

Contents

SECTION I: GENERAL PRINCIPLES OF VASCULAR ACCESS

- 1 Development of Vascular Access Surgery**3
H. Earl Gordon and Samuel Eric Wilson
- 2 Patient Assessment and Planning for Vascular Access Surgery**7
Geoffrey H. White and Samuel Eric Wilson
- 3 Anesthesia for Vascular Access Surgery**13
Sarah J. Madison and Michael T. Alkire
- 4 Surgical Anatomy for Hemodialysis Access**23
Jeffrey L. Ballard
- 5 Physiology of the Arteriovenous Fistula**31
Ian L. Gordon
- 6 Thrombophilia as a Cause of Recurrent Vascular Access Thrombosis in Hemodialysis Patients**44
Khushboo Kaushal and Samuel Eric Wilson
- 7 Biologic Properties of Venous Access Devices**48
Peter D. Peng, Louis F. D'Amelio, and Ralph S. Greco
- 8 Biologic Response to Prosthetic Dialysis Grafts**58
Rodney A. White and Khushboo Kaushal
- 9 Strategies to Reduce Intimal Hyperplasia in Dialysis Access Grafts**69
Ted R. Kohler

SECTION II: VASCULAR ACCESS FOR HEMODIALYSIS

- 10 Epidemiology and Pathophysiology of Chronic Renal Failure and Guidelines for Initiation of Hemodialysis**81
Nosratola D. Vaziri, Cyril H. Barton, and Ashish Kalthia
- 11 Autologous Arteriovenous Fistulas: Direct Radiocephalic Anastomosis for Hemodialysis Access**86
Samuel Eric Wilson

- 12 Autogenous Vein for Fistulas and Interposition Grafts**92
Geoffrey H. White and Michael S. Hayashi
- 13 Basilic Vein Transposition: A Modern Autogenous Vascular Access for Hemodialysis**99
Clarence E. Foster III and Merisa Piper
- 14 Interposition Arteriovenous Grafts (Bridge Fistulas) for Hemodialysis**104
Samuel Eric Wilson
- 15 New Synthetic Grafts and Early Access**114
Brian Mailey, Khushboo Kaushal, and Samuel E. Wilson
- 16 Central Venous Cannulation for Hemodialysis Access**120
Matthew D. Danielson, Larry-Stuart Deutsch, and Geoffrey H. White
- 17 Access in the Neonatal and Pediatric Patient**139
Nikunj K. Chokshi, Nam Nguyen, and Marianne Cinat
- 18 Surveillance, Revision, and Outcome of Vascular Access Procedures for Hemodialysis**150
Dmitri V. Gelfand, Apostolos K. Tassiopoulos, and Samuel Eric Wilson
- 19 Endovascular Management of Dialysis Graft Stenosis**155
Russell A. Williams and Kimberly S. Stone
- 20 Axillosubclavian Vein Thrombosis**162
Sukgu Han, Vincent L. Rowe, and Fred A. Weaver
- 21 Complications of Vascular Access: Thrombosis, Venous Hypertension, Congestive Heart Failure, Neuropathy, and Aneurysm**168
Samuel Eric Wilson
- 22 Dialysis Access–Associated Ischemic Steal Syndrome**178
Al Hassanein and Samuel Wilson
- 23 Vascular Access Neuropathic Syndrome: Ischemic Monomelic Neuropathy**182
Larry A. Scher and Amit R. Shah

24 Infection in Vascular Access Procedures . . .187
 Andrew R. Ready, Al Hassanein,
 John A. C. Buckels, and Samuel E. Wilson

**25 Assessment and Intervention for
 Arteriovenous Fistula Maturation**196
 Ankit Bharat and Surendra Shenoy

**26 Coordination and Patient Care in
 Vascular Access**206
 Victoria Holmes

**27 Cardiovascular Consequences of
 Rapid Hemodialysis**211
 Orly F. Kohn, Todd S. Ing, Subhash Popli,
 and Nosratola D. Vaziri

28 Peritoneal Dialysis217
 Richard L. Feinberg and Julie A. Freischlag

**29 Socioeconomic Implications of Vascular
 Access Surgery**226
 Juan Carlos Jimenez and Robert S. Bennion

30 Ultrasound in Vascular Access232
 Jason Wellen and Surendra Shenoy

**SECTION III: RESULTS OF VASCULAR ACCESS
 FOR HEMODIALYSIS**

**31 Reflections on Four Decades of
 Experience in Vascular Access Surgery** . . .243
 A. Frederick Schild, Patrick S. Collier,
 and Joseph C. Fuller

**32 Organizing Hemodialysis Access:
 The Kaiser Permanente Southern
 California Experience**249
 Sidney Glazer, Jean Diesto, Peter Crooks,
 Stephen Deroese, and Michael Farooq

**33 Should the KDOQI Guidelines for
 First Time Dialysis Access Apply to
 All Patients?**264
 Albert I. Richardson and Marc H. Glickman

**34 Ten Mistakes to Avoid in Dialysis
 Access Surgery**268
 Eric D. Ladenheim

**SECTION IV: VASCULAR ACCESS FOR CRITICAL
 CARE, CHEMOTHERAPY, AND
 NUTRITION**

**35 Placement of Indwelling Venous
 Access Systems**277
 James E. Wiseman, Gail T. Tominaga,
 and James G. Jakowatz

**36 Vascular Access for Trauma,
 Emergency Surgery, and Critical Care**286
 Richard Brad Cook and Jonathan R. Hiatt

**37 Complications of Percutaneous
 Vascular Access Procedures and
 Their Management**294
 Karen Woo, Thomas B. Kinney,
 and Robert J. Hye

Index307