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Obesity: Pathology and Therapy

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Preface

Obesity is a serious medical problem that affects millions of people, especially in Western societies. Although long considered a complicating factor in a variety of diseases, there is now widespread agreement that obesity itself should be classified and treated as a disease and that it has important consequences for personal health, quality of life and cost to society. Understanding obesity and the means of treating it have been hampered in the past. There have been misperceptions that obesity is a behavioral disorder and that its treatments provides only cosmetic benefits. Pharmacologic approaches to treatment have suffered from problems of limited efficacy, reduced activity upon chronic use, and serious side effects, including abuse liability, cardiac disease, hypertension, and respiratory complications. Finally, there has been a proliferation of consumer and natural products with unproven benefits. This book attempts to address both the problems associated with obesity and the approaches to treating it.

In the first section devoted to pathology, Drs. DiGIROLAMO, HARP, and STEVENS elaborate in Chap. 1 on how obesity and its medical complications develop. As described by Dr. PI-SUNYER in Chap. 2, obesity is a disease seen most often in affluent Western societies and is associated with the aforementioned medical problems, as well as Type II diabetes mellitus and gallbladder disease. Drs. CHAGNON, PÉRUSSE, and BOUCHARD review the human genetics of obesity in Chap. 3, and Drs. GOLDSTEIN and KOLACZYNSKI review the compelling evidence of the important role that obesity plays in the development of Type II diabetes in Chap. 4

Greater awareness of the consequences of obesity, as well as its recognition as a disease, has stimulated research aimed at understanding its etiology and developing new treatments. The second section of this book is devoted to what is known about the pharmacology and treatment of obesity. The role of fat metabolism is described by Dr. BJÖRNTORP in Chap. 5, while in Chap. 6, Drs. HIRVONEN and KEESEY elaborate on the concept of body weight set point and its use in the understanding of (as well as its implications for) body weight regulation. Pharmacologic approaches to treating obesity have included serotonergic drugs and other agents, as described by Drs. HALFORD and BLUNDELL in Chap. 7 and by Drs. CAMPFIELD and SMITH in Chap. 8. Dietary approaches

to the treatment of obesity are reviewed by Drs. DWYER and KONIKOFF in Chap. 9 and by Drs. Driapeau and TREMBLAY in Chap. 10. Use of surgical treatments are discussed by Drs. SMITH, PORIES, and MACDONALD in Chap. 11.

The third section of this book is devoted to current pharmacologic targets for obesity. Leptin and its critical role in adipocyte-to-brain signaling is described by Drs. CARO and TRAUTMANN in Chap. 12. In Chap. 13, Drs. ROSSI and BLOOM review the important role of central nervous system neuropeptides in feeding, while Dr. GRANNEMAN describes the concept of β_3 adrenergic receptors as a target for obesity treatment in Chap. 14. Finally, Dr. BURANT describes the insulin sensitizers in Chap. 15.

Strategies for developing future targets for antiobesity agents are described in the fourth and final section of the book. In Chap. 16, MOLLER and VAN DER PLOEG suggest important future directions for identifying new targets for obesity treatment based on genetic and transgenic approaches. Drs. WEST, MA, TRUETT, and YORK describe approaches for identifying new genes involved in obesity in Chap. 17. Dr. HANSEN reviews the importance of nonhuman primates as experimental models of obesity in Chap. 18.

It is our hope that this volume will provide a useful review of our present understanding of obesity, its etiology, and the future directions in the development of effective treatments of it.

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