The interest in studying angiogenesis has started in oncology and later spread to other fields of medicine, including hematology. While in oncology most studies are directed toward a better definition of the prognostic significance of angiogenic phenomena in cancer patients, among hematologists there is a strong interest in the involvement of angiogenesis not only in malignant diseases but also in the development and regulation of normal hematopoiesis. In this light there are many novel and interesting reports indicating that, in normal ontogeny, hematopoiesis is associated with angiogenesis and this finding has led to a reappraisal of a very old concept: the presence of a common progenitor, called hemangioblast, that gives rise to both the endothelial and hematopoietic lineages. This concept was first formulated almost one century ago but it could not be confirmed for a long time. Studies on angiogenesis have the merit not only of having taken up this old idea but also, as a consequence, of having provided new perspectives on the concept of a wide plasticity of stem cells. These studies are also of clinical utility because they can provide new insights into the pathophysiology of hematological malignancies and give some evidence that angiogenesis is critical for the development of numerous different hematological diseases. This implies that an antiangiogenic strategy may be of value in diseases such as acute and chronic leukemias, lymphomas and multiple myeloma. The biology of angiogenesis and its relationship with hematopoiesis are discussed in the first part of this supplement to Acta Haematologica while studies dealing with the importance of angiogenesis and antiangiogenic drugs in these diseases are addressed in the second part. The last chapter discusses the role of angiogenesis in a unique hematological disorder such as the Rendu-Osler disease.

The large amount of information that we see every day published in the international literature can be somehow confounding. We hope that this supplement will give some basic and up-to-date information that can help define the state of art of hematological research in the field of angiogenesis.

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