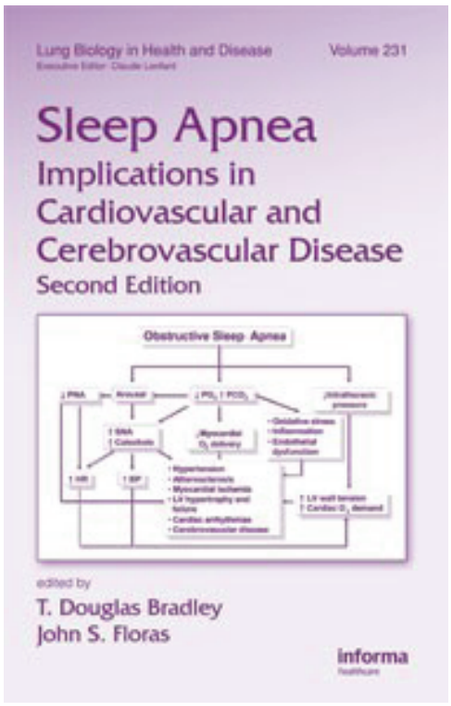
BOOK REVIEWS

Sleep Apnea: Implications in Cardiovascular and Cerebrovascular Disease. 2nd Edition.
Edited by T.D. Bradley and J.S. Floras.
Published by Informa Healthcare, UK.
Pages: 396. Price: £182.00/€205.00. ISBN: 978-0849341502.



This second edition of this book, the first edition of which was published in 2000, is an important event in the series of monographs on sleep which started 25 years ago with the seminal volume "*Sleep and Breathing*", edited by N.A. Saunders and C.E. Sullivan.

The first edition set the scene for forthcoming discoveries on the cardiovascular consequences of sleep apnoea, and numerous studies have confronted this relationship in the 10 years since. The editors remain guided by "the concern that cardiovascular turmoil triggered by sleep-related breathing disorders may participate in the initiation or progression of common and debilitating conditions such as heart failure, hypertension, stroke, arrhythmias and nocturnal angina".

Indeed, it is now evident that the public health burden of the association of sleep disorders and cardiovascular diseases is significant and is growing due to an ageing and increasingly obese population. Nevertheless, until recently the current guidelines for the investigation and therapy of diseases such as hypertension and heart failure have focused on the patient while awake at the clinic. This approach neglects the changes that occur during one third of our life, *i.e.* during sleep, which is not, as it is often perceived, a quiescent state when the body only restores itself.

During this past decade, the knowledge of the mechanisms by which sleep disordered breathing contributes to the pathophysiology and complications of cardiovascular disease has greatly progressed. The factors that were speculated from limited case–control studies in 2000 have now been confirmed in larger populations. This edition gives a clear synthesis of the latest research regarding epidemiological data from large-scale clinical trials and randomised controlled interventions linking sleep apnoea to inflammation, oxidative stress, metabolic syndrome and cardiovascular diseases.

The topics in this latest edition are clearly presented and are particularly focused on basic physiology and epidemiology. The circadian rhythms of the vascular function and diseases are well highlighted, underlining the importance of chronobiology and chronotherapeutics, which have not yet received enough attention in clinical medicine.

The book is organised into four parts: 1) Influence of Sleep and Respiration on the Cardiovascular System; 2) Sleep Apnea and Hypertension; 3) Sleep Apnea, Ischemic Heart Disease and Cerebrovascular Disease; and 4) Sleep Apnea and Congestive Heart Failure. Each chapter is written by world renowned contributors in the field.

The basics of the inter-relationship between the three physiological functions (sleep, breathing and cardiovascular control pathways) are the focus of the first part of the book. The role of the often unrecognised diurnal molecular rhythms is detailed in the first chapter by M.J. Sole and T.A. Martino. In the second chapter, P.G. Guyenet provides a very clear synthesis of the neuro-anatomical structures and mediators that are essential for the coordination of breathing and cardiovascular regulation. This is followed by a description of the effect of sleep on respiratory and cardiac activities. Thereafter the basic mechanisms relating sleep apnoea with glucose metabolism (N.M. Punjabi), vascular function (J. Garvey *et al.*) and obesity (K.R. McGaffin *et al.*) are unravelled although many important questions remain.

The second part is devoted to sleep apnoea and hypertension, as well as the influence of sleep on the autonomic system (K. Narkiewicz *et al.*), the strong epidemiological evidence of the link between the two disorders (Y. Levizky *et al*) and the therapeutic implications (O. Friedman *et al.*).

The third part focuses on the less clearly defined relationships of apnoea with arrhythmias (R. Leung *et al.*), ischaemic heart disease (G. Lorezo-Filho *et al.*) and two aspects of cerebrovascular disease (M. Siccoli *et al.* and D. Sorajja *et al.*, respectively).

The last part addresses the rapidly broadening field of sleep apnoea and heart failure, starting with modelling of periodic breathing (M.C.K. Khoo). This is followed by an extensive review of the pathophysiology of the interactions between apnoea and heart failure (D. Yumino *et al.*) and their epidemiology (P.A. Lanfranchi). Finally, in the therapeutic implications chapter, M.T. Naughton and M. Artz acknowledge the need for randomised control trials to determine the effects of morbidity and mortality in these patients.

This edition will be of great use for many medical professionals, especially during training and practising, and particularly for cardiologists who care, sometimes unknowingly, for many in this patient population. This book will also be very useful to basic and clinical scientists and will certainly foster many research programmes to answer the questions that still remain.

P. Escourrou
Clamart, France