

Acute Exacerbation of Chronic Hepatitis B

Volume 1. Definition, Research
Technology, Virology, Genetics
and Immunology

Qin Ning
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Foreword

Acute-on-chronic liver failure (ACLF) secondary to hepatitis B virus infection is now recognized as an important worldwide life-threatening disease with a high mortality. The work described in this book by experts in the field provides important information to the reader on its pathogenesis, clinical manifestations and current and future management strategies.

The work provides important new advances in the science of HBV replication and the host response. With major advances in our understanding of the virology and immunology of HBV infection, this book gives reason for cautious optimism that we will soon be able to provide exciting new therapies for this disorder.

To date, with the exception of liver replacement therapy (transplantation), there are few therapeutic options for patients who develop ACLF secondary to HBV. However, advances in diagnosis as well as management strategies including introduction of antiviral agents and inhibitors of pro-inflammatory cytokines offer the hope of better short- and long-term outcomes.

The advances in the basic science of ACLF and the development of small animal models outlined in this book give hope that new therapeutic approaches will lead to the control or eradication of HBV and amelioration of inflammatory disease lessening the need for liver transplantation.

The work described in this book strongly supports that clinical research in ACLF should build on the findings of basic science research and be directed to carefully controlled studies with well-characterized cohorts of patients so that we can evaluate the potential of new therapeutic approaches. The use of exciting new approaches detailed here will not only provide important new therapeutics but also insights into the mechanism of disease. The findings described in this book strongly support that we are approaching an exciting new era for therapy for patients with ACLF.

Toronto, ON

Gary Levy



Preface

It is now recognized that as a consequence of chronic HBV infection, many patients with or without established cirrhosis will develop acute decompensation and multi-organ failure, a syndrome known as acute-on-chronic liver failure (ACLF). Once patients develop ACLF, they are at high risk of death. A number of triggers including reactivation of HBV, coinfection of hepatitis A or E virus, onset of bacterial infection, gastrointestinal bleeding and development of renal dysfunction can precipitate the development of ACLF in patients who have been previously stable. ACLF is prevalent in Asia where many patients have incubative chronic hepatitis B virus (HBV) infection.

For the past decade, with an increasing understanding of the disease mechanisms and improved general internal medications, the overall mortality has significantly decreased due to HBV infection-related ACLF (HBV-ACLF) in Chinese patients. Here we have assembled a group of hepatologists and scientists from academic hospitals and universities to explore the current understanding of the clinical, genetic, virologic and immunologic factors that contribute to ACLF. In this book of 12 chapters, we have explored the current state of knowledge of HBV infection with a specific focus on the natural history and the clinical course to define important host and viral factors to the development of ACLF, sharing our profound experience and clinical procedures in early diagnosis and treatment of HBV-ACLF patients and its complications. All together about 2649 references have been cited, of which 754 were since 2012. At the beginning of the book, there is a complete table of contents, which together with the general index makes it possible for the reader to find specific topics easily. In each chapter, there is an abstract for the reader to gain a quick information of the chapter. We have also used 55 coloured figures to make the illustrations even more visual.

We enlisted the helpful advice of friends, colleagues and senior experts to supplement or confirm our own interpretations. The contacts arising from these discussions have been immensely benignant to me. Here my special thanks to Prof. Gary Levy, Prof. Didier Samuel, Prof. Gyongyi Szabo, Prof. Lanjuan Li, Prof. Zhimeng Lu, Prof. Shiv Kumar Sarin, Prof. Stephen Locarnini, Prof. Xinhua Weng, Prof. Yuquan Wei and Prof. Hui Zhuang.

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Wuhan, China

Qin Ning

A handwritten signature in black ink, consisting of stylized Chinese characters, likely 'Qin Ning'.

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