Preface

Since the dawn of modern medicine, the spreading of a tumor has always been regarded as an unfavorable event. However, until recently patients would refer to this condition as a tumor that had 'returned' and simply prepare for additional rounds of treatment, as if the recurrence would be a replica of the original disease, just in a different site.

Today, patients and physicians alike are fully aware that the detection of metastases is a negative prognostic factor, in most cases leading to serious repercussions on the quality of life and overall survival. Indeed, the treatment of metastatic patients with curative intent is frequently a daunting task, albeit not always bond to fail. The first chapter of this book provides an excellent overview of the problem.

The gravity of metastatic disease is often due to the multiplicity of lesions to be treated, combined to locations not easily amenable of surgical excision or irradiation. Although cytotoxic, targeted and in selected cases hormone-deprivation systemic therapies can initially bypass some of these limitations, the onset of resistance mechanisms will eventually obligate physicians to change chemotherapy protocol, switch to different targeted drugs and eventually resolve to palliative measures.

Furthermore, we now recognize that metastatic lesions might share very little with their tumors of origin as a myriad of events occurring either at primary or secondary sites can dramatically alter genotypic and phenotypic features of cancer cells during the progression of the disease.

Thus, aiming to the successful treatment of metastatic lesions based on information gained from primary tumors should be considered a dangerous overlook. Several chapters of this book provide a compelling review of the current knowledge on the changes occurring in different organ microenvironments that permit malignant colonization and subsequent progression of clinically overt metastases. These changes affect not only epithelial cancer cells, but also the resident cells of the surrounding stroma, immune cells and bone marrow-derived cells that can be locally recruited to create a pre-metastatic niche.

A significant percentage of solid tumors are currently diagnosed at their initial stages. However, the progress in screening and diagnostic procedures only marginally translates into major survival benefits for patients, as too many still succumb to

metastatic disease often years after the initial diagnosis. A better understanding of the mechanisms and molecular mediators promoting local tumor progression and invasion into the circulatory and lymphatic systems will lead to appropriate therapeutic strategies aiming to limit the extent and duration of cancer spreading. A number of chapters in this book very effectively address these particular issues.

This volume presents the work of scientists at the forefront of the metastasis research field and it is a testimony of the power of their intellect, dedication and efforts to improve the range of treatment options for cancer patients and effectively counteract the most lethal complication of their disease. I knew some of them personally prior to undertaking this project and learned more about the others because of it. It has been a true privilege for me to work on this text with such a group of brilliant co-authors. They all have been enthusiastic about this book from the very beginning and demonstrated a remarkable willingness to participate, despite the variety of academic and clinical commitments they had to attend and the demands of their research groups and medical teams. For this, and for their contribution of competent writing and effective illustrations, I am extremely grateful.

I am also indebted to all the staff at Springer, especially Melania Ruiz (Publishing Editor), Ilse Hensen (Publishing Assistant) and Sunil Padman (Project Manager). Their enthusiasm and knowledgeable assistance during the different phases of this project have been very much appreciated.

The ensuing of metastatic disease is too often responsible for the demise of patients that would be otherwise successfully treated for their primary tumors. The scientists involved in this project, along with many others in the field, intend to change this grim scenario forever.

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