Preface

Over the last few years there have been many changes in the field of transplantation. This book aims to summarize these changes and is meant for both the nephrologist and the nonspecialist with an interest in kidney transplantation. All of the chapters provide up-to-date information on the various aspects of transplantation, from basic immunobiology to medical care of the transplant recipient.

The first successful kidney transplant, conducted over 50 years ago, dramatically changed the face of medicine. It helped spur development in the areas of nephrology, immunology, drug development, and surgery. It also helped develop transplantation as a treatment for chronic diseases for other organ systems such as heart, lung, liver, and pancreas among others. Historically, the technical ability to transplant a kidney preceded the ability to suppress the immune response against foreign tissue; in fact the way in which the immune system targeted the transplanted kidney was poorly understood at the time of the first kidney transplant.

Even though kidney transplantation is now viewed as a routine procedure, the field remains very fluid, with innovations leading to continuous improvements in care. The number of living kidney donors has overtaken the number of cadaveric transplants carried out within the United States. The importance of protecting the living donor’s health while allowing the benefit of transplantation to the recipient has led to greater emphasis on how we should be following our potential living donors.

Our understanding of transplant immunobiology has increased dramatically recently, with a better understanding of how the immune system is activated and responds to the allograft. This understanding has been translated into development of biologic agents, such as those targeted to block T cell co-stimulation, with the idea of suppressing the alloimmune response without the broad toxic side effects of conventional immunosuppressive medications. The introduction of new induction agents has also allowed the development of novel immunosuppression avoidance strategies, for example steroid avoidance, once thought impossible for safe transplantation in kidney recipients, to become commonplace. Key developments that have helped with immunosuppressive modulation have been in the area of tissue histocompatibility testing. This area has dramatically changed with the introduction of the solid phase antibody screening using technology such as luminex assays.
These technological advances have allowed better recognition and diagnosis of antibody-mediated rejection and shown that anti-HLA antibodies are a common cause of acute and chronic graft dysfunction. This particular field remains a very exciting area that is likely to see the development of new diagnostic and therapeutic advances over the next several years.

As we use more powerful immunosuppression, the risk of infectious complications increases; the discovery of new pathogens along with the implications for kidney transplant recipients is an expanding area, and screening for infection and use of prophylaxis antimicrobials remain an important part of posttransplant care of recipients. It is our hope that this book will be a useful resource for practicing physicians and provide relevant and timely information on care of the transplant recipient.

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