

Preface



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Guest Editor

Hepatic and pancreatic emergencies are important to clinicians and their patients. These emergencies are relatively common and often have significant mortality. For example, acute pancreatitis is responsible for about 300,000 hospitalizations [1] and about 20,000 deaths per annum in the United States [2]. Hepatic and pancreatic emergencies require urgent, correct, life-or-death decisions for a successful outcome. Does this patient have chronic hepatitis C, a moderately common but not acutely life-threatening illness during pregnancy, or herpes simplex hepatitis, a rare but potentially devastating acute illness during pregnancy? Is this alcoholic pancreatitis that merely requires supportive therapy, or is this biliary pancreatitis with retained choledocholithiasis, which requires urgent endoscopic sphincterotomy? Do these ultrahigh serum transaminase levels arise from viral hepatitis and require merely supportive therapy, or do they arise from acetaminophen ingestion and require emergency therapy? If therapy is delayed because an emergency goes unrecognized, the mortality increases dramatically, as, for example, occurs with acute liver failure [3].

For an emergency, the physician perforce compresses the usual elective evaluation into a rapid diagnostic algorithm. The history, physical examination, and diagnostic tests have to be appropriate and thorough, yet severely compressed in time, while the therapy is emergently instituted. The penalty for delays or errors is likely death [3].

Physicians currently confronted by these multiple challenges generally perform admirably. However, we clinicians can do better. The overall mortality of acute liver failure is 33% or greater [3]. Can we lower the mortality of hepatopancreatic emergencies and save thousands of lives annually? Even a 5% decrease in mortality, when applied to the half-million or more hepatopancreatic emergencies per annum in America, translates into 25,000 lives saved each year! This number of saved lives in one year is more than five-fold greater than the total mortality from the current American war in Iraq.

New clinical data based on clinical trials, novel diagnostic tests, and high technology therapies are increasing exponentially. For example, our understanding of the pathophysiology and clinical spectrum of autoimmune pancreatitis has greatly increased during the last decade [4]. Similarly, minimally invasive therapies have been introduced for low-grade pancreatic malignancies [5,6], but which therapy is best for a given pancreatic lesion?

To improve physician performance and decrease mortality, the physician has to function at an extremely high level, armed with the newest clinical studies, the most authoritative clinical algorithms, the latest consensus statements, and the best expert opinions. What does the busy practitioner—burdened by paperwork from insurance companies, by mundane requirements of hospital bureaucracies, by increasing governmental regulations, and by increasing fiscal restraints in medical practice—require to achieve this high level of performance? The clinician needs an up-to-date, authoritative, and concise but thorough clinical review.

I have employed the *Medical Clinics of North America* format of concise, up-to-date articles to achieve these goals. Hepatic and pancreatic emergencies selected for this issue are generally relatively common, life-threatening disorders that are rapidly changing in terms of diagnosis and therapy. The selected authors are practicing clinicians who are nationally recognized authorities in their fields. This issue is intended to aid the entire medical team involved in hepatopancreatic emergencies: the internist requiring a sound, working knowledge of the field; the hepatologist, gastroenterologist and other subspecialists needing an in-depth and up-to-date understanding of the field; the clinical researcher to comprehend areas of uncertainty and controversy to stimulate new clinical protocols and trials; and the medical inventor to understand the clinical needs and technical shortcomings of current devices to invent better ones.

While mildly abnormal liver function tests are relatively common during pregnancy with an incidence of about 3 per 100 pregnancies, life-threatening hepatic disorders during pregnancy are relatively uncommon with an incidence of about 1 per 500 pregnancies [7,8]. Clinicians in various disciplines—including family practitioners, internists, intensivists, obstetricians, gastroenterologists, and hepatologists—must, therefore, recognize the patient with a relatively uncommon, life-threatening hepatic disorder

during pregnancy when confronted with the relatively common occurrence of abnormal serum liver function tests during pregnancy. Prompt recognition, correct diagnosis, and appropriate therapy can lead to a highly successful pregnancy outcome for both the mother and child. The two articles by Dr. Cappell comprehensively cover hepatic disorders associated with pregnancy, including hepatic diseases that are mildly or severely affected by pregnancy. These two articles focus on recent discoveries in this rapidly evolving field.

Although relatively uncommon with an incidence of about 3,000 cases per annum [9], acute liver failure is clinically important because of its high mortality. Dr. Robert Fontana is highly qualified to review this subject as an esteemed academic hepatologist and clinical researcher who holds the rank of associate professor at the University of Michigan at Ann Arbor. He has considerable clinical experience with acute hepatic failure due to his involvement with the United States Acute Liver Failure Study Group, a National Institutes of Health-funded multicenter study on this subject. Notable in this superb review is the discussion of acetaminophen hepatotoxicity. Acetaminophen hepatotoxicity afflicts about 60,000 Americans per year and kills at least 500 Americans each year [10]. This is an incredibly high mortality for a drug that is used merely for symptomatic relief of generally mild-to-moderate medical ailments! This review should stimulate intense scrutiny about measures to prevent acetaminophen overuse and misuse. I strongly believes that the United States Food and Drug Administration should implement changes in acetaminophen labeling, packaging, and dispensation to reduce this preventable cause of hepatotoxicity [11,12]. The United Kingdom has instituted mild changes to reduce the availability of acetaminophen, but more profound restrictive regulations may be necessary [13].

Dr. Santiago Munoz has had a distinguished career as an academician and clinician, first at the Thomas Jefferson University Hospital and more recently at the Albert Einstein Hospital in Philadelphia. His resume includes more than 80 publications in peer reviewed medical journals. I am delighted to present his outstanding contributions on the hepatorenal syndrome and hepatic encephalopathy. Both articles focus on new developments in these rapidly changing fields. Regarding the hepatorenal syndrome, the internist, as well as subspecialist, should be interested in his review of a new classification system for this syndrome, new data on pathophysiology, and new specific therapy. Regarding hepatic encephalopathy, his review incorporates recent data on classification, pathogenesis, prevention, and treatment.

I am delighted with the outstanding review on chronic liver failure by Drs. Gaurav Arora and Emmet Keeffe. The authors comprehensively review all aspects of chronic liver failure, including ascites, spontaneous bacterial peritonitis, hepatic encephalopathy, esophageal varices, hepatorenal syndrome, hepatopulmonary syndrome, and hepatocellular carcinoma. Dr. Keeffe is an internationally recognized hepatologist and the chief of hepatology and professor of medicine at the Stanford University School

of Medicine. He is currently editor-in-chief of Digestive Diseases and Sciences. He is a highly respected academician and prolific researcher, with more than 200 articles published in peer reviewed journals. The article on liver transplantation by my colleagues Drs. Alan Koffron and Julie Stein at William Beaumont Hospital is essential reading for clinicians (including internists and intensivists) taking care of patients with liver disease. Dr. Koffron has recently joined the William Beaumont Hospital to inaugurate a new liver transplant center as head of the organ transplant service. As a dynamic hepatic surgeon, he has considerable experience in novel hepatic surgery, including laparoscopic partial hepatectomy [14]. He is well published in this field with more than 40 articles in peer reviewed journals. The article by Drs. Koffron and Stein covers all aspects of liver transplantation, including indications, medical and hepatic evaluation, surgical techniques, and posttransplant complications.

Pancreatitis is a very common disease [1]. While it is often mild and uncomplicated, in about 20% of cases it is severe and complicated, leading to an overall mortality of about 7% [2]. There is much that is new and novel in acute pancreatitis, such as characterization of autoimmune pancreatitis, minor papillae endoscopic sphincterotomy for pancreas divisum, nutritional management of acute pancreatitis, and abdominal CT as a prognostic tool for pancreatitis. I hope the reader will find my review of pancreatitis comprehensive and up-to-date, as I focus on new aspects in its diagnosis and management.

Dr. Glen Lehman is an internationally renowned gastroenterologist and hepatobiliary endoscopist with extensive experience on the endoscopic management of complex biliary disorders at a tertiary referral center. As professor of medicine at the University of Indiana, he is the author of more than 200 articles on pancreatitis, biliary disease, and therapeutic endoscopy. As the senior author, he has teamed up with Dr. Evan Fogel, an associate professor of medicine, and Dr. Siriboon Attasaranya, a therapeutic endoscopy fellow, to produce a comprehensive and authoritative review of severe biliary complications of gallstones, including choledocholithiasis, ascending cholangitis, and gallstone pancreatitis, with a focus on therapy, including endoscopic retrograde cholangiopancreatography and sphincterotomy. Dr. Robert Jury, my surgical colleague at William Beaumont Hospital, has developed a tertiary referral base for complex, advanced pancreatic surgery, including minimally invasive surgery. As a surgeon on the cutting edge of clinical practice, he and his coauthor Dr. Nabil Tariq bring a unique perspective to the article on minimally invasive and standard surgical therapy for severe pancreatitis and benign pancreatic tumors. This article incorporates state-of-the-art, cutting-edge surgery.

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On a personal note, this has been an immensely satisfying experience as a practicing clinician, clinical researcher, and educator.

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