Obesity and Cardiovascular Disease
Malcolm K. Robinson, Abraham Thomas, eds

Although the prevalence of many cardiovascular risk factors, including smoking, high cholesterol, and untreated hypertension, has fallen significantly since the 1960s, the prevalence of overweight and particularly obesity continues to rise. Populations of industrialized countries are becoming more overweight as a result of changes in lifestyle, and obesity may well become the most common health problem of the 21st century. More than 65% of adults in the United States are overweight or obese, whereas 1 billion individuals are considered overweight worldwide. In the last 10 years in the United States, there have been dramatic increases in both child and adult obesity. Obesity is becoming the major driving force responsible for the increased prevalence of cardiovascular disease in the developed world. This chronic noncommunicable disease is therefore a major contributor to the global burden of disease and disability associated with numerous conditions such as heart disease, stroke, hypertension, dyslipidemia, type 2 diabetes mellitus, gallbladder disease, osteoarthritis, deep vein thrombosis, pulmonary embolism, sleep apnea and respiratory problems, and numerous cancers (endometrial, breast, prostate, and colon). Health service usage and medical costs associated with obesity and related diseases have and will increase dramatically. Yet only recently has obesity been given the same level of attention as other risk factors for coronary artery disease and become recognized as being largely responsible for the prevalence of diseases worldwide in the near future. Accordingly, in 1999, the American Heart Association issued a call for action regarding the obesity epidemic in stating that obesity is a major modifiable risk factor for heart disease. Obesity is associated with reduced life expectancy, and it is now estimated that “at risk” obesity may be equivalent to smoking with regard to this reduction.

Drs Robinson and Thomas have edited a book that addresses the impact of obesity on cardiovascular disease in contemporary medicine. This book is part of the Fundamental and Clinical Cardiology Series, edited by Dr Samuel Z. Goldhaber, who has already assembled an impressive number of high-quality books in the field of cardiovascular medicine. In Obesity and Cardiovascular Disease, Drs Robinson and Thomas bring together renowned authors in the field of obesity. The book is intended for students, healthcare professionals, medical generalists, and specialists. Obesity and Cardiovascular Disease depicts obesity in all facets, from molecular to clinical viewpoints. Chapters 1 to 8 outline more basic concepts related to the field of obesity, looking at molecular genetics and the pathophysiological modifications in the “at risk” obese individuals leading to the development of heart disease. Chapter 8 is imperative in its in-depth coverage of the field of genetics and obesity. Obesity-related comorbidities are also reviewed, and the information is up to date. Indeed, the authors cover the role of new molecules in the pathophysiology of obesity and comorbidities such as leptin, ghrelin, resistin, and adiponectin, to name a few. Figures regarding the putative mechanisms of satiety, the neuropeptides, and neurochemical changes involved in the pathophysiology of obesity would have facilitated the understanding of these complex pathways. Again, the neophyte reader would have benefited from summary figures explaining basic concepts such as molecules involved in inflammation and thrombosis and changes that appeared in obesity. Information reviewing animal and human data is well balanced. Of note, the chapter on sleep apnea is very informative and is worth mentioning.

Obesity-related syndromes are reviewed in chapters 9 to 17, where expected improvement in cardiovascular risk factors with proper weight management in the obese individual is discussed through numerous approaches, namely nonpharmacological and pharmacological approaches and bariatric surgery. More specifically, chapter 9 provides a broad introduction to obesity from a clinical point of view to the reader not familiar with the field. There are numerous ways to assess the obesity status of an individual, however. They are described in chapter 9, but the definition from the International Diabetes Federation is missing. Accordingly, a specific chapter on the evolving definition of the metabolic syndrome, which may be indicate “at risk” obese individuals, would have been welcome. The book also provides information on available diets, with a nice description of dietary fats. Chapter 12 provides very useful information for the clinician regarding strategies/tips to decrease unhealthy and deleterious behaviors. Of note, a new upcoming pharmacological strategy (rimonabant) was not covered in chapter 13 but is treated briefly elsewhere in the book. A summary table depicting expected results from diverse pharmacological interventions would have been helpful. Also, the obesity paradox in heart failure was not covered thoroughly. The last chapter discusses public health initiatives and obesity prevention strategies. More importantly, the last chapter fails to indicate that obesity is caused by both biology and the environment. This chapter takes the position that the environment is causing the obesity epidemic, that the field has not placed biology and environment in the most constructive context, and that specific actions can be taken to change the food and activity environments. It beautifully reminds the reader that obesity is a complex interplay between biology, psychology, and environment. Adapting successful public health strategies used to educate the public about the dangers of known risk factors should help with the prevention and treatment of overweight.

The editors have amassed a wealth of information through the contributors of each chapter. The writing is well-referenced, easy to follow, and nonredundant, which is a tour de force, considering the numbers of contributors (40) included in the book. This book gives us a brilliant and highly readable overview of obesity and cardiovascular disease. Each chapter text is between 10 to 28 pages long. Most chapters included nice tables and figures, but some chapters may have benefited from adding more tables and figures to help the reader understand basic science or clinical concepts. Obesity and Cardiovascular Disease is a well-balanced book, with each chapter flowing well into the next. Undoubtedly, the information provided by this book will certainly help healthcare professionals to better understand and manage obesity. Obesity and Cardiovascular Disease gives an in-depth but accessible knowledge regarding the pathophysiology of obesity and its management. This easy-to-read book should be considered by everyone interested in the field of obesity, from either a basic or a clinical point of view.

Disclosures
None.

Paul Poirier, MD, PhD, FRCPc
Institut Universitaire de Cardiologie et de Pneumologie
Laval Hospital
Quebec, Canada

(Circulation. 2006;114:e564.)
© 2006 American Heart Association, Inc.
Circulation is available at http://www.circulationaha.org

DOI: 10.1161.CIRCULATIONAHA.106.646455
Obesity and Cardiovascular Disease
Paul Poirier

Circulation. 2006;114:e564
doi: 10.1161/CIRCULATIONAHA.106.646455
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2006 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/114/18/e564

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation is online at:
http://circ.ahajournals.org//subscriptions/