



ISHLT Monograph Series 5 (2011) xv-xvii

ISHLT MONOGRAPH SERIES

Preface

Diagnosis and Management of Infectious Diseases in Cardiothoracic Transplantation and Mechanical Circulatory Support

Infections in solid organ transplant recipients in general and in cardiothoracic organ transplantation (CTTX) recipients in particular are a moving target. Advances in immunosuppression and mechanical circulatory support (MCS) have not only resulted in prolonging life but have also caused new infectious syndromes. This monograph was created to provide a practical and concise clinical resource for understanding and controlling infectious diseases in cardiothoracic transplant and mechanical circulatory support recipients. It is intended to serve as a resource for medical professionals involved in CTTX and MCS.

The authors were selected based on their expertise in their chapter subject and are leaders in transplant infectious disease medicine. Their recommendations are based on the best evidence that is currently available in transplant infectious diseases along with their invaluable clinical experience, as often times there are limited available data in this patient population with many of the low prevalence but important infections.

The ISHLT leadership has supported this effort throughout the generation of the monograph and the transplant infectious disease community is grateful. The material was handled expertly by the authors, who were challenged to produce succinct and clinically useful chapters. The chronological history of the development of heart and lung transplantation and mechanical circulatory support and the relation between these events and the discovery of new improved immunosuppressive agents were included to give the reader a greater understanding of the significant contribution each of these new drug discoveries and technologies had on the success of CTTX over the last 20 years.

In this monograph, we address the pertinent clinical issues related to infectious diseases that promote successful outcomes in CTTX and MCS before, during, and after transplantation or device placement. Throughout the monograph, strategies are identified to minimize the risk of infections with infection control, patient education, prophylactic strategies, and directed therapeutic interventions. We have devoted chapters to the prescreening of the cardiothoracic transplant recipient, patients with cystic fibrosis, and the recipients of mechanical circulatory support for destination therapy to optimize their infection free experience or to appropriately manage their infectious disease issues through

the transplant or device period.

Special attention has been paid to donor-related issues, including donor screening, donor transmitted infections, and emerging pathogens encountered in donors. MCS-infections are defined using the ISHLT expert consensus-derived definitions for ventricular-assist devices. Pathophysiology and management of these important infections are explored. Considerations in the medical management of complex infections are discussed in two chapters on pharmacological treatment strategies, including therapeutic drug monitoring and pharmacodynamics effects of multiple medications.

We have also paid special attention to diagnostic radiology, microbiology, and pathology associated with these infections and included a chapter on how to prepare the CTTX for travel. At the end of the monograph, we have highlighted the role of emerging pathogens in this patient population and the wisdom we have gained from our past experience. This monograph is certainly not the end of our efforts to understand these complex infectious syndromes in CTTX and MCS patients but a small step in unraveling the mysteries that lie ahead.

Acknowledgements

We are grateful to Dr. Robert F. Padera for the use of his histopathology slides and Professor Christian Drosten for his educational figure and the subeditors for their tireless expert review. Special thanks are due to Susie Newton, Peggy Holmes, Jessica Demetriou, and Diana Schaeffer for their technical skills, diligence, patience, and good cheer throughout the process and to our families and colleagues for their support and patience throughout the creation of this monograph.

Martha L. Mooney, MD, MS, FACP
Eastern Virginia Medical School
Sentara Norfolk Transplant Center
600 Gresham Drive
Suite 493
Norfolk, VA 23507, USA

E-mail address: mooneym@evms.edu

Margaret M. Hannan, MD, FRCP, FRCPath
Mater Misericordiae University Hospital
University College Dublin
Eccles Street
Dublin 7, Ireland

E-mail address: mhannan@mater.ie

Shahid Husain, MD, MS
Division of Infectious Diseases and Multi-organ Transplantation
University Health Network, University of Toronto
NCSB 11C-1206200, Elizabeth Street
Toronto, ON M5G 2C4, Canada

E-mail address: shahid.husain@uhn.on.ca