

Contents

1 The Vascular System: Normal and Pathologic Anatomy and Hemodynamic Principles INGOLF P. ARLART and CURT DIEHM	1
2 Definition of Magnetic Resonance Angiography INGOLF P. ARLART and GEORG M. BONGARTZ	41
Principles and Technical Considerations of MR Angiography	45
3 Basic Principles of Nuclear Magnetic Resonance for Medical Imaging GEORG M. BONGARTZ and HILDE BOSMANS	47
4 K-Space and Resolution MICHAEL BOCK	57
5 Flow-Dependent Acquisition Techniques HILDE BOSMANS and RICHARD HAUSMANN	75
6 Flow-Independent Acquisition Techniques GEORG M BONGARTZ, HILDE BOSMANS, GUY MARCHAL	91
7 Spatial Versus Temporal Resolution in Contrast-Enhanced Magnetic Resonance Angiography HILDE BOSMANS and GUY MARCHAL	105
8 Contrast Media in Magnetic Resonance Angiography GEORG M. BONGARTZ, MATTHIAS BOOS, KLAUS SCHEFFLER	115
9 Image Display Techniques JOHAN VAN CLEYNENBREUGEL and GERHARD LAUB	129
10 Quantification of Blood Flow JÖRG F. DEBATIN	139
11 Hardware Configurations KLAUS SCHEFFLER	161
12 Artifacts and Limitations ROLF VOSSHENRICH and PETER REIMER	167

Clinical Applications of MR Angiography	181
13 Intracranial Vessels	
GUIDO WILMS, GUY MARCHAL, HILDE BOSMANS	183
14 Carotid and Vertebral Arteries	
STEPHAN WETZEL and GEORG M. BONGARTZ	217
15 The Thoracic Aorta	
S. DYMARKOWSKI and JAN BOGAERT	235
16 The Coronary Arteries	
ANDRÉ J. DUERINCKX	257
17 Pulmonary Vessels	
STEPHAN SONNET and GEORG M. BONGARTZ	283
18 Abdominal Aorta and Its Branches	
INGOLF P. ARLART and ANNA GERLACH	297
19 Arteries of the Extremities	
MATTHIAS BOOS	351
20 Large Veins of the Body and Extremities	
ANNA GERLACH, INGOLF P. ARLART, GABRIEL P. KRESTIN	389
21 The Splenoportal Venous System	
JOCHEN GAA	419
22 Guidance of Intravascular Therapeutic Procedures:	
Current Status and Future Prospects	
MARK E. LADD and JÖRG F. DEBATIN	441
23 Intravascular Implants: Savety and Artifacts	
PAUL R. HILFIKER, DOMINIK WEISHAUP, JÖRG F. DEBATIN	453
Subject Index	465
List of Contributors	477

Magnetic Resonance Angiography

Arlart, I.P.; Bongartz, G.M.; Marchal, G. (Eds.)

2002, XVI, 480 p. 466 illus., 10 illus. in color., Softcover

ISBN: 978-3-540-43975-2