

CLINICAL HEMORHEOLOGY NEWS

REPORT ON THE 4th MEETING OF THE FRENCH SOCIETY ON CLINICAL HAEMORHEOLOGY

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The Fourth Meeting of the French Society on Clinical Hemorheology (Société Française d'Hémorhéologie Clinique - SFHC) was organized with the participation of the French Society of Prenatal Medicine, the National Society of Gynecologists and Obstetricians and the Society on Hypertension during Pregnancy. In his introduction, Prof. Boisseau, President SFHC, underlined particularly the crucial rôle of haemorheological disturbances occurring in toxemia of pregnancy. He emphasized the different haemorheological approaches which may be expected to decrease the morbidity of the fetus.

In the session relating to haemorheological techniques, Dr. Thao Chan, Lab. d'Hémorhéologie, Laboratoires Hoechst, reported on new theoretical and experimental findings pertaining to erythrocyte deformability and erythrocyte aggregation. He referred to the recently available cellular transit-timer analyzer, CITA, which permits the qualitative study of erythrocyte deformability of sub-populations of red cells. Prof. I. Juhan, La Timone Hospital, Marseille, related interesting results concerning the normalization of membrane fluidity with pentoxifylline in insulin-dependent diabetic red cells measured by fluorescence polarization.

The second session was related to clinical applications in haemorheology, Dr Valensi, Avicenne Hospital, pointed out that hyperglucagonemia was usually expected in states of stress. The hyperglucagonemia appears to have rapid and sustained effects on diabetic erythrocyte deformability. Dr Le Devehat, CHU, Nevers, demonstrated the existence of disturbances of erythrocyte aggregability of patients blood samples collected from the lower limbs in varicose. Dr Pelouze, Clinique Larrieu, Pau, pointed out the beneficial contributions of haemorheological parameters in the pre and post-operative diagnosis in vascular surgery. Thanks to better understanding of the action of "haemorheological" drugs, which he has developed besides surgery a therapeutic approach adjusted to rheological pre-and post-operative disorders of the patients.

Moreover, the hemorheological approach in the study of fetal blood diseases and of child erythrocyte deformability can be well-shown in drepanocytosis with the "hemorheometer" according to Dr Traineau, Trousseau Hospital.

Dr Dhermy and co-workers, INSERM U 160, described several observations regarding the possibilities of prenatal diagnosis for hereditary elliptocytosis both homozygote and heterozygote. Pr Delaunay, Grange Blanche University of Medicine, Lyon, emphasized congenital anomalies of the beta chain spectrin of a child. The child presented neonatal haemolysis, characterized by an elliptocytosis. Dr Motta, Biochemical Lab., Clermont-Ferrand, reported results obtained by fluorescence polarization from fetal erythrocytes. He pointed out the decrease of fluidity of these erythrocytes as compared to those of adults.

In the session on haemorheological disorders in prenatal pathology and during pathological pregnancy different studies were reported on frequently found anomalies of whole blood viscosity, polycythemia, increase in leukocyte concentration by Prof. Heilmann, Essen University, West Germany, the loss of plasma proteins to extravascular spaces by Prof. Boisseau and hypervolemia by Dr Uzan, Tenon Hospital. Among different therapeutic approaches concerning the improvement of hemorheological parameters in the placebo level, the following was discussed : Antiaggregant platelet treatment in the prevention of the fetal hypotrophy by Prof. Beaufils, Tenon Hospital, early heparinotherapy for women with in utero fetal death antecedents or severe intra-uterine growth retardation by Prof. Thoulon, Hôtel Dieu, Lyon. The Doppler velocimetry, such as a non-invasive exploration technique, actually can be part of monitoring components of the check up in the course of pregnancy with hypertension by Dr Bessis, Clamart Hospital.

In conclusion : In the utero-placental circulation, continuously prone to thrombo-embolic and haemorheological disorders, a favourable dynamic situation to the harmonious fetal development depends on gradual and appropriate hemodilution. The polycythemia reacts to two kinds of anomalies, one, which is primitive and uncommon, corresponds to the pathological increase of red cell volume in polycythemia vera, while the other one, which is more frequent, corresponds to a volumic expansion. Hemo-concentration accompanies the raise of blood viscosity which disturbs the placental circulation. Thrombosis and infarcts are also frequent in fetal chronic pain. This situation is most dangerous for the fetus, because it does not possess the means to fight against the utero-placental circulatory insufficiency.

The meeting motivated the investigators of the above mentioned societies to carry on new studies in order to understand better the physiological and pathological rôles of haemorheological parameters in pregnancy and in neonatology.

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Secretary, SFHC