Contents

Series Editor Introduction ................................................................. v
Preface ................................................................................................. xi
Contributors ...................................................................................... xv

PART I: IRON BIOCHEMISTRY AND METABOLISM

1 The Cellular Physiology of Iron ...................................................... 3
   Gregory J. Anderson and Christopher D. Vulpe

2 Regulation of Iron Absorption and Distribution ............................ 31
   Gladys Olayemisi Latunde-Dada and Robert J. Simpson

3 The Role of Hepcidin in Iron Homeostasis .................................... 51
   Tomas Ganz

4 Iron as Nutrient: Strategies for Iron Acquisition and Usage by Pathogenic
   Microorganisms ........................................................................... 65
   Eric Massé and Peter D. Pawelek

5 Iron as a Drug and Drug–Drug Interactions .................................. 77
   Tracy M. Hagemann and Teresa V. Lewis

PART II: IRON OVERLOAD AND DEFICIENCY PATHOLOGIES

6 Iron Deficiency and Excess in the Brain: Implications for Cognitive Impairment
   and Neurodegeneration ................................................................. 95
   Moussa B.H. Youdim, Manfred Gerlach, and Peder Riederer

7 Brain Iron Deposition in Aging and Disease: Role of HO-1 ............ 125
   Hyman M. Schipper

8 Iron Deficiency and Neuropharmacology .................................... 141
   Laura Bianco, Erica Unger, and John Beard

9 Peripheral Effects of Iron Deficiency ............................................ 159
   Daniel B. Costa and Reed E. Drews

10 Iron-Metabolism in Neurons of the Motor System of the Central Nervous System:
    Lessons from Iron Deficiency and Overloading Pathologies ........... 181
    Torben Moos
The Effects of Brain Iron Deficiency on Cognitive and Behavioral Aspects

S. Yehuda, S. Rabinovitz, R.L. Carasso, and D.I. Mostofsky

Stress, Immunology, and Cytokines

Dvora Sredni-Kenigsbuch

PART III: DIAGNOSTIC AND CLINICAL ASPECTS IN CNS DISORDERS

MRI of Brain Iron and Neurodegenerative Diseases: A Potential Biomarker

John F. Schenck

Alzheimer’s Dementia

Seema Gulyani and Mark P. Mattson

Inherited Disorders of Brain Iron Homeostasis

Hyman M. Schipper and Prem Ponka

PART IV: PUBLIC HEALTH ISSUES

Iron and Heart Disease: A Review of the Epidemiologic Data

Christopher T. Sempos, Anne C. Looker, Daniel L. McGee, and Jürgen Rehm

Global Concept of Iron Deficiency

S.M. Lewis and J.C. Emmanuel

Nutritional Iron Deficiency in Early Childhood

Robert J.D. Moy

Iron and Women’s Health

Adrienne Bendich and Ronit Zilberboim

Appendix A: Reference Ranges for Common Laboratory Assays of Iron Metabolism

Anthony N. Sireci and Alexander Kratz

Appendix B: Nutritional Sources of Iron

Anthony N. Sireci and Alexander Kratz

Subject Index
Iron Deficiency and Overload
From Basic Biology to Clinical Medicine
Yehuda, S.; Mostofsky, D.I. (Eds.)
2010, XVI, 376 p. 54 illus., 7 illus. in color., Hardcover
ISBN: 978-1-934115-22-0
A product of Humana Press