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978-1-107-02417-5 - Cytohistology of Small Tissue Samples: Cytohistology of Focal Liver Lesions

Aileen Wee, Pichet Sampatanukul and Nirag Jhala

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CYTOHISTOLOGY OF SMALL TISSUE SAMPLES

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This book is dedicated to

Our families

Chuen Neng, Han-yi, Han-wei, Han Yang, and my father, the late Wee Aik Sun

Pisinat, Teeratida, and Teerasich

Darshana, Khushboo, Amol, and my older brother, the late Parag Jhala

My late parents, Venkatesh Rao and Chandrakala

With deep gratitude for their love, support, and patience

Our mentors and our trainees who make us learn every day

and

My teachers, Professor K. Shanmugaratnam and Dr. Jurgen Ludwig

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PREFACE

Primary liver cancers, namely, hepatocellular carcinoma (HCC) and intrahepatic cholangiocarcinoma (ICC), are common in the East, due to the high incidence of chronic viral hepatitis B from Mongolia down to Southeast Asia, and endemic liver fluke infestation in Northeast Thailand, respectively. There are two major challenges concerning the diagnosis of focal liver lesions. First, the liver parenchyma itself often undergoes cirrhosis and gives rise to a spectrum of hepatocellular nodular lesions of variable biologic status; all of which have to be distinguished from HCC. Second, the liver is a common depository for metastases from all parts of the body; and these can mimic the two most important primary liver cancers with their variations and variants, and vice versa.

Small tissue samples of focal liver lesions are almost invariably procured by fine needle aspiration biopsy (FNAB) and/or core needle biopsy (CNB) under imaging guidance in most practices. The morphologic assessment of such samples with the aid of appropriate ancillary tests, such as immunohistochemistry, is the mainstay for the accurate diagnosis of focal liver lesions. The radiologist's diagnostic acumen and skill contribute significantly to the overall diagnostic yield and accuracy.

This book is planned as a highly illustrated practical guide to the morphologic diagnosis of tumors and tumor-like lesions in small tissue samples of the liver. A kaleidoscope of

morphologic patterns and cell profiles exist. Often immunohistochemistry is required to *define* the histogenetic cell type and site of origin for the final definitive diagnosis. Pictures say more than words, tables highlight diagnostic points, and diagnostic algorithms summarize flow of thought. The authors do not aim to be comprehensive and there is intentionally only a mention of molecular pathology. We aim to provide general concepts and roadmaps to facilitate *the pattern cum cell profiling-based diagnostic approach to focal liver lesions with matching clinical and radiologic perspectives*. Key diagnostic cytohistologic criteria are emphasized. Practical hints, diagnostic pitfalls, and differential diagnoses are highlighted. Cytohistology guides for reporting of common morphologic problems in small tissue samples are also inserted. The final diagnosis should optimally be based on multidisciplinary correlation. It cannot be over-emphasized that optimum diagnostic accuracy can only be attained provided that there is perfect handling of the small tissue samples in the first place, including an on-site service for immediate cytologic assessment of sample adequacy. The target audience are residents and pathologists; and some prior basic knowledge of anatomy and histology of the hepatobiliary tract is presumed.

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