Thrombosis and haemostasis, where clinical and basic science meet

Jos Vermylen
Emeritus Professor of Medicine, Center for Molecular and Vascular Biology, University of Leuven, Leuven, Belgium

The journal *Thrombosis et Diathesis Haemorrhagica* was founded fifty years ago, at a time when coagulation laboratories were being set up in many university departments around the world. The reason for the latter was two-fold; on the one hand, new congenital clotting disorders were continuously being discovered, and their differential diagnosis required laboratory investigation; on the other hand, the notion that oral anticoagulants could be beneficial following a myocardial infarction had just been introduced by Irving Wright (1, 2) among others; laboratories were needed to monitor this new form of therapy. In addition, open heart surgery was at its beginning, and expertise was needed to monitor heparin anticoagulation and its reversal by protamine.

Many of the clotting factors, starting with factor V and upwards, were discovered by clinician-scientists, from careful study of the plasma of patients with a congenital clotting disorder; when the plasma of two such patients was mixed, and the clotting process was not corrected, the patients were defined as having the same clotting factor deficiency; if the defect was corrected by mixing, it was assumed that the patients had different defects, so that they could substitute for each other; in this way new clotting factors were identified. Clotting factors were further defined by whether the correcting activity was present or absent in normal serum or in barium sulfate treated plasma, etc.

It should be emphasized here that most clotting factors were discovered in this way by careful patient studies in the 1950s, and that it took another 20 years before they were adequately purified and characterized biochemically. This early scientific development remains perhaps one of the most dramatic examples of how detailed patient studies can contribute to forwarding basic knowledge. On the other hand these clinical discoveries often occurred simultaneously in different parts of the world, and each clinician-scientist introduced a new name for his/her newly discovered clotting factor (either the patient’s name or the presumed physiological role, e.g. “plasma thromboplastin antecedent”). As a result, a “Tower of Babel” situation emerged, different coagulation schools using their own personal nomenclature to define a specific entity (3).

It is in this setting of explosive increase in knowledge and confusion that Professors Erwin Deutsch, Rudolf Jürgens and Fritz Koller had the brilliant insight to approach Professor Paul Matis and Schattauer Publishers and to convince them to start an international journal specifically oriented towards thrombosis and haemostasis, the international character being emphasized by choosing the Latin title “*Thrombosis et Diathesis Haemorrhagica*”. At about the same time, an International Committee for the Nomenclature of Blood Coagulation Factors was set up, and fortunately agreement was gradually reached on a Roman Numeral Nomenclature that we still use today and that allowed to diminish the confusion. Detailed accounts of this committee’s deliberations were published in the early issues of *Thrombosis et Diathesis Haemorrhagica*. The International Committee for the Nomenclature of Blood Coagulation Factors eventually evolved into the International Society on Thrombosis and Haemostasis that quite naturally selected *Thrombosis et Diathesis Haemorrhagica* to become the official journal of the Society, while changing its name into *Thrombosis and Haemostasis*.

It was during the exciting period in the late 1950s that Marc Verstraete wished to study the effects of varying the loading doses of different vitamin K antagonists on the various clotting factors that had then been defined. For this purpose, he entered a lecture room for preclinical medical students and asked for some students to volunteer in this experiment (at that time there was no detailed informed consent or ethics committee supervision). This is how I came to know the laboratory for blood coagulation at the University of Leuven. The enthusiasm of those working there was contagious, and so I joined the lab the next vacation as a summer
References