Primary Carcinomas of the Liver
Contemporary Issues in Cancer Imaging
A Multidisciplinary Approach

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Series foreword

Imaging has become pivotal in all aspects of the management of patients with cancer. At the same time, it is acknowledged that optimal patient care is best achieved by a multidisciplinary team approach. The explosion of technological developments in imaging over the past years has meant that all members of the multidisciplinary team should understand the potential applications, limitations, and advantages of all the evolving and exciting imaging techniques. Equally, to understand the significance of the imaging findings and to contribute actively to management decisions and to the development of new clinical applications for imaging, it is critical that the radiologist should have sufficient background knowledge of different tumors. Thus the radiologist should understand the pathology, the clinical background, the therapeutic options, and the prognostic indicators of malignancy.

Contemporary Issues in Cancer Imaging – A Multidisciplinary Approach aims to meet the growing requirement for radiologists to have detailed knowledge of the individual tumors about which they are involved in making management decisions. A series of single subject issues, each of which is dedicated to a single tumor site, edited by recognized expert guest editors, include contributions from basic scientists, pathologists, surgeons, oncologists, radiologists, and others.

Although the series is written predominantly for the radiologist, it is hoped that individual issues will contain sufficient varied information so as to be of interest to all medical disciplines and to other health professionals managing patients with cancer. As with imaging, advances have been made in all these disciplines related to cancer management, and it is our fervent hope that this series, bringing together expertise from such a range of related specialties, will not only promote the understanding and rational application of modern imaging but will also help to achieve the ultimate goal of improving outcomes of patients with cancer.

Rodney H. Reznek
London
Preface to Primary Carcinomas of the Liver

The incidence of liver cancer in the United States and worldwide is increasing. The majority of primary liver cancers in the United States are hepatocellular carcinomas (HCC), with cholangiocarcinomas being the next most common. This trend is due to an increase in chronic hepatitis C, which along with hepatitis B is a major risk factor for liver cancer. Other contributing factors include heavy alcohol consumption, fatty liver disease, obesity, diabetes mellitus, and iron storage diseases. Although in general the mortality rates are high, survival rates in some countries are showing some improvement as more patients are being diagnosed with earlier stage tumors by means of aggressive surveillance with serologic tumor markers and diagnostic imaging. Advances in imaging techniques such as diffusion-weighted magnetic resonance imaging (MRI) and positron emission tomography–computed tomography (PET–CT) have helped in improving the detection and characterization of smaller earlier stage tumors. Treatment by means of resection or transplantation has excellent survival rates and, for patients who are not surgical candidates, ablative therapies and transarterial chemoembolization are suitable alternatives. Recently, for advanced HCC, anti-angiogenic agents have been employed with encouraging results. The role of radiotherapy in patients with cholangiocarcinoma and HCC who are poor surgical candidates is increasing.

The purpose of this edition of Contemporary Issues in Cancer Imaging is to review the epidemiology, screening, and diagnostic imaging techniques as well as roles of various therapeutic management strategies of common primary hepatic malignancies.

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