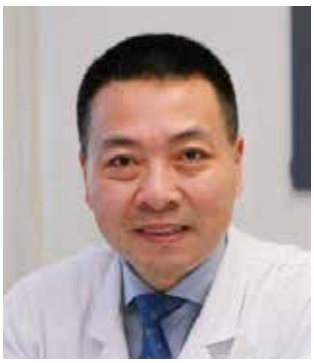
We are greatly honored to participate in the editing of this book and are grateful to have the opportunity to share our personal views on the diagnosis and treatment of kidney cancer.

According to estimated number of new cases in 2019, kidney cancer is the sixth and eighth most common cancer in males and females in the USA respectively. Moreover, the mortality of this disease is also growing yearly. Renal cell carcinoma (RCC), as the most common type of kidney cancer, has a prevalence of 90% of all cases and accounts for 3.72%–3.79% of all human cancers. The overall 5-year survival rate is 74%, while the survival rate for RCC patients with distant metastasis is only 12% in all ethnicities and 16% in patients who have been diagnosed with local invasion or distant metastasis, resulting in a poor prognosis. Clear cell RCC (ccRCC), as the most common histological type of RCC, represents 90.7% of RCC cases in China.

In recent years, vascular endothelial growth factor (VEGFR) inhibitors and anti-VEGF antibodies have been widely used to treat kidney cancer. Meanwhile, anti–programmed death-1 (PD-1) immune checkpoint blocker has been approved for patients with advanced ccRCC who have received prior anti-angiogenic therapy; this breakthrough has heralded a new era in the management of kidney cancer. Recent studies have reported that Hippel-Lindau (VHL) and polybromo-1 (PBRM1) mutant tumors are associated with both an immune profile and an angiogenic signature, which indicated that patients with VHL and PBRM1 mutations could benefit most from a combinatorial approach of anti-angiogenic targeted therapy and immune checkpoint blocker. Hence, focusing on the genetic architecture of kidney cancer will be essential to advancing the precision medicine approach and will provide a reference for selecting suitable molecular targeted drugs, such as angiogenic inhibitors, anti–PD-1 immune checkpoint blocker, or their combination. Additionally, robotic-assisted partial nephrectomy, as an advanced surgical treatment of kidney cancer, has various advantages, including enhanced dexterity, a 3D-magnified vision of the surgical field, and greater precision in the dissection and reconstruction steps of the procedure.

In the next decade, we will see a brand new treatment model, and treatment will become more diversified due to development of surgical techniques and molecular research in kidney cancer. This book has been developed by a multidisciplinary panel of leading experts consisting of urologists, medical oncologists, radiation oncologists, and pathologists, and will provide multidisciplinary recommendations for the clinical management of patients with kidney cancer. I believe it will ultimately benefit patients with kidney cancer and can be a valuable guide for clinicians.



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