

Obesity: Pathology and Therapy

Editors

Dean H. Lockwood
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Springer

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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Contents

Section I: Pathology

CHAPTER 1

Obesity: Definition and Epidemiology

M. DiGIROLAMO, J. HARP, and J. STEVENS. With 3 Figures	3
A. Introduction	3
B. Historical Aspects	3
C. Definition of Obesity	5
D. Criteria for Defining Overweight and Obesity	6
E. Assessment of Body Fat and Degree of Obesity	7
I. Body Composition	8
II. Underwater Weighing – Hydrostatic Densitometry (UWW)	8
III. Total Body Water (TBW)	8
IV. Total Body Potassium (TBK)	9
V. Bioelectrical Impedance Analysis (BIA)	9
VI. Ultrasound	9
VII. Computerized Tomography (CT)	10
VIII. Magnetic Resonance Imaging (MRI)	10
IX. Dual Energy X-ray Absorptiometry (DEXA)	10
X. Neutron Inelastic Scattering	11
XI. Anthropometry	11
1. Body Mass Index (BMI)	11
2. Weight and Height Tables	11
3. Circumferences	11
4. Skinfold Thickness	12
F. Practical Considerations in the Assessment of Body Fat	12
G. Anatomy and Physiology of Adipose Tissue	13
I. Anatomy of Adipose Tissue	13
II. Physiology of Adipose Tissue	14
H. Etiologic Classification of Obesity	16
I. Epidemiology of Obesity	18

I. Observations in the United States	18
1. Secular Trends	19
2. Gender	20
3. Ethnicity	20
4. Age	20
5. Diet	21
6. Physical Activity	22
7. Associations with Other Factors	22
II. International Trends in the Prevalence of Obesity	22
1. European Countries	22
2. Lower- and Middle-Income Countries	23
3. Estimated World Prevalence of Obesity	24
J. Conclusions	24
References	25

CHAPTER 2

Health Implications of Obesity

F.X. PI-SUNYER. With 2 Figures	29
A. Introduction	29
B. Some Epidemiological Considerations	29
C. Mortality	30
D. Diabetes Mellitus	34
E. Cardiovascular Disease	35
I. Hypertension	36
II. Dyslipidemia	38
III. Coronary Heart Disease	38
F. Respiratory	39
G. Cancer	41
H. Gall Bladder Disease	42
I. Arthritis	43
J. Gout	43
K. Abdominal Obesity	43
L. Conclusion	45
References	46

CHAPTER 3

The Molecular and Epidemiological Genetics of Obesity

Y.C. CHAGNON, L. PÉRUSSE, and C. BOUCHARD. With 5 Figures	57
A. Introduction	57
B. Molecular Genetics of Obesity	57
I. Candidate Genes by Mutation: Single-Gene-Mutation	
Mouse Models	59
1. The Leptin (<i>LEP</i>) Gene	59

2. The Leptin-Receptor (<i>LEPR</i>) Gene	62
3. The Agouti Signaling-Protein (<i>ASIP</i>) Gene	65
4. The Fat (<i>FAT-CPE</i>) Gene	67
5. The Tubby (<i>TUB</i>) Gene	67
II. Functional Candidate Genes	68
1. Energy Intake	68
a) Feeding Center	68
b) Satiety Center	70
2. Energy Expenditure	72
3. Body Fat	73
C. Genetic Epidemiology of Human Obesity	75
I. Familial Aggregation	75
II. Heritability Studies	75
III. Segregation Analysis	77
IV. Genetic Covariation Between Obesity and Co-Morbidities	78
D. Summary	80
References	80

CHAPTER 4

The Influence of Obesity on the Development of Non-Insulin-Dependent Diabetes Mellitus

J.W. KOLACZYNSKI and B.J. GOLDSTEIN. With 2 Figures	91
A. Epidemiological and Experimental Perspective	91
I. Experimental Weight Gain and Insulin Action	92
II. Overweight, Physical Activity, and the Risk of NIDDM	93
III. Effect of Increased Physical Activity on Energy Balance in Obesity	93
IV. Physical Activity and Insulin Sensitivity in Obese Individuals	94
B. Fat Distribution and Risk of Diabetes	94
C. Transition from an Obese to a Diabetic State – Nutritional and Humoral Mediators	95
I. Free Fatty Acids (FFA)	95
1. Effect of FFA on Glucose Utilization in Skeletal Muscle	95
2. FFA and Fat Storage in Skeletal Muscle	97
3. Effects of FFA on Glucose Production in the Liver	98
4. Is the Liver a Major Site of Fatty Acid Oxidation in Obesity with and without Diabetes?	98
5. Effects of FFA on Insulin Secretion	99
6. Obesity, Fatty Acids, and Type 2 Diabetes – Is There a Link?	100
II. Adipose Tissue as an Endocrine Organ	101

1. Tumor Necrosis Factor (TNF) α	101
2. Endogenous Ligands of the PPAR- γ Nuclear Receptor and Adipose Tissue Cellularity	101
3. Leptin	102
D. Skeletal Muscle Anatomy in Obesity and Type 2 Diabetes	103
I. Skeletal Muscle Blood Flow	104
II. Skeletal Muscle Capillary Density and Endothelial Barrier	105
III. Skeletal Muscle Fiber Characteristics in Obesity and Type 2 Diabetes	105
E. The Influence of Obesity on Insulin Signaling at a Molecular Level	106
I. Insulin-Receptor-Mediated Phosphorylation Cascade ("On Signal")	106
II. Potential Role of Protein-Tyrosine Phosphatases (PTPases) – "Off Signal"	107
1. Skeletal Muscle of Obese Subjects	108
2. Adipose Tissue of Obese Subjects	108
3. Studies on Skeletal Muscle of Subjects with Type 2 Diabetes	108
F. Summary and Conclusions	110
References	110

CHAPTER 5

Fat Metabolism in Obesity, with Special Emphasis on the Insulin Resistance and Elevated Lipid Mobilisation in Visceral Obesity

P. BJÖRNTORP	121
A. Introduction	121
B. Basic Mechanisms	121
I. Lipid Mobilization	121
II. Adipose Tissue Storage of Triglycerides	123
C. FFA Metabolism in Obesity	123
D. Genetic Influence	128
References	129

CHAPTER 6

The Regulation of Body Weight: Set-Points and Obesity

M.D. HIRVONEN and R.E. KEESEY. With 3 Figures	133
A. Introduction	133
I. Set-Points	133
II. Body Weight and Energy	134
III. Body Energy Set-Point	134
IV. Supporting a Set-Point Argument	134
1. Stability	135
2. Active Defense	136

B. The Dieter's Dilemma	137
C. Changing the Set-Point	138
I. Upregulation of the Set-Point	138
II. The Fat Cell Size and Number: A Hypothesis	138
D. Assessing Set-Points in Individuals	139
I. Determining Daily Energy Needs	139
1. Using the Resting Energy Expenditure and Body Weight to Assess Set-Points	140
E. Set-Point Analysis of a Pharmacological Effect on Body Weight	142
I. Effects of Nicotine on Body Weight	142
1. Tolerance Interpretation	143
2. Set-Point Interpretation	143
3. Choosing Between Tolerance and Set-Point Interpretations	144
a) Predictions Based on the Tolerance Interpretation ...	144
b) Predictions Based on the Set-Point Interpretation ...	144
4. Results of Lowering Body Weight Prior to Nicotine Administration	145
5. Further Evidence of Set-Point Shifts in Nicotine Treated Rats	145
F. Set-Point Signaling Mechanism(s)	146
I. Leptin	146
II. Leptin, Neuropeptide-Y, and Melanocortin	147
G. Why High Set-Points?	148
H. Set-Point Perspective on Obesity	149
References	150

Section II: Pharmacological and Other Treatments

CHAPTER 7

Serotonin Drugs and the Treatment of Obesity

J.C.G. HALFORD and J.E. BLUNDELL	155
A. Introduction	155
B. 5-HT Synthesis, Storage, Release, and Re-Uptake	155
C. 5-HT Receptors	156
D. 5-HT and Food Intake (Animal Studies)	157
I. Fenfluramine	157
II. Fluoxetine	158
III. Selective 5-HT Agonists	159
E. 5-HT and Feeding Behavior (Animal Studies)	160
F. Hypothalamic 5-HT	160
G. 5-HT Diet Composition and Food Choice	161
I. Diet Selection in Animal Studies	162
II. Food Choice in Humans	163

H. 5-HT and Appetite Motivation in Humans 164

 I. Hunger 164

 II. Food Intake 165

I. Binge Eating in the Obese 166

J. 5-HT Genetics and Obesity 166

K. Serotonin and the Risk Factors for Overeating 167

L. Overview 168

References 169

CHAPTER 8

Pharmacological Treatment of Obesity: Outcomes and New Tools

L.A. CAMPFIELD and F.J. SMITH. With 1 Figure 177

A. Introduction 177

B. Obesity: A Therapeutic Challenge 177

 I. Human Obesity: Interaction Between Genetics,
 Behavior and Environment 178

 1. Fat Mass 178

 2. Biological Basis 178

C. Treatment of Obesity: The Present and the Future 179

 I. Goals 179

 II. Long-Term Weight Maintenance 180

 III. Concept of Metabolic Fitness: A Medically Based
 Alternative Outcome Measure 181

 IV. Drugs for the Treatment of Obesity 183

 V. Multiple Drugs with Distinct Mechanisms of Action 185

D. New Tools from Explosion in Obesity Research 187

 I. OB Protein Pathway 187

 II. Mouse and Human Obesity Genes 188

 III. Example: The Concept of Reduced Sensitivity to
 OB Protein in Obesity 191

E. Conclusion 192

References 192

CHAPTER 9

Popular Diets and Other Treatments of Obesity

R. KONIKOFF and J. DWYER 195

A. Introduction 195

B. Causes of Obesity 195

C. Criteria for Evaluating the Dietary Components of
 Weight Loss 197

 I. Calories 197

 1. Fasting 200

 2. Very Low Calorie Diets 200