The success of organ transplantation has brought new challenges to the transplant community in its efforts to improve patient and graft outcomes as well as quality of life. This may appear as simple as lifelong adherence to immunosuppressive drug regimens and keeping a healthy lifestyle, but in reality, it represents a tremendous effort by transplant physicians and scientists to develop alternative drug therapies and regimens that are safe, effective, and likely to be adhered to by patients.

Many patients may not follow the recommendations of their healthcare team and, consequently, experience less-than-optimal outcomes, which may occur in the context of previous rejection, drug toxicity, or other complications, leading to nonadherence to immunosuppressive medication.

This edition of The Immunology Report is based upon presentations delivered during the 2013 American Transplant Congress, the joint annual meeting of the American Society of Transplant Surgeons and the American Society of Transplantation, held May 18–22, 2013, in Seattle, Washington. At the meeting, immunologists, transplant surgeons and nurses, nurse coordinators, pharmacists, and other healthcare professionals in the transplant community viewed and listened to presentations on a variety of subjects vital to the welfare of transplant recipients. These subjects included new findings on the pathogenesis of allograft rejection, prediction of patient outcomes, strategies to deal with organ rejection, and ways to tailor immunosuppressive regimens to individual needs. In addition, these reports cover reasons that patients do not adhere to immunosuppressant therapy and effective approaches to resolving this difficult and important problem. The multidisciplinary cadre of professionals who covered many of these sessions and authored the reports in this edition provides a unique collection of perspectives on topics crucial to transplant procedures and postsurgical patient management.

Managing Antibody-Mediated Rejection

Malcolm P. MacConmara, MB, BCh, BAO, from Emory University School of Medicine in Atlanta, Georgia, addresses methods of identifying and treating antibody-mediated rejection (AMR), a serious problem faced by transplant teams and one of the consequences of nonadherence to immunosuppressive medication.

Among the subjects covered in his report are new molecular scoring approaches to better diagnose patients, especially those with subclinical AMR, and current treatment strategies, including inhibition or depletion of B-cell function, suppression of antibody and plasma-cell function, and complement inhibition. In addition, he discusses the identification and validation of genes strongly associated with AMR and the subclinical and clinical manifestations of this phenomenon.

Long-Term Care of Transplant Recipients

Shree Patel, PharmD, BCPS, of the University of Illinois Hospital and Health Sciences System in Chicago, recounts highlights of a panel session involving common problems related to the long-term management of transplant recipients. After beginning with the advantages and disadvantages of modern immunosuppressive therapy, the author provides an overview of research into new forms of established drugs and immunosuppressants currently in development. She also recounts information on infection following transplant surgery and measures to correct hypertension that may affect organ transplant recipients. Finally, she stresses the importance of educating patients about the harm that alcohol consumption may cause following organ grafting, screening patients for common posttransplant complications, and battling obesity among organ recipients.

Nonadherence to Immunosuppressive Medication

Martin I. Montenovo, MD, from the University of Washington Medical Center in Seattle, takes a close look at just how many patients fail to adhere to immunosuppressant therapy and what effect this failure has on the health of the allograft and transplant recipient. He covers methods to measure nonadherence, behavioral patterns related to adherence failures, and highlights the importance of education and support for patients.
reasons that some graft recipients find adherence difficult, and the effect of age and income on the likelihood that patients will be adherent to therapy. In addition, this author covers strategies to improve patient adherence to therapy, including the dissemination of patient education materials, the use of social media, and the simplifying of dosing regimens.

Kasi R. McCune, MD, from the University of Wisconsin School of Medicine and Public Health in Madison, summarizes a variety of research presentations on medication nonadherence and strategies to improve patient outcomes. Among the topics she discusses are converting patients from immediate-release tacrolimus to an extended-release formulation of the drug; the utility of a self-reported Immunosuppressant Therapy Adherence Scale to monitor compliance; the reasons why patients do not adhere to their immunosuppressive therapy; and the consequences of medication nonadherence. In addition, Dr. McCune describes research to simplify medical regimens for transplant patients.

Amit K. Mathur, MD, MS, from the University of Michigan Hospital and Health System in Ann Arbor, covers the evolution of immunosuppressive therapy for liver transplant patients. In addition, he reports on methods to tailor immunosuppressive therapy according to the graft recipient’s risk for certain long-term complications, such as hepatitis C virus (HCV) infection, renal failure, and hepatocellular carcinoma, and to identify patients who qualify for reduction or withdrawal of immunosuppressants.

Victoria L. Shieck, RN, BSN, CCTN, from the University of Michigan Health System Transplant Center in Ann Arbor, continues the discussion of nonadherence by examining why patients do not follow their doctors’ instructions. Among the biggest problems are health literacy and difficulties patients have in understanding written therapeutic recommendations. Ms. Shieck describes methods that may help patients to understand their instructions and to take their immunosuppressive medications as directed and discusses the use of technology, including apps for smartphones and tablets, to improve patient outcomes after transplant surgery.

WHAT’S HOT, WHAT’S NEW

“What’s Hot, What’s New” is a popular annual session at the American Transplant Congress highlighting especially significant presentations of basic science and clinical research delivered at that year’s meeting. Joseph B. Lockridge, MD, from the University of California, San Francisco, begins by summarizing findings from animal studies of belatacept and interleukin-33 on the immune system and ways that drug therapy may be used to manipulate the course of immune responses. He then discusses various clinical studies concerning donor-specific antibodies and AMR, optimal therapy for patients given a liver donation from an individual who sustained cardiac death, novel predictors of morbidity and mortality for patients with end-stage renal disease, recurrence of HCV infection in liver transplant recipients, an algorithm to assess live kidney donors, and methods to minimize immunosuppression and promote transplant tolerance.

Taken as a whole, this group of articles addresses many issues important to patients who receive organ transplants and the transplant teams that work so diligently to provide optimal outcomes for them. We thank our authors for sharing this pertinent and crucial information, and we look forward to the results of ongoing trials to be discussed in future editions of The Immunology Report.