

PREFACE

Liver cancers are complex neoplastic diseases with varied etiologies. Despite numerous research programs and clinical trials targeting several molecules in the last 50 years, hepatocellular carcinoma, the most common form of liver cancer, is still difficult to cure, and has become the second most common cause of cancer-related deaths in adults. This, at least in part, is due to the rising incidence of obesity, non-alcoholic fatty liver diseases, and excessive alcohol consumption. An adequate knowledge of the disease, including its etiology and pathology, is essential to develop effective therapies. Contributed by some of the leading hepatologists and pathologists in the field, this book is an effort to provide students, basic scientists, clinicians, and pathologists with a comprehensive understanding of the pathology, diagnosis, treatment, and management of various types of liver cancers. There are nine chapters in the book.

Chapter 1 provides a comprehensive review of malignant epithelial tumors of the liver in children and adolescents. Hepatocellular carcinoma, lipid-rich hepatocellular carcinoma, fibrolamellar carcinoma, and cholangiocellular carcinoma are discussed. This is followed by an in-depth discussion of hepatocellular carcinoma in adults in Chapter 2, covering the etiology and pathogenesis of hepatocellular carcinoma, various diagnostics tests, and treatment options.

While the etiology of liver cancers is multifactorial, obesity and non-alcoholic fatty liver disease are emerging as significant risk factors for liver cancer. Chapter 3 highlights our current knowledge on the progression of non-alcoholic fatty liver disease to malignancy. It gives insight into the diagnosis, treatment options, and future directions for non-alcoholic steatohepatitis-related tumorigenesis. A comprehensive understanding of the functional liver segments and anatomy of resection samples is essential to generate clinically relevant pathology reports. Based on the College of American Pathologists Cancer Protocols, Chapter 4 guides the gross dissection procedure for producing a valuable pathology report. Radiology plays a vital role in the screening, diagnosis, and treatment of liver lesions. Pathology provides further diagnostic insight into material obtained through biopsy or surgical resection. Gross appearances guide sampling approaches, and microscopic examination can lead to a final diagnosis. Chapter 5 introduces the reader to the radiologic and histopathologic features of common tumor or tumor-like lesions within the liver, emphasizing hepatocellular lesions, biliary lesions, vascular mesenchymal lesions, and metastatic malignancies.

Chapters 6 and 7 focus on therapy and management. Although antiviral therapies have reduced the incidence of hepatitis B virus-related hepatocellular carcinoma, patients are still at risk of developing hepatocellular carcinoma. Chapter 6 discusses the immunopathogenesis of the virus, the effectiveness of nucleos(t)ide analogues, and recent therapeutic developments. Hepatocellular carcinoma is a common indication for liver transplantation. While awaiting liver transplantation, locoregional therapy can be used as bridging therapy to maintain the tumor burden. Chapter 7 provides a comprehensive review of various locoregional therapies, including trans-arterial chemoembolization, transcatheter arterial radioembolization, thermal ablation, and stereotactic body radiation therapy.

Chapter 8 and 9 deal with two relatively rare entities: hepatoblastoma and undifferentiated embryonal sarcoma of the liver. Hepatoblastoma is the most common liver cancer in children aged three years and younger. Chapter 8 provides an overview of the etiology, pathogenesis, epidemiology, incidence, symptoms, and therapeutic considerations of hepatoblastoma. The diagnostic measures necessary from a surgical point of view and the essential operational and technical considerations for the various hepatoblastoma stages are discussed. Undifferentiated embryonal sarcoma of the liver is an aggressive malignancy that most commonly affects the pediatric age group. This tumor very rarely occurs in adults. Chapter 9 outlines the clinical, radiological, and pathological features of hepatic undifferentiated embryonal sarcoma in adults. An in-depth discussion is undertaken to describe the diagnostic approach and the differential diagnosis for this rare and challenging tumor.

I thank the authors for their dedication and professionalism in contributing to this book. I believe this book will encourage readers to delve deeper into this field and take up the critical challenge of working toward effective treatments for liver cancers.

Consolato M. Sergi, MD, PhD, MPH, FRCPC, FCAP
University of Alberta
Edmonton, Canada

Doi: <https://doi.org/10.36255/exonpublications.livercancer.2021.pr>