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PROCEEDINGS - PART II

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SYMPOSIUM: METHODS IN CLINICAL HEMORHEOLOGY

INTRODUCTION

Siegfried Witte
Department of Medicine, Diakonissenkrankenhaus, Karlsruhe-Rüppurr (F.R.G.)

Hemorheological methods have to fulfill diagnostic tasks in the hospital: to elaborate normal values, to establish pathological deviations and to assign them to specific diseases. The parameters of blood viscosity: hematocrit, plasma viscosity, red cell aggregation and deformability should be measured precisely and specifically. The methods must be suitable for routine clinical application. This also includes questions of costs.

Technical development has not yet been completed in any method. Viscosimetry of whole blood by means of steady shearing competes with oscillatory capillary measurement of blood viscosity. Attempts were made to measure the deformability of red cells with filter techniques in various modifications. New optical methods promise to provide advances. The blood clotting system affords multivarious rheological aspects. A high fibrinogen level is clinically frequent.

In its methods of measurement, hemorheology should always regard the blood as an organ in connection with the blood vessels. The basal parameter of hemorheology would then be the blood volume, which has been almost forgotten today. The hematocrit, for which the best method of measurement is once more the subject of discussion, can only be evaluated hemorheologically in connection with the total blood volume. It has exchange with the interstitial fluid we allocate to the new speciality of perihemorheology. For the body, the most important objective of hemorheology is the oxygen supply to the cells. All disorders of hemorheological parameters should be measurable in disorders of the oxygen supply to the entire body if we can develop suitable methods of measurement. In my view, this is the clinical objective of all hemorheological methods. This symposium can thus only cover one segment of clinical biorheology.