

BOOK REVIEW

Immune Hemolytic Anemias. Lawrence D. Petz and George Garratty. Churchill Livingstone, 2003. ISBN: 0-443-08559-5. Hardcover, 591 pages. List price: \$115. To order call 1-800-545-2522.

Twenty-four years after the first edition of *Acquired Hemolytic Anemias* was published, Drs. Petz and Garratty have completed the second edition, a thoroughly updated version that has been renamed *Immune Hemolytic Anemias* to reflect its expanded scope. This new edition is a monumental work, both in the broad range of subjects that it encompasses and in the technical detail of individual chapters. The authors cite and comment on a remarkably large number of published journal articles—for example, 774 references in the chapter on the clinical characteristics of autoimmune hemolytic anemia and 494 references in the chapter on its treatment. Nevertheless, the text retains the readable style and expert insights that characterized the first edition.

This reviewer is particularly interested in three subjects that have been added since the first edition: hemolytic disease of the fetus and newborn (HDFN), immune hemolysis associated with transplantation, and hemolytic transfusion reactions. These subjects are reviewed here with particular emphasis.

The chapter on HDFN is organized in a format that is used for most other chapters. First, there is a review of the serologic basis of the subject (antibody specificity and quantification), followed by a discourse on clinical issues (Rh immunoprophylaxis, diagnosis of HDFN, and treatment). The presentation of former and current therapies for HDFN is comprehensive, beginning with a description of the first neonatal exchange transfusion in 1950, followed by commentaries on phototherapy ("Some authors have suggested that the technique is over-used"), preterm delivery, plasma exchange, IVIG, specific immunoadsorption, promethazine hydrochloride, and oral erythrocyte membranes. Table 1 lists 91 antibodies other than ABO that have been reported to cause HDFN. To my surprise, references to reports of specific blood group antibodies causing HDFN are not individually cited in Table 1. For example, if a reader would like to know what published literature supports the authors' classification of anti-f as a "severe," or anti-Vel as a

"mild," cause of HDFN, the reader will need to look elsewhere. Tables with individual references to reports of specific antibodies causing HDFN are included in Issitt and Anstee's *Applied Blood Group Serology* (1998), which this reviewer uses and finds useful. Given the extensive citations and references in Drs. Petz and Garratty's text, it seems that this subject is sufficiently important to have individual references in the table. Also, this list seems to be incomplete. This reviewer is currently concerned with a case of HDFN caused by anti-Rh17 (-Hr₀). That designation does not appear in the table, although cases of HDFN, some severe, have been published and are cited in certain other textbooks.

The subject of immune hemolysis associated with transplantation is divided into two subtopics, hematopoietic cell transplantation and solid organ transplantation. Illustrations describe the clinical courses of 18 actual cases of hemolysis associated with ABO mismatched transplants, drug treatment, transfusion ("passenger lymphocyte syndrome"), and others. The references are as up to date as can be expected for a textbook; 62/365 (17%) of the articles referenced in this chapter were published during the last 5 years (1998–2003).

The chapter on hemolytic transfusion reactions is based on the authors' extensive personal experiences. Recognizing the many important contributions that Drs. Petz and Garratty have made to our understanding of hemolytic anemia in sickle cell disease, it is not unexpected that nine pages of this chapter are dedicated to this topic. In 1997, Petz and colleagues coined the term "sickle cell hemolytic transfusion reaction syndrome" for the syndrome characterized by an acute or delayed hemolytic transfusion reaction, symptoms suggestive of a sickle cell pain crisis, reticulocytopenia, and persistent anemia. In the same year, Garratty reported that in 83 percent of hemolytic transfusion reactions in sickle cell disease, the anemia was more severe *after* transfusion than before. These and other aspects of hemolytic transfusion reactions in sickle cell disease are well illustrated in the authors' seven case reports. Also, there is a section on hospital-based systems for reducing the incidence of hemolytic reactions due to transfusion of blood to the wrong

BOOK REVIEW CONT'D

patient. Human error is an important cause of hemolytic transfusion reactions, and several studies document the resultant morbidity and mortality. The authors describe devices that are intended to reduce the risk of human error, including a coded locking system and a barcoded wristband and blood bag system. Although the authors note that a commercial variation of the barcode system has "subsequently become available," the manufacturer withdrew that system from the market 4 years ago. Other manufacturers are currently developing similar systems to market and fill the void. I mention this minor inaccuracy only because it illustrates the risk of publishing a textbook that attempts to encompass a broad range of highly technical and rapidly evolving subjects. Surely, the authors will not be able to wait another 24 years to publish the third edition, because a timely update *will* be needed to keep the book's information up to date.

Lastly, it is important that readers know that the retail price for this volume is only \$115. I assume that the compromise necessary to keep the price so affordable was to omit color illustrations. The volume's black-and-white illustrations are clear and communicate the information adequately. A color photograph to illustrate the Donath-Landsteiner test and a few

other color illustrations of subtle hemolysis would have been nice. However, the trade-off, which makes the volume accessible to a wider readership, is clearly the better choice.

In summary, this second edition represents a major revision, as well as an expansion into new and pertinent subjects, including HDFN, transplantation, and hemolytic transfusion reactions. The expert presentations of laboratory and clinical aspects of acquired hemolytic anemias, which made the first edition a world-renowned classic, are retained. I intend to use, and will recommend, this book as the first resource to consult for authoritative information on immune hemolytic anemias. I highly recommend it to immunologists, blood bank specialists (technologists, physicians, and other scientists), and practicing clinicians who seek an expert and affordable reference textbook for their bookshelves.

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