Preface to the Proceedings of the 12th International Conference on Thrombosis and Hemostasis Issues in Cancer, 2024

Dear Colleagues,

We are pleased to present this volume of the Proceedings of the 12th International Conference on Thrombosis and Hemostasis Issues in Cancer (ICTHIC) being held in Bergamo, Italy, May 17-19, 2024.

Cancer-associated thrombosis – which includes both venous and arterial events in its clinical manifestations and involves cancer biology, hemostatic proteins, platelets and many other players in its subclinical terrain – is an old problem. Yet it makes its way into the newest of new themes in cancer medicine, including new paradigms of treatment which continue to be complicated by this very old effect. The ICTHIC conference since its inception has focused on integrating varied perspectives from different disciplines involved in both the investigation of cancer biology, and the treatment of cancer patients, into the ultimate goal of reducing the burden and consequences of cancer-associated thrombosis. A secondary aim has been to provide emerging investigators and research themes a platform to carry the field forward.

Our 2024 edition's opening set of articles focuses on **emerging trends** in cancer-associated thrombosis. Jamie O'Sullivan from Ireland describes endothelial cell dysfunction in cancer, and its role as a modulator of both thrombosis and metastasis. Deborah Siegal from Canada reviews the impact of arterial thromboembolism in this setting, with a focus on stroke in patients with cancer. Ang Li from the United States provides updates on trends in the epidemiology of cancer-associated thrombosis. Maria Barca-Hernando from Spain provides information on the association between the location of metastasis and complications of anticoagulant treatment. A major highlight of the ICTHIC meeting is the **Simon Karpatkin Memorial Lecture**, which honors the memory of the late Professor Karpatkin of New York University. The 2024 awardee is Agnes Y. Y. Lee from Canada, who may be said to have pioneered the field of treatment of cancer-associated venous thromboembolism (VTE) by leading the first randomized trial of treatment in the cancer setting. This groundbreaking study resulted in the first regulatory approval of an anticoagulant specifically for the treatment of cancer-associated VTE and created a model for future agents and classes of drugs to follow. She provides her perspective in a major overview of the topic of *VTE Treatment In Patients with Cancer: Reflections On An Evolving Landscape.*

A second set of articles focuses on **anticoagulation management in hematologic malignancies**. Kristen Sanfilippo from the United States provides an overview of the association of VTE with mortality specifically in people with hematologic cancers. Simon Stanworth from the United Kingdom provides a description of the uncertainties in managing thrombosis and anticoagulation in patients with thrombocytopenia which is a major concern in the hematologic malignancy population. A third theme of the meeting explores new insights into the relationship between **hemostasis and cancer**. Janusz Rak from Canada describes the intricate and complex interplay between the coaguloma and the tumor microenvironment. In a special article, Simon Noble from the United Kingdom speaks to the importance of patient and public involvement in research into cancer-associated thrombosis.

The **past, present and future of cancer-associated thrombosis** is another theme explored by various investigators. One of us (A.A.K. from the United States) evaluates the emerging association of VTE in cancer patients treated with immune checkpoint inhibitors, drugs that are changing the paradigm of cancer treatment yet seem afflicted with the same "old" problem. Marcello Di Nisio from Italy looks ahead to an emerging class of agents – factor XI inhibitors – and how they could potentially be new options for the prevention and treatment of cancer-associated thrombosis. The future may be altered not just by treatment options but also by **novel biomarkers**. Jeffrey Zwicker from the United States evaluates emerging new technology of proteomics and how it can be used to both predict cancer-associated VTE, and to provide mechanistic insights into its pathophysiology. Simon Mantha, also from the United States, provides an overview of the use of machine learning approaches for the prediction of cancer-associated thrombosis. The final set of articles evaluates knowledge gaps in **anticoagulation in cancer patients**. Gary Raskob from the United States evaluates the risk of recurrent VTE in cancer patients after discontinuation of anticoagulant therapy.

We are grateful to all the authors, researchers and meeting participants for their contributions to this meeting. As cancer medicine evolves, the roles of the hemostatic system and of anticoagulants in cancer biology and cancer outcomes, respectively, are becoming increasingly clear. We are delighted that ICTHIC remains at the cutting-edge of this paradigm shift, and that it continues to serve as a major platform for the various disciplines involved in this important area of cancer research.

The Conference Chairmen
Anna Falanga, Benjamin Brenner, Alok A. Khorana