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DIABETES AND CARDIOVASCULAR DISEASE

Etiology, Treatment, and Outcomes

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PREFACE

Diabetes and Cardiovascular Disease: from Molecular Processes to Health Policy

Diabetes and cardiovascular disease together account for the largest portion of health care spending compared to all other diseases in Western society, and the cost continues to increase because of parallel trends including an aging population and an increasing incidence of obesity. In North America, this is most relevant in our First Nations community and other ethnic groups, particularly recent immigrants from the Caribbean and the Indian Subcontinent. Despite expanding knowledge about the importance of insulin resistance in type 2 diabetes mellitus, and autoimmune factors that predispose to type 1 diabetes, etiologic risk factors for cardiovascular complications continue to increase. Much is known about the health risks of obesity, diabetes, hypertension and hyperlipidemia as causal factors in cardiovascular disease, and many of these risk factors can be addressed through a growing array of effective pharmacologic agents. It is also true that behavioral and nonpharmacological strategies are important for individuals and populations. These require behavioral interventions within the community and in individual households. However, our ability to transfer this knowledge and improve lifestyle appears to be rudimentary. It is possible to address this problem by identifying the myriad barriers to a better informed public. Overcoming these barriers will ensure more effective care in the community. In the first instance, an understanding of the causes of diabetes and its cardiovascular complications must be widely appreciated as this will serve as a foundation for evidence based care and wider acceptance of sound science. The International Conference on Diabetes and Cardiovascular Disease, held in Winnipeg in June, 1999, was organized to bring together a multi-disciplinary group of researchers dedicated to further understanding amongst researchers, care givers, and the managers of the health system. The invited speakers were asked to submit their work for publication which served as the basis of this book.

New drugs and nutritional strategies have been developed to improve glycemic control, body weight, and metabolic risk predictors of cardiovascular disease. New interventions, to be valid, require clinical trials in order to establish the effectiveness of specific treatments. These interventions must be tested within the community under ordinary living conditions to confirm their effectiveness. It is our hope that new knowledge reported here will shorten the interval between basic observation, hypothesis testing, clinical trials, and the introduction of new treatments in the community. This should help improve the general well being of society.

The importance of prevention of heart disease cannot be overstated. With heart-health promotion initiatives, communities can be helped by informed provincial and federal policy makers. The work reported here is a compilation of themes that span broad areas of

research relevant to the care of individuals and communities burdened with the disease as well as the costs of health care. It should serve as a valuable reference text for decision makers.

The various chapters include subjects grouped according to major themes that include: 1) epidemiology of diabetes mellitus; 2) metabolic risk factors in diabetes and cardiovascular disease; 3) endothelial function in diabetes; 4) hypertension in diabetes mellitus; 5) cardiac lipid metabolism in diabetes; 6) cardiac function in diabetes; 7) glycemic control and improved cardiovascular function; 8) diabetes management; 9) health promotion in preventing diabetes and its complications; and 10) health policy and national strategies in diabetes. This information should be of interest to scientists studying the cause of diabetes, the clinician concerned with the care of patients with diabetes and cardiovascular disease, and policy makers who help decide priorities for government support.

Finally, we would like to take this opportunity to thank our sponsors and pharmaceutical partners for supporting the conference on which this book is based. We also thank the Institute of Cardiovascular Sciences, St. Boniface General Hospital, and the Diabetes Research and Treatment Centre of Winnipeg for assembling this body of knowledge for the benefit of the patients we serve.

Aubie Angel
Naranjan Dhalla
Grant Pierce
and
Pawan Singal

CONTENTS

EPIDEMIOLOGY AND GENETIC DETERMINANTS OF DIABETES MELLITUS

1. Type 2 Diabetes in Youth: A New Epidemic 1
H. Dean

2. Undiagnosed Diabetes: Burden and Significance in the Canadian Population 7
T. K. Young

3. Genes, Environment and Diabetes in Canadian Aboriginal Communities ... 11
R. A. Hegele

4. Diabetes in Sub-Saharan Africa 21
T. J. Aspray and N. Unwin

5. Coronary Heart Disease and Risk Factors in Asian Indians 27
M. Chandalia and P. C. Deedwania

METABOLIC RISK FACTORS IN DIABETES AND CARDIOVASCULAR DISEASE

6. The Plasma Glucose Level—A Continuous Risk Factor for Vascular Disease in Both Diabetic and Non-Diabetic People 35
H. C. Gerstein

7. Modified Lipoproteins and Cardiovascular Risk 41
W. Aldahi and J. Frohlich

8. Advances in Lipid-Lowering Therapy in Atherosclerosis 49
J. Davignon

9. Homocysteine as a Risk Factor in Cardiovascular Disease 59
D. E. C. Cole

10. Endothelial Integrity and Repair 65
T. J. Lee, S. Noria, J. Lee, and A. I. Gotlieb

11. Molecular Mechanisms of Endothelial Dysfunction in the Diabetic Heart ... 75
P. Rösen, X. Du, and G. Z. Sui

12. A Study of Vascular Wound Healing in a Rabbit Model of Type I Diabetes 87
N. K. Schiller, D. L. Akers, B. Burke, A. M. Timothy, B. Bedi, and D. B. McNamara

13. Endothelins in the Microvasculature and Heart in Diabetes 97
S. Chakrabarti, S. Chen, T. Evans, and M. Karmazyn

14. Diabetes and Endothelial Function: Implications for Coronary Angioplasty 109
T. J. Anderson

HYPERTENSION AND DIABETES MELLITUS

15. The Effect of Hypertension in Diabetes 115
E. D. Burgess

16. The Diabetic Hypertensive (or Hypertensive Diabetic)—A Compelling Need to Optimize Blood Pressure 119
S. G. Carruthers

17. Left Ventricular Diastolic Dysfunction in Diabetic or Hypertensive Subjects: Role of Collagen Alterations 127
T. J. Regan, G. N. Jyothirmayi, C. Laham, and A. Jain

18. Alterations in the Vascular Actions of Insulin in the Pathogenesis of Insulin Resistance and Hypertension 133
S. Verma and J. H. McNeill

19. Cardiac Hypertrophy in Diabetes Patients with and without Hypertension: Effects of Troglitazone, a Novel Antidiabetic Drug, on Diastolic Function .. 143
N. Makino, H. Hirayama, H. Yonemochi, K. Yano, and N. Abe

20. Cost and Benefits of Blood Pressure Monitoring and Control 149
A. Chockalingam and N. R. C. Campbell

CARDIAC LIPID METABOLISM IN DIABETES

21. Malonyl COA Control of Fatty Acid Oxidation in the Diabetic Rat Heart .. 155
G. D. Lopaschuk

22. Alterations in 1,2-Diacylglycerol and Ceramides in Diabetic Rat Heart 167
K. Okumura, K. Hayashi, K. Murase, H. Matsui, and Y. Toki

23. Regulation of Myocardial Phospholipid N-Methylation by Insulin and Diabetes 175
S. W. Schaffer and M. Mozaffari

24. Reduction of Phosphatidylinositol-4,5-Bisphosphate Mass in Heart Sarcolemma during Diabetic Cardiomyopathy 183
P. S. Tappia, S. Liu, Y. Tong, S. Ssenyange, and V. Panagia

25. Tumor Necrosis Factor-α, Sphingomyelinase and Ceramides Activate Tyrosine Kinase, p21Ras and Phosphatidylinositol 3-Kinase: Implications for Glucose Transport and Insulin Resistance 191
A. N. Hanna, J. Xu, and D. N. Brindley

CARDIAC FUNCTION AND OXIDATIVE STRESS IN DIABETES

26. Antioxidants, Free Radical Stress and Diabetes 201
S. S. Rastogi and R. B. Singh

27. Oxidative Stress and Functional Deficit in Diabetic Cardiomyopathy 213
P. K. Singal, A. Belló-Klein, F. Farahmand, and V. Sandhawalia

28. Ketosis and the Generation of Oxygen Radicals in Diabetes Mellitus 221
S. K. Jain and K. Kannan

29. Effect of Diabetes Mellitus on Hemodynamic and Cardiometabolic Correlates in Experimental Myocardial Infarction 229
S. K. Gupta, D. S. Arya, U. Singh, and K. K. Talwar

30. Cardiac Function in Perfused Hearts from Diabetic Mice 241
D. D. Belke, T. S. Larsen, and D. L. Severson

31. Mg^{2+}-Dependent Atpase Activity in Cardiac Myofibrils from the Insulin-Resistant Jcr:La-Cp Rat 247
T. Misra, J. C. Russell, T. A. Clark, and G. N. Pierce

32. Cyclic Nucleotide Phosphodiesterase Families in Intracellular Signaling and Diabetes 253
A. Lugnier

33. Alterations in G-Protein-Linked Signal Transduction in Cardiovascular Vascular Smooth Muscle in Diabetes 263
M. B. Anand-Srivastava, R. Wang, and Y. Y. Liu

GLYCEMIC CONTROL AND IMPROVED CARDIOVASCULAR FUNCTION

34. Mechanism of HDL Lowering in Insulin Resistant States 273
G. F. Lewis, S. Rashid, K. D. Uffelman, and B. Lamarche

35. Insulin Treatment Post Myocardial Infarction: The Digami Study 279
K. Malmberg, A. Norhammar, and L. Rydén

36. Response to Ischemia and Endogenous Myocardial Protection in the Diabetic Heart 285
T. Ravingerova, R. Stetka, M. Barancik, K. Volkovova, D. Pancz, A. Ziegelhöffer, and J. Styk

37. Type 2 Diabetes: Pharmacological Intervention in an Animal Model 295
J. C. Russell

38. The Diabetic Heart and Cardiac Glycosides 303
M. Nagano

39. Hyperglycemia-Induced Protein Kinase Signaling Pathways in Vascular Smooth Muscle Cells: Implications in the Pathogenesis of Vascular Dysfunction in Diabetes 311
A. K. Srivastava

40. Regulation of Myocardial and Skeletal Muscle NA,K-ATPase in Diabetes Mellitus in Humans and Animals 319
H. Bundgaard and K. Kjeldsen

DIABETES MANAGEMENT— A MULTIDISCIPLINARY APPROACH

41. Food Strategies for Diabetes and Heart Health 323
K. Camelon

42. The Atherosclerosis Reversal Clinic: The Way of the Future 331
K. J. Kingsbury and J. Frolich

43. Lipid Clinics/Cardiovascular Risk Reduction Clinics: Current State and Future Consideration 337
J. Frohlich and K. Kingsbury

44. Amputation Prevention and Rehabilitation in Diabetes 349
J. M. Embil

45. Laboratory Testing in Diabetes Mellitus 359
M. Leroux

HEALTH PROMOTION IN PREVENTING DIABETES AND ITS COMPLICATIONS

46. Diabetes and Cardiovascular Disease 367
B. O'Connor

47. Prevalence of Cardiovascular Risk Factors in Canadians with Diabetes Mellitus 373
D. R. MacLean, M. R. Joffres, M. H. Tan, and A. Petrasovits

48. G7 Project Promoting Heart Health 381
J. L. O'Loughlin, A. C. Edwards, S. Elliott, and A. Petrasovits

49. Canadian Heart Health Initiative: Research Review 385
D. Harvey

HEALTH POLICY AND NATIONAL STRATEGIES IN DIABETES

50. Putting Policy into Action 389
S. M. MacDonald

51. National and International Strategies to Prevent Obesity and Diabetes 393
B. A. Reeder

52. The Diabetes Council of Canada (DCC): Coordinating National Diabetes Strategies 401
N. W. Rodger

53. The Federal Government and Diabetes: An Incremental Process 405
W. P. Mickelson