Book Reviews

The AIDS Knowledge Base, 3rd edition, 1999

Edited by P.T. Cohen, M.A. Sande and P.A. Volberding. Publishers: Lippincott Williams & Wilkins, P.O. Box 1640, Hagerstown, MD 21741-1640. Price: $125.00. ISBN: 0-316-14903-9.

Infectious disease specialists, especially those who are interested in HIV/AIDS, know *The AIDS Knowledge Base* very well. This new edition is a multi-author book, consisting of contributions from more than one hundred known and experienced physicians in North America. The book is large, consisting of 966 pages, and divided into nine sections, with each section containing a varying number of chapters, and totalling 86 chapters in all.

Section 1 of the book covers epidemiology and transmission of HIV, and the authors recount details of epidemiology in the United States and other countries. Section 2 provides a comprehensive review on testing for HIV. Section 3 covers basic science and pathogenesis of HIV. Section 4 deals with the natural history, clinical spectrum and general management of HIV disease. Section 5 covers clinical manifestation of HIV disease. Section 6 provides detailed information about infection associated with HIV disease. Section 7 deals with malignancies associated with HIV disease, and section 8 deals with ethical-legal and economic issues of HIV disease. Lastly, Section 9 deals with prevention and education, especially for occupational and non-occupational HIV exposure prophylaxis and management.

There have been major advances in the knowledge of HIV, as well as changes in management of HIV patients, and there have also been major changes in patients' and health care providers' perceptions of HIV/AIDS. The authors of *The AIDS Knowledge Base* have included recent published research and expert opinion, which is an improvement on the previous edition of 1994. The overall organization of the book is unchanged from previous editions, and includes major sections with specific chapters on infections and malignancies, as well as problems discussed by system or anatomical region, and various aspects of the general management of HIV. The authors elected not to include a section on pediatric HIV disease, since there are several comprehensive textbooks devoted to this specialty.

The AIDS Knowledge Base is entirely clinic oriented, focusing on many issues, including patient management of the disease from all its aspects. There are many tables in the book, which were designed to help in understanding complicated concepts and give comprehensive overviews of current literature.

In summary, this book can be regarded as a major reference for HIV and AIDS, and the authors should be commended for compiling it. I believe that all infectious disease physicians and clinicians who deal with HIV patients should have this valuable book, which is very affordable at a price of US$125.

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Cancer: Obstetrics and Gynecology, 1st Edition, 1999

Edited by Edward L. Trimble and Cornelia L. Trimble. Publishers: Lippincott Williams & Wilkins, P.O. Box 1640, Hagerstown, MD 21741-1640. Price: $125.00. ISBN: 0-7817-1410-9.

The title of this book, *Cancer: Obstetrics and Gynecology*, could be misleading, as its contents are really related to the sequelae of the cancer treatment of gynecology patients and pregnancy complicated by various malignancies. However, as a radiation oncologist dealing with gynecology malignancies, I often see patients with the problems mentioned in this book. This comprehensive book tackles these subjects in detail, with good references not often noted in general oncology textbooks. The book contains 12 chapters which deal with important topics in the practice of any specialist dealing with the management of patients with malignancies.

The book begins with chapters on ovulation, menstruation and contraception in cancer patients, and the sexuality of women with cancer, an appropriate topic, as more patients are successfully treated with malignancies, and the sequelae are now being dealt with in much better detail. In chapter 3, which deals with hormone therapy, menopause and malignancy, it would have been useful if different regimes of hormone replacement therapy had been suggested. In chapter 6, which deals with genitourinary disease in women with cancer, there are very comprehensive descriptions of the problems a physician faces in treating patients with gynecologic and other malignancies. Chapters 8-12 deal with pregnancies complicated by various malignancies. These neoplasms associated with pregnancy are relatively rare conditions, and these chapters describe useful, appropriate and helpful management guidelines for physicians who deal with these conditions.

The book is well written, and I would recommend it to all oncologists because the topics, although rare, relate directly to daily clinical practice, and thus provide optimal care and management of these complex cases which will improve the outcome and quality of life of our patients. I would also recommend to the authors that the title be changed to a more specific one.

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Obesity and NIDDM: Lessons from the OLETF Rat, 1999

Edited by K. Shima. Available from Elsevier Science BV, P.O. Box 211, 1000 AE Amsterdam, The Netherlands, or from Elsevier Science Inc., P.O. Box 945, Madison Square Station, New York, NY 10160-0757, USA. Price: US$139.50. ISBN: 0-444-50112-6.

It was with pleasure that I reviewed this book, *Obesity and NIDDM: Lessons from the OLETF Rat.* It is a 248-page medium-sized book consisting of a series of studies done in Japan by different authors and research groups. This is a very interesting book for researchers in the field of diabetes, and academicians as well as clinicians interested in the pathophysiology of type II diabetes and obesity. The subject of all the studies is the Otsuka-Long-Evans Tokushima Fatty Rat (OLETF). It is interesting that this colony of rat that was developed from another colony by breeding would develop features resembling human type II DM—specifically, changes in insulin secretion, visceral obesity, and development of impaired glucose tolerance and eventual type II DM in the male rats. The studies presented are wide ranging and comprehensive in many aspects of DM and obesity in this type of rat. There are studies of the pathophysiology of type II DM at different stages, and functional and morphological changes of the pancreatic islets during the life-span of the rat. Other studies try to reveal some molecular mechanisms of insulin resistance and its relation to glucose transporters. Of interest is the finding that insulin resistance and changes in the abdominal fat predated the changes in pancreatic β-cell dysfunction. Some effects of medication like the B3-adrenergic receptor agonists on the development of obesity and DM have also been studied, and a few other studies have focused on the development of complications of diabetes. The development of nephropathy, neuropathy, cardiovascular changes (but not retinopathy) and certain pathophysiologic changes are also revealed. The effect of food restriction and improvement of DM control was obvious in decreasing diabetic nephropathy in the OLETF rat. The benefits of reductase inhibitors and amino-guanidine in preventing complications were tested, and the contribution of vascular changes to the development of neuropathy was also studied. Other chapters cover miscellaneous issues, including the effects of ovarian hormones in preventing DM in the female rats, hyperabsorption of glucose as a cause of postprandial hyperglycemia, and prevention of DM with food restriction and exercise, as well as the effect of treatment with metformin and troglitazone in decreasing insulin resistance. Finally, the similarity and dissimilarity between the OLEFT rats and obese humans with NIDDM are compared. In conclusion, although the book is about animal studies, I found it to be quite interesting, especially for researchers who have special interest in the pathophysiology of NIDDM and obesity. The similarity of this colony of animals to the human NIDDM and obesity is quite intriguing in terms of further research and studies that could help in revealing the secrets of NIDDM.

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Insulin Resistance, Metabolic Diseases and Diabetic Complications, 1999

Edited by G. Crepaldi, A. Tiengo and S. Del Prato. Available from Elsevier Science BV, P.O. Box 211, 1000 AE Amsterdam, The Netherlands, or from Elsevier Science Inc., P.O. Box 945, Madison Square Station, New York, NY 10160-0757, USA. Price: US$139.50. ISBN: 0-444-50022-7.

Since its discovery in 1922, the study of insulin has been an exciting field for both clinicians and researchers. Insulin was originally thought to be merely the missing hormone in patients with diabetes mellitus (DM), and its replacement was the ultimate goal in the treatment of this disorder. While this is, to a large extent, true in type I DM, patients with type II DM frequently have high or normal insulin levels. This reflects the state of insulin resistance that is the hallmark of type II DM. Over the years, the role of insulin resistance has expanded from just an important pathophysiological mechanism in type II DM to a very common disorder that seems to confer, in conjunction with

several other atherosclerotic risk factors, a significant risk of coronary artery disease. This disorder has been called syndrome X or the pleurimetabolic syndrome. It is characterized by insulin resistance, hypertension, low HDL cholesterol, high serum triglycerides, abdominal obesity, and DM. This book is basically about syndrome X and its related metabolic disturbances.

The book is organized in several sections. The first section briefly presents some of the important epidemiological studies that link systemic atherosclerosis with insulin resistance and syndrome X. The second section describes some of the important genetic studies in patients with type II DM, including studies of the genetic mutations in different genes in what used to be called "maturity-onset diabetes of the youth" (MODY), the angiotensin-converting enzyme (ACE) II genotype, which seems to have a protective role against diabetic nephropathy in type I DM, and the apolipoprotein E gene polymorphism and its associated risk of vascular and renal complications. The last article in this so-called genetic section is a non-genetic study on the atherogenic dyslipidemia of visceral obesity!

The third part of the book is a relatively detailed description of the cellular and molecular markers of insulin resistance and diabetic complications. The possible effects of hyperglycemia on nitric oxide, insulin signaling, and protein kinase C pathways are discussed. Perturbations in these pathways seem to predispose patients with DM type II and insulin resistance to atherogenesis. In fact, the fourth section is an extension of the discussion of abnormalities in nitric oxide as a major endothelial mediator in DM.

The book then shifts to discussion of the major diabetic complications. It starts with an excellent section on the clinical and histological features of diabetic nephropathy, concentrating on some of the major differences between diabetic nephropathy in type I vs. type II DM. It also includes a short review of the increased NA^+/H^+ antiporter activity as a cellular marker that may predict the development of nephropathy in diabetic patients.

The section on atherosclerotic complications discusses dyslipidemia in diabetes from a clinical and biochemical point of view. Particular emphasis is placed on the alterations that occur in the biochemical structure of the different apolipoproteins which make them more atherogenic. The importance of advanced glycation products, the oxidative stress and free radicals, and the reduced fibrinolytic activity in propagating the process of atherogenesis in diabetic patients are discussed in three separate articles.

The last section of the book is about the prevention of complications, which would be interesting for physicians. It starts with four interesting articles on the role of antihypertensive treatments in the prevention of coronary artery disease and nephropathy in DM. The authors discuss potential mechanisms other than the reduction of blood pressure, by which antihypertensive medications may decrease the risk of CAD and nephropathy.

A review of the major treatment trials and comparison between different antihypertensive drugs used in the treatment of hypertension in type II DM is given in the next article. Of particular interest in these articles are the conflicting data on the potential increase in mortality with the use of Ca-channel blockers and the role of ACE inhibitors in the prevention and treatment of diabetic nephropathy. Two articles discuss the role of diet in cardiovascular risk and in predisposition to obesity, insulin resistance and development of DM type II. Discussion of three important classes of drugs (statins, metformin, troglitazones) commonly used in the treatment of DM type II occupies a significant part of this section. The anti-atherosclerotic role of HMG-CoA reductase inhibitors is reviewed along with some of the emerging data on their potential antithrombotic effects on platelets, fibrinogen and vascular smooth muscles. The effects of metformin on blood sugar either alone or in combination with insulin, and its beneficial effect on cardiovascular risk, vascular reactivity and interaction with nitric oxide pathway are discussed. Its potential role in nondiabetic subjects with insulin resistance, as suggested by the BIGPRO study, is reported. The mechanisms of action of the recently introduced antidiabetic drugs, thiazolididiones, are discussed in a separate article. A review of leptin and its role in human obesity, as well as the carnitine system and its potential effect on insulin resistance, conclude the book.

The book is a compilation of lectures and studies that were presented at the Seventh European Symposium on Metabolism held in Padova, Italy, September 30 - October 3, 1998. So in a way, it is not a book in the usual sense, but rather a collection of the proceedings of a symposium. One notable deficiency is the relative number of language defects. The book, however, presents a nice concise review of the most active areas in the field of insulin resistance and diabetes mellitus, and should be of interest to specialized endocrinologists and the general internist, who inevitably see patients with insulin resistance and DM.

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