

Respiratory Medicine

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Keith C. Meyer • Ganesh Raghu
Editors

Gastroesophageal Reflux and the Lung

 Humana Press

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ISBN 978-1-4614-5501-1 ISBN 978-1-4614-5502-8 (eBook)
DOI 10.1007/978-1-4614-5502-8
Springer New York Heidelberg Dordrecht London

Library of Congress Control Number: 2012951839

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*Keith Meyer and Ganesh Raghu dedicate
this book to their families.*

*Keith Meyer to his wife, Emily, and his
children, David, Beth, and Melanie; Ganesh
Raghu to his parents; his wife and soul mate,
Tina; and his children, Shanthi (Peace),
Preethi (Love), Raghavendra Amit (Infinity),
and Anand (Joy).*

Preface

Considerable advances have been made over the past decade in understanding the physiology and pathophysiology of swallowing and foregut function, and a considerable amount of knowledge has accumulated that links swallowing disorders or gastroesophageal reflux (GER) to a variety of upper and lower respiratory tract syndromes and disease. While the processes of swallowing and breathing go unnoticed under normal physiological and anatomical conditions, aberrant foregut function can allow an excessive amount of gastric contents to reflux into the esophagus and induce a number of reflux-associated syndromes should refluxed secretions reach the larynx, pharynx, and airways. Under conditions of normal foregut function, the esophagus would not serve as an escape passage for gastric/foregut secretions and ingested food and/or fluids to reflux when the proximal gastrointestinal tract is functioning normally with intact upper and lower esophageal sphincter function. Significant retropulsion of gastric or gastroduodenal contents (which are usually acidic with low pH but can be weakly acidic or nonacidic and contain bile acids) into the esophagus places individuals at risk for esophageal disorders (e.g., ulceration, Barrett's esophagus) and is commonly recognized as gastroesophageal reflux disease (GERD), a term that is also used when GER is linked to a variety of respiratory syndromes and disorders. In addition to the consequences of excessive (abnormal) GER, the lungs are also at risk for aspiration from above due to disorders of deglutition or when food and fluids back up in the esophagus due to esophageal motility disorders that are often associated with connective tissue disorders.

This book is intended to provide a comprehensive review of current knowledge concerning normal deglutition and foregut digestive processes and examine how abnormalities of swallowing or excessive/abnormal GER can lead to respiratory tract dysfunction and lung disease. The first two chapters provide a review of current knowledge concerning deglutition, foregut function, and GER. Dr. Allen discusses the physiology of normal swallowing mechanisms and the causes and consequences of various abnormalities of deglutition in Chap. 1. As discussed by Dr. Johnston in Chap. 2, what separates benign reflux events from events that can cause esophageal damage and respiratory tract complications is the relative paucity

of such events in normal individuals and the rapid buffering and clearance of refluxed gastric/gastroduodenal secretions from the esophagus that occur in normal, healthy individuals.

Drs. Oelschlager and Auyang provide a review of current, state-of-the-art approaches to the diagnosis of GER and highlight problems and pitfalls in making a secure diagnosis of abnormal GER in Chap. 3. Drs. Spahr and Maguire review current knowledge of the link between GER and lung disorders in children in Chap. 4 and discuss the difficulty faced by pediatricians in determining whether GER, which is relatively common in normal infants and young children, is the cause of a respiratory disorder. Drs. Malo, Knox, and Fass examine foregut dysfunction and GER syndromes on the opposite end of the age spectrum in Chap. 5 and note that hiatal hernias are frequently present in the elderly and that GERD becomes more prevalent and problematic in older individuals.

Chapters 6–11 discuss the link between GER and a spectrum of lower respiratory tract disorders. Drs. Hayat, Yazaki, and Sifrim examine the role of GER in chronic cough and vocal cord dysfunction syndromes in Chap. 6, and Drs. Akkanti and Hanania review current knowledge that links GER to asthma and COPD in Chap. 7. Significant GER is not uncommon during sleep, and Dr. Harding comprehensively examines the link of sleep-related GER to GER symptoms, inefficient sleep, and sleep-disordered breathing in Chap. 8.

GER is increasingly recognized as a major problem in bronchiectasis and interstitial lung disease (ILD), has been linked to airway and parenchymal damage, and may play an important role in driving the destructive processes that occur in these disorders and precipitate disease exacerbations. Dr. Dupont examines the role of acid and nonacid GER in the pathogenesis and progression of bronchiectasis in patients with or without cystic fibrosis, and Drs. Meyer and Raghu discuss the role of esophageal motility disorders and GER in ILD and its increasingly recognized link to the pathogenesis of idiopathic pulmonary fibrosis (IPF). Finally, the importance of GER in lung transplantation and, especially, its role in triggering bronchiolitis obliterans syndrome are discussed by Drs. Meyer and Maloney in Chap. 11.

The last two chapters of the book focus on pharmacologic and surgical therapies for GERD. Dr. Gaumnitz discusses the status of current drug therapies in Chap. 12, and Drs. Hinojosa and Pellegrini examine the various endoscopic and surgical techniques that are now available to prevent reflux from stomach to esophagus in Chap. 13.

We sincerely hope that readers will find the contents of this book to be informative and useful to them in improving their knowledge of the role of GER in upper and lower respiratory tract disorders and assisting them in the management of patients who may have GERD-associated respiratory disease.

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