

FOREWORD

Ovarian cancer is a significant cause of morbidity and mortality in women. Ovarian cancer is distinct from other malignancies in some specific characteristics. For example, the origin of primary ovarian cancer can be from multiple sites, the tumor cells can disseminate by exfoliation from the ovaries or the tubes and migrate through the peritoneum, and secondary tumors do not have additional genetic mutations from that of the primary tumors. Due to the lack of specific signs and symptoms at the early stages of the disease, ovarian cancer is usually diagnosed late, and peritoneal and distant metastases are common at diagnosis.

Ovarian cancer is a heterogenous disease. The World Health Organization categorizes ovarian cancer into three groups: epithelial, germ cell, and sex-cord stromal. Tumors in each of these categories have distinct epidemiology, pathophysiology, and molecular biology. Heterogeneity is a key feature of these tumors, explaining, in part, the lack of successful treatment. Although these subtypes are distinct, they are clinically managed as a single entity, with cytoreductive surgery followed by platinum-taxane combination chemotherapy. The response rate to first-line therapy is around 80-90%, but most patients relapse and develop chemotherapy resistance contributing to a poor 5-year survival rate. Another key aspect of advanced ovarian cancers is malignant ascites as more than one-third of the patients develop this condition. Ascites is the pathological accumulation of fluid into the peritoneal cavity. It occurs in all epithelial ovarian cancer subtypes but significantly higher in high grade serous ovarian cancer, the most aggressive subtype. Inflammation and inflammasomes play a key role in this process.

In this book, an international team of researchers and clinicians provide an up-to-date information on aspects of heterogeneity, pathological mechanisms, and treatment strategies. The heterogeneity of ovarian cancers is covered in the chapter on subtypes of ovarian cancer. The pathological mechanisms with emphasis on malignant ascites and inflammasomes and how they contribute to tumor progression and chemoresistance are comprehensively presented in three chapters. The last three chapters focus on current and future treatment strategies with emphasis on the real-life challenges faced in the clinics by gynecologic oncologists in daily practice in the management of high grade serous ovarian cancer and how this can be effectively managed, theranostics, and immunotherapy.

The chapters of this book are topical. This book will be valuable to healthcare professionals caring for individuals with ovarian cancer and researchers involved in ovarian cancer.

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