lymphocyte blastogenesis induced by the mitogens Phytohemagglutinin (PHA), Concanavillin A (Con A) and Pokeweed (PWM). FDP incubated with lymphocytes had no effect on MIF production or on T and B lymphocyte Rosette formation. FDP were further separated by gel electrophoresis on G-25 Sephadex column. Three peaks were obtained. Peaks 1 and 2 inhibited mitogenic response and Peak 3 enhanced PHA induced lymphocyte blastogenesis. Peaks obtained from the column were further characterized by isoelectric focusing.

Micromolecular FDP appear to play a role in the non-specific modulation of lymphocyte functions that depend on cell replication. Their role should be further investigated in clinical immunosuppressive states.

A STUDY ON COAGULATION FACTORS, PLATELETS AND INFLAMMATION IN BURNS. M.R. Boisseau, P. Hourdillé, P. Bernard, A. Pradet, J. Soria and C. Soria. I.N.S.E.R.M. unit. 8, Bordeaux and Laboratoires d'Hématologie Hôtel-Dieu et Hôpital Lariboisière, Paris, FRANCE.

A kinetic study on Burns was performed regarding both coagulation and platelet nucleotides on one hand and Prekallicreine levels on the other hand. These measurements were made as early as possible at the onset and over a long period of time. 1) At the initial phase, a Disseminated Intravascular Coagulation was detected (D.I.C.) hardly noticeable in the biological field. Fibrinogen and Fibrin degradation products were close to normal. The only way to make a diagnosis was by practising very sensitive research tests for soluble monomer complexes. 2) Platelet abnormalities were found : To begin with, a thrombopenia with a breaking down of the nucleotides showing an Acquired Storage Disease (A.S.D.), then a progressive rise until normal values for the nucleotides and higher values for platelet levels were reached, this last point connected with the inflammatory process. 3) Variations in Prekallicreine levels were observed in strict parallel directions with those of the platelet nucleotides.

The relationship between D.I.C., A.S.D. and inflammation was thus brought to light.

FURTHER PHYSICOCHEMICAL AND IMMUNOLOGICAL DATA CONCERNING THE D-DIMER COMPLEX. P.J. Gaffney, M. Brasher and F. Joe. National Institute for Biological Standards and Control, London, U.K.

It has been suggested that a sensitive assay of D-dimer, a fragment found in plasmin-mediated crosslinked fibrin digests, might contribute to our understanding of natural and induced fibrinolysis in man (P.J. Gaffney, Lancet (1972) ii, 1422). Towards this end, further characterisation of the heterogeneity of the D-dimer complex was attempted using gel electrophoretic techniques, while some attempts to raise rabbit antisera to D-dimer were also assessed.

It was confirmed that D-dimer, following plasmin-mediated release from crosslinked fibrin, was non-covalently linked to fragment E. The E fragment was released from the D-dimer/E complex during progressive digestion. The earliest digests examined showed that more than 50% of the total E fragment (immunologically measured) was complexed with D-dimer while some E remained in the complexed form even after intensive digestion. During examination of various timed digests it was observed that the electrophoretic properties of the various D-dimer complexes changed while the detergent gel patterns remained consistent. Antisera raised in rabbits to the D-dimer/E complex, following absorption with fragments D and E, reacted with purified fibrinogen and suggests that these antibodies may be recognising the dimeric D structure in fibrinogen.

It was concluded that studies of the immunological properties of the D-dimer/E complex, this being the earliest form of soluble crosslinked fibrin fragments, might be the most useful in eventually establishing an assay which would further our understanding of natural and induced fibrinolysis.