Liver Disease in Children

Fifth Edition

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Preface

It has been over 25 years since the first edition of *Liver Disease in Children* was published, and six years have passed since the release of the fourth edition. The text continues to be regarded as the premier, comprehensive reference on pediatric liver disease. There have been groundbreaking advances in our understanding of the pathophysiology of liver disease in this age group that have led to improved strategies for diagnosis and treatment. The spectrum, frequency, and nomenclature of liver diseases now encountered in children and adolescents have significantly changed since the publication of the first edition of this text. For example, Reye syndrome, which warranted a separate chapter in the first edition, has all but disappeared as a significant concern of the pediatric hepatologist. Fatty liver disease, which now occupies a significant portion of our clinical practice, was barely recognized as a clinical entity at that time. Inherited cholestatic syndromes involving structural and functional genetic defects of hepatocytes and the biliary tree were being described, but definition of the underlying defects required advances in genomics. Genome-wide association studies continue to identify susceptibility variants for disorders including non-alcoholic steatohepatitis, autoimmune liver disease, viral hepatitis, and biliary atresia and modifier alleles that can impact on the severity of monogenic disorders such as alpha-1 antitrypsin deficiency and cystic fibrosis. Various forms of viral hepatitis were clearly defined, but interferon-based therapies of the time were suboptimal in terms of efficacy and side effects. The scope of advances in this area is best illustrated by the dramatic efficacy of direct acting antivirals for hepatitis C virus infection. There was optimism that gene therapy could potentially cure several inherited liver diseases. Although there has been little progress in correcting genetic defects in the liver, enzyme replacement and identification of small molecules that can improve gene expression for some disorders have been significant advances. We continued to wait to define the cause of biliary atresia, but the immunobiology of this disorder continues to be elucidated and novel biomarkers have the potential to more precisely establish an early diagnosis. The timely evaluation of the cholestatic infant has usually required a long list of blood tests, imaging, and a liver biopsy. Rapid turnaround in gene sequencing now allows a precise diagnosis in a growing number of cases that can abrogate the need for many of these tests. The revolution in genomics combined with thorough phenotyping of patients is making personalized medicine a reality in pediatric hepatology. Refinements in transplant surgery and immunosuppression continue to improve outcomes for children undergoing liver transplantation.

Three internationally known pediatric hepatologists, Benjamin Shneider, Cara Mack, and Jorge Bezerra, have been enlisted as new editors of this fifth edition in order to provide additional expertise in their areas of interest and to help ensure continuity for future editions. Most chapters have been thoroughly revised by previous contributors, but to ensure a fresh perspective and to involve emerging thought leaders, seven chapters have been written by authors contributing to this textbook for the first time. This fifth edition continues to provide a critical review of virtually every significant topic in pediatric hepatology. Although clinical descriptions may have remained the same over the years, the scientific underpinnings and genetics of many disorders continue to evolve and are critically reviewed whenever possible. Major advances are emphasized in this text that will impact our ability to make a timely diagnosis and to potentially offer effective treatment and potential cures, in some cases for the first time, for infants, children, and adolescents with liver disease.

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