

A SATELLITE MEETING OF
THE FOURTH INTERNATIONAL CONGRESS OF BIORHEOLOGY

International Symposium on Hemorheological Approach to Cardiovascular Diseases will be held on Aug. 3 (Monday), 1981 at the National Cardiovascular Center, Osaka. This Symposium aims at encouraging further links between the rapidly advancing science of hemorheology (blood flow and vascular deformation) and clinical practice in cardiovascular diseases.

The tentative scientific program is as follows:

Monday Morning, Aug. 3, 1981

9:00a.m.-12:00 Invited Lectures

Chairmen: T. Azuma (Japan) & W.E. Stehbens (New Zealand)
Arterial Fluid Mechanics and Atherogenesis
C.G. Caro (U.K.)

Chairmen: Y.C. Fung (U.S.A.) & K. Hayashi (Japan)
Red Blood Cell Deformability and Its Importance in Blood Circulation and in Diseases
J.F. Stoltz (France)

Chairmen: A.L. Copley (U.S.A.) & E. Fukada (Japan)
The Proper Phase of Clotting; Its Physical Differentiation by Resonance Thrombography and Thrombelastography
H.H. Hartert (F.R.Germany)

Monday Afternoon, Aug. 3, 1981

Contribution of Hemorheology to Clinical Medicine

1:30-3:00p.m. Chairmen: S. Chien (U.S.A.) & H. Niimi (Japan)

Hemorheology in Clinical Medicine
S. Chien (U.S.A.)

Diagnostic Techniques for Clinical Hemorheology
H. Schmid-Schönbein (F.R.Germany)

Microrheology and Clinical Hemorheology; Unravelling Some Problems Related to Thrombosis
H.L. Goldsmith & T. Karino (Canada)

3:15-4:30 Chairmen: A.M. Ehrly (F.R.Germany) & R. Nakayama (Japan)

The Role of Blood Rheology in Oxygen Transport to Tissue
P.S. Lingard (Australia)

The Role of Blood Viscosity in Hypertension
T. Natsume, M. Tsuchiya, A. Sakaguchi, R. Nakayama & M. Ikeda (Japan)

Nonuniform Sympathetic Nervous Control of Small Arteries in Various Organs

I. Ninomiya, S. Hirata, S. Suehiro & Y. Okada (Japan)

Studies on the Flow Pattern in the Pulmonary Trunk with a Combined Doppler and Two-Dimensional Echocardiography from the Transcutaneous Approach

Y. Nimura, N. Kinoshita, K. Miyatake, M. Okamoto & H. Sakakibara (Japan)

4:45-5:30 Movie Session

Chairmen: W.M. Phillips (U.S.A.) & M. Sugawara (Japan)

Non-invasive Visualization of Blood Flow Distribution in Human Heart Using Pulse Doppler Flowmeter

1st Dept. of Internal Medicine (Prof. H. Abe), Osaka University Med. Sch. (Japan)

Microcirculation in Heart and Brain

T. Yamakawa & R.J. Bing (U.S.A.)

Flow Structures in Microvessels in Relation to Vascular Diseases

H. Niimi, S. Hanai, M. Minamiyama, T. Yamakawa (Japan)

Flow Disturbance at Branching Sites in Abdominal Aorta

T. Fukushima & T. Azuma (Japan)

Proceedings of the meeting will be published as a supplement to "Recent Advances in Cardiovascular Disease". Invited lectures and papers in the symposium will also be published in "Clinical Hemorheology".

Inquires: H. Niimi Ph.D., Secretary General ISHA,
National Cardiovascular Center
5-125 Fujishiro-dai, Suita, Osaka 565
Japan.

ANNOUNCEMENT

WORKING GROUP ON METHODS

FOR THE MEASUREMENT OF RED CELL DEFORMABILITY

(To be held in conjunction with the Second European Conference on Clinical Haemorheology at the Royal Society of Medicine, London, 29th September, 1981).

At the First European Conference on Haemorheology and Disease, Nancy, in October, 1979, Professor P. Teitel (Aachen) proposed that at a subsequent meeting a group of workers investigating "red cell deformability" should meet and discuss the possibility of clarifying current methodology in this field.

While there is general agreement on the technique and units of measurement of blood and plasma viscosity, a variety of techniques for assessing red cell deformability are currently employed. Furthermore, different workers using the same general technique employ different conditions of measurement, and express the results in a variety of ways. Red cell deformability (a physical property) depends on several parameters including cell shape and size, membrane properties and internal viscosity. All of these factors determine red cell deformation (a physical process) which in addition depends on external parameters including geometrical and hydrodynamic conditions. Different techniques may therefore measure different rheological properties of the red cell, and comprehensive assessment of red cell deformability may require a combination of methods.

While basic workers in haemorheology will continue to investigate different methods of approach, there is at the same time increasing interest from physicians in the relation of red cell deformability to circulatory diseases and their treatment. A growing number of not only clinicians, but also pharmacologists, pathologists, epidemiologists and biologists are becoming aware of the possible significance of red cell deformability in their specialist fields. Such clinicians and scientists require a meaningful but simple, standard reference technique for assessing red cell deformability and do not wish to use a spectrum of measurements or delve into the fundamental haemorheological problems. At present the most widely used clinically applicable techniques are variations on the filtration principle.

Because this approach mimics the in vivo situation of red cell passage through small vessels, and because the filters are readily available commercially, it has been more widely used in recent years than other approaches to measurement of red cell deformability, especially in studies of large numbers of samples. However, widespread use has bred diversity of technique, and consideration of the optimal conditions of filtration and expression of results is the major aim of this meeting, in an attempt to promote understanding of the phenomena studied in filtration and to help standardise methodology and terminology in this field. It has become apparent that many factors influence red cell filterability, apart from intrinsic red cell deformability. These factors include type and batch of filter, shear conditions, methods of measuring red cell passage, anticoagulant, storage time, temperature, haematocrit, suspending medium, and effects of reticulocytes, leucocytes and plasma proteins.

The recommendations of the Working Group will be presented by Professor Gaehtgens to the Second European Conference on Clinical Haemorheology, and subsequently published in "Clinical Haemorheology".

J.A. Dormandy	Chairman, Organising Committee, Second European Conference on Clinical Haemorheology.
P. Gaehtgens	Chairman, Working Group
G.D.O. Lowe	Secretary, Working Group