Obstructive Sleep Apnea in Adults

Relationship with Cardiovascular and Metabolic Disorders

95 figures in color, 37 tables, 2011
To my wife Liora and
my children Alexandra and David
for their patience and tolerance

In memory of my mother and father
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Contents

Preface ............................................................................................................................................... XV
Acknowledgements ......................................................................................................................... XVI

Chapter 1

Obstructive Sleep Apnea in Adults: Epidemiology, Clinical Presentation, and Treatment Options .......................................................................................................................... 1

1 Definitions ................................................................................................................................... 3
2 Prevalence and Incidence of Obstructive Sleep Apnea ................................................................ 5
3 Risk Factors for Obstructive Sleep Apnea .................................................................................... 7
  3.1 Overweight, Obesity, Metabolic Syndrome and Alterations in Glucose Metabolism ............... 7
  3.2 Age ......................................................................................................................................... 8
  3.3 Gender ................................................................................................................................... 8
    3.3.1 Menopause, a Risk Factor for Obstructive Sleep Apnea .................................................... 8
    3.3.2 Testosterone Levels and the Risk of Obstructive Sleep Apnea ........................................... 9
    3.3.3 Polycystic Ovary Syndrome and the Risk of Obstructive Sleep Apnea ............................. 9
  3.4 Craniofacial Anatomy ............................................................................................................ 9
  3.5 Smoking and Alcohol Consumption ......................................................................................... 10
  3.6 Familial and Genetic Predisposition ......................................................................................... 10
4 Obstructive Sleep Apnea Symptoms and Signs ......................................................................... 11
  4.1 Daytime Symptoms .................................................................................................................. 11
    4.1.1 Excessive Sleepiness ............................................................................................................ 11
    4.1.2 Excessive Sleepiness in the General Population and in Patients with Obstructive Sleep Apnea ......................................................... 12
    4.1.3 Fatigue ............................................................................................................................... 14
  4.2 Sleep-Related Symptoms ......................................................................................................... 15
    4.2.1 Snoring, Witnessed Apneas and Nocturnal Choking .......................................................... 15
    4.2.2 Nocturia ............................................................................................................................ 16
  4.3 Sequelae .................................................................................................................................. 17
    4.3.1 Psychological Changes and Psychiatric Symptoms ............................................................. 17
    4.3.2 Health-Related Quality of Life ........................................................................................... 18
    4.3.3 Performance Alterations .................................................................................................... 19
5 Characteristic Clinical Features of Obstructive Sleep Apnea in Patients with Metabolic or Cardiovascular Disorders .............................................................. 22
Chapter 4

Endothelial Dysfunction in Adults with Obstructive Sleep Apnea

4.1 Obstructive Sleep Apnea May Alter Vascular Structure
   4.1.1 Arterial Structure and Elastic Properties
   4.1.2 Cell Apoptosis and Endothelial Repair Capacity

4.2 Obstructive Sleep Apnea May Adversely Affect Endothelial Regulation of the Peripheral Vasomotor Tone
   4.2.1 Alterations in Nitric-Oxide-Dependent Vasodilator Mechanisms
      4.2.1.1 Vascular Reactivity
      4.2.1.2 Nitric Oxide Availability
   4.2.2 Alterations in Vasoconstriction Mechanisms
      4.2.2.1 Downregulation of Vascular Sympathoadrenergic Receptors
      4.2.2.2 Endothelin 1
      4.2.2.3 Angiotensin II

4.3 Potential Mechanisms Leading to Endothelial Dysfunction in Obstructive Sleep Apnea
   4.3.1 Chronic Intermittent Hypoxia/Reoxygenation
   4.3.2 Oxidative Stress
   4.3.3 Adipokines
   4.3.4 Hypercoagulability
   4.3.5 Sleep Loss and Fragmentation
   4.3.6 Confounders and the Development of Endothelial Dysfunction in Obstructive Sleep Apnea

4.4 Conclusion

Chapter 5

Hemodynamic and Autonomic Changes in Adults with Obstructive Sleep Apnea

5.1 Control of Cardiovascular Function during Normal Sleep Stages

5.2 Hemodynamic and Autonomic Changes during the Apnea-Ventilation Resumption Cycle
   5.2.1 Hemodynamic Changes
      5.2.1.1 Heart Rate and Blood Pressure
      5.2.1.2 Peripheral Resistance
      5.2.1.3 Stroke Volume and Cardiac Output
Chapter 6

Cardiovascular Disorders Associated with Obstructive Sleep Apnea ........................................... 197
1
   Limitations of Studies Found in the Literature ................................................................. 199
2
   Obstructive Sleep Apnea and the Risk of Mortality from Cardiovascular Causes .................. 200
      2.1 Clinical and Epidemiological Studies ........................................................................... 200
      2.2 Day-Night Pattern of Death in Obstructive Sleep Apnea Patients .............................. 202
      2.3 Effect of Continuous Positive Airway Pressure Treatment on Mortality from Cardiovascular Causes .......................................................... 204
      2.4 Key Points ...................................................................................................................... 206
3
   Systemic Hypertension ........................................................................................................... 206
      3.1 Clinical and Epidemiological Studies ........................................................................... 206
      3.2 Blood Pressure Profile Abnormalities Associated with an Increased Risk of Obstructive Sleep Apnea ................................................................. 210
      3.3 Effects of Treatment for Obstructive Sleep Apnea on Blood Pressure ...................... 211
         3.3.1 Effect of Continuous Positive Airway Pressure Therapy ........................................ 211
         3.3.2 Effect of a Mandibular Advancement Device ......................................................... 213
      3.4 Effects of Antihypertensive Drugs in Obstructive Sleep Apnea Patients .................... 214
      3.5 Mechanisms Potentially Involved in the Development of Sustained Hypertension in Obstructive Sleep Apnea ................................................................. 214
      3.6 Key Points ...................................................................................................................... 215
4
   Heart Failure .......................................................................................................................... 215
      4.1 Obstructive Sleep Apnea Prevalence in Patients with Heart Failure ............................ 215
      4.2 Characteristic Clinical Features of Obstructive Sleep Apnea in Patients with Chronic Heart Failure ............................................................................... 216
      4.3 Effects of Continuous Positive Airway Pressure Therapy ........................................... 218
      4.4 Mechanisms Potentially Involved in the Development of Heart Failure in Obstructive Sleep Apnea Patients ................................................................. 219
      4.4.1 Increased Blood Pressure and Other Cardiac Disorders ............................................ 219
      4.4.2 Chronic Intermittent Hypoxia ..................................................................................... 220
      4.4.3 Sympathetic Overactivation ......................................................................................... 221
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.4</td>
<td>Fluid Retention and Obstructive Sleep Apnea Severity</td>
<td>221</td>
</tr>
<tr>
<td>4.4.5</td>
<td>Ventricular Hypertrophy</td>
<td>222</td>
</tr>
<tr>
<td>4.4.6</td>
<td>Recurrent Exaggerated Negative Intrathoracic Pressure during Apnea-Ventilation Resumption Cycles</td>
<td>222</td>
</tr>
<tr>
<td>4.5</td>
<td>Diagnosis of Obstructive Sleep Apnea in Patients with Heart Failure</td>
<td>223</td>
</tr>
<tr>
<td>4.6</td>
<td>Key Points</td>
<td>223</td>
</tr>
<tr>
<td>5</td>
<td>Stroke</td>
<td>223</td>
</tr>
<tr>
<td>5.1</td>
<td>Prevalence of Obstructive Sleep Apnea in Patients with Stroke</td>
<td>223</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Clinical Studies</td>
<td>223</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Population Studies</td>
<td>224</td>
</tr>
<tr>
<td>5.1.3</td>
<td>Meta-Analysis of the Frequency of Sleep Apnea in Stroke and Transient Ischemic Attack</td>
<td>226</td>
</tr>
<tr>
<td>5.2</td>
<td>Effects of Obstructive Sleep Apnea on Stroke Outcome</td>
<td>226</td>
</tr>
<tr>
<td>5.2.1</td>
<td>Effects of Untreated Obstructive Sleep Apnea on Stroke Outcome</td>
<td>226</td>
</tr>
<tr>
<td>5.2.2</td>
<td>Effects of Treated Obstructive Sleep Apnea on Stroke Outcome</td>
<td>226</td>
</tr>
<tr>
<td>5.3</td>
<td>Characteristic Clinical Features of Obstructive Sleep Apnea in Patients with Stroke: Diagnosis of Obstructive Sleep Apnea in the Poststroke Period</td>
<td>228</td>
</tr>
<tr>
<td>5.4</td>
<td>Key Points</td>
<td>229</td>
</tr>
<tr>
<td>6</td>
<td>Coronary Artery Disease</td>
<td>230</td>
</tr>
<tr>
<td>6.1</td>
<td>Clinical and Epidemiological Studies</td>
<td>230</td>
</tr>
<tr>
<td>6.2</td>
<td>Day-Night Pattern of Myocardial Ischemia and Infarction in Obstructive Sleep Apnea Patients</td>
<td>230</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Myocardial Ischemia</td>
<td>230</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Myocardial Infarction</td>
<td>231</td>
</tr>
<tr>
<td>6.3</td>
<td>Coronary Artery Calcification in Obstructive Sleep Apnea Patients</td>
<td>231</td>
</tr>
<tr>
<td>6.4</td>
<td>Effect of Obstructive Sleep Apnea Treatment on Nonfatal Coronary Events</td>
<td>234</td>
</tr>
<tr>
<td>6.5</td>
<td>Mechanisms Potentially Linking Obstructive Sleep Apnea and Coronary Artery Disease</td>
<td>235</td>
</tr>
<tr>
<td>6.6</td>
<td>Assessment of Obstructive Sleep Apnea in Coronary Artery Disease Patients</td>
<td>235</td>
</tr>
<tr>
<td>6.7</td>
<td>Key Points</td>
<td>235</td>
</tr>
<tr>
<td>7</td>
<td>Pulmonary Hypertension and Right Ventricular Dysfunction</td>
<td>236</td>
</tr>
<tr>
<td>7.1</td>
<td>Pulmonary Hypertension</td>
<td>236</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Definition of Pulmonary Hypertension</td>
<td>236</td>
</tr>
<tr>
<td>7.1.2</td>
<td>Clinical Studies</td>
<td>236</td>
</tr>
<tr>
<td>7.1.3</td>
<td>Therapeutic Studies</td>
<td>237</td>
</tr>
<tr>
<td>7.2</td>
<td>Right Ventricular Dysfunction</td>
<td>238</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Clinical Studies</td>
<td>238</td>
</tr>
<tr>
<td>7.2.2</td>
<td>Therapeutic Studies</td>
<td>238</td>
</tr>
<tr>
<td>7.3</td>
<td>Potential Mechanisms That May Lead to Pulmonary Hypertension and Right Ventricular Dysfunction in Obstructive Sleep Apnea</td>
<td>239</td>
</tr>
<tr>
<td>7.4</td>
<td>Key Points</td>
<td>240</td>
</tr>
<tr>
<td>8</td>
<td>Arrhythmias</td>
<td>240</td>
</tr>
<tr>
<td>8.1</td>
<td>Atrial Fibrillation</td>
<td>240</td>
</tr>
<tr>
<td>8.1.1</td>
<td>Clinical, Epidemiological and Therapeutic Studies</td>
<td>240</td>
</tr>
<tr>
<td>8.1.2</td>
<td>Mechanisms Potentially Linking Obstructive Sleep Apnea with Atrial Fibrillation</td>
<td>243</td>
</tr>
<tr>
<td>8.1.3</td>
<td>Key Points</td>
<td>246</td>
</tr>
</tbody>
</table>
Preface

The relationship between obstructive sleep apnea (OSA) and cardiovascular and metabolic diseases is a topical subject of concern to a wide range of specialists and general practitioners. In the last 2 decades, significant advances have been made in the understanding of factors contributing to, and the complications of, OSA. With the increase in the population levels of obesity (the greatest risk factor for OSA), the effects of OSA are likely to increase in the coming years; therefore, there is a corresponding need for wider education concerning this disease. The goal of this peer-reviewed book is, therefore, to provide a comprehensive and clear review of the current knowledge of the relationship between OSA and cardiovascular and metabolic diseases.

Separate chapters describe the definition, symptoms and sequelae of OSA in adults, and the diagnostic strategies and treatment options for adults with OSA according to the American Academy of Sleep Medicine (chapter 1). The pathogenic mechanisms by which OSA may contribute to the development and progression of cardiovascular and metabolic disorders, including inflammation, oxidative stress and thrombosis, are also explored (chapter 2). In addition, special emphasis has been given to the relationship between OSA and obesity, alterations in glucose metabolism, and metabolic syndrome and liver injury (chapter 3). The evidence for a relationship between OSA, endothelial dysfunction, autonomic dysfunction and cardiovascular disorders is also presented, and the results of studies investigating the effect of treatment for OSA on the concomitant cardiovascular disease are discussed (chapters 4–6). The chapters tend to emphasize human rather than basic animal data; nevertheless, animal data are cited, particularly, for example, with reference to the difficulties associated with unraveling the mechanisms of metabolic dysfunction in obese populations, in which the prevalence of comorbidities and potential confounding factors is high.

Each chapter summarizes the essential information and is illustrated by tables and figures, many of which are drawn from the articles cited in the text. It is my hope that these easy-to-read tables and figures will aid the readers in their understanding of the complex systemic interactions involved in this disease.

Alain Lurie, Paris
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