

Contents

1 Clinical Indications to MRI in Pregnancy	1
Roberto Brunelli and Gabriele Masselli	
2 Current Techniques and Future Directions for Fetal MRI	21
Anat Biegon, Chen Hoffmann, Michal Marianne Amitai, and Gal Yaniv	
3 Fetal MR Imaging: Protocols and Anatomy	35
George Koberlein, Keyanoosh Hosseinzadeh, and Evelyn Y. Anthony	
4 How to Read and to Report a Fetal MRI Examination	57
Sahar N. Saleem	
5 Fetal MRI: Contribution to Perinatal Management and Fetal Surgical Treatment of Congenital Anomalies	75
Denis A. Cozzi and Silvia Ceccanti	
Part I MR of the Fetus	
6 Fetal Central Nervous System	91
Raphael E. Alford, April A. Bailey, and Diane M. Twickler	
7 MRI of the Fetal Head and Neck	119
Neil U. Lall, Mariana L. Meyers, and David M. Mirsky	
8 MRI of Fetal Spine and Extremities	139
Karuna V. Shekdar	
9 MRI of the Fetal Chest	159
Dorothy Bulas and Alexia Egloff	
10 Fetal Cardiovascular Magnetic Resonance	183
Mike Seed	
11 MR of Fetal Abdomen and Pelvis	205
César Martín and Anna Darnell	
12 MR Imaging of Multiple Gestations	231
Monika Bekiesinska-Figatowska	
13 MRI of the Placenta	245
April A. Bailey, Diane M. Twickler, and John R. Leyendecker	
14 Management and Surgery of Abnormal Invasive Placenta: Impact of MR Imaging	269
José M. Palacios-Jaraquemada and Claudio Hernán Bruno	

Part II MR of Maternal Disease in Pregnancy

15 MR of Maternal Brain Diseases in Pregnancy	289
Alberto Pierallini and Andrea Romano	
16 MR of Maternal Chest Diseases in Pregnancy	299
António P. Matos, Fernanda Garozzo Velloni, Mamdoh AIObaidy, Rogério Zaia Pinetti, Richard C. Semelka, and Miguel Ramalho	
17 Magnetic Resonance Imaging of Cardiovascular Diseases in Pregnancy	341
Kristina E. Hoque and Patrick M. Colletti	
18 Magnetic Resonance Imaging of Acute Abdominal and Pelvic Pain in Pregnancy	363
Shaun R. Best, Lorene E. Romine, and Michele A. Brown	
19 MR of Obstetric Diseases in Pregnancy	375
Ashish Khandelwal and Alampady Shanbhogue	
20 MR of Gynaecologic Disease in Pregnancy	397
Faye Cuthbert, Nishat Bharwani, Gabriele Masselli, and Andrea G. Rockall	
21 MRI of Hepatobiliary and Pancreatic Disorders in Pregnancy	417
Nadia Caplan and Koenraad J. Mortelee	
22 Magnetic Resonance of Renal Disease in Pregnancy	435
Michael Weston	
23 MRI of Appendicitis and Bowel Diseases in Pregnancy	451
Elena Resnick and Karen Lee	
24 Magnetic Resonance Imaging of Musculoskeletal Disorders in Pregnancy	477
Gabriele Masselli, Maria Chiara Colaiacomo, Giuseppe Rossi, and Gianfranco Gualdi	
25 Role of MRI in Trauma in the Pregnant Patient	491
Whitney Manlove, Kathryn J. Fowler, Vincent M. Mellnick, Christine O. Menias, and Constantine A. Raptis	
Index	499