Approach to Internal Medicine

A Resource Book for Clinical Practice

David Hui · Alexander A. Leung · Christopher Ma *Editors*

Fifth Edition

Springer

Editors
David Hui
The University of Texas MD
Anderson Cancer Center
Houston, TX
USA

Christopher Ma
University of Calgary
Calgary, AB
Canada

Alexander A. Leung
University of Calgary
Calgary, AB
Canada

ISBN 978-3-030-72979-0 ISBN 978-3-030-72980-6 (eBook)
https://doi.org/10.1007/978-3-030-72980-6

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Chronic Cough

Gibson et al. *Chest* 2016;149(1)

DIFFERENTIAL DIAGNOSIS

NON-PULMONARY—GERD, reflux-cough syndrome, ACE inhibitors, occult congestive heart failure

PULMONARY

- **AIRWAY**—post-nasal drip/upper airway cough syndrome, asthma, chronic bronchitis, non-asthmatic eosinophilic bronchitis, bronchiectasis, neoplasm, foreign body, post-viral
- **PARENCHYMA**—occult infection, occult aspiration, interstitial lung disease, lung abscess
- **VASCULAR**—early pulmonary hypertension

PATHOPHYSIOLOGY

DEFINITION OF CHRONIC COUGH—>3 weeks; unexplained chronic cough is defined as cough persisting >8 weeks

COMPLICATIONS OF CHRONIC COUGH—exhaustion, insomnia, anxiety, headaches, dizziness, hoarseness, musculoskeletal pain, urinary incontinence, abdominal hernias

COUGH REFLEX

- **AFFERENT**—chemical or mechanical stimuli → cough receptors in the epithelium of the upper and lower respiratory tracts, pericardium, esophagus, diaphragm, and stomach → afferent nerves (vagus, glossopharyngeal, trigeminal, and phrenic) → cough center in the medulla
- **EFFERENT**—cough center with cortical input → efferent signals travel down the vagus, phrenic, and spinal motor nerves → expiratory muscles → cough

INVESTIGATIONS

BASIC

- **MICROBIOLOGY**—sputum Gram stain/AFB/C&S
- **INDUCED SPUTUM ANALYSIS FOR EOSINOPHIL COUNT**
- **IMAGING**—CXR (order inspiratory and expiratory views if foreign body aspiration or endobronchial lesion suspected); consider CT chest if indicated
- **SPIROMETRY/PFT**

SPECIAL

- **SINUS IMAGING**
- **BRONCHOPROVOCATION TESTING (i.e. METHACHOLINE CHALLENGE)**
- **ESOPHAGEAL PH MONITORING**

MANAGEMENT

TREAT UNDERLYING CAUSE—switch to ARB if ACE inhibitor suspected as cause of chronic cough; smoking cessation if chronic bronchitis

SYMPTOM CONTROL

- **PHARMACOLOGIC MEASURES**—*benzonatate* 100 mg PO q8h PRN, *codeine* 7.5–60 mg PO BID, *dihydrocodeine* 5–10 mg PO TID, *hydrocodone* 5 mg PO BID, *morphine* 7.5–15 mg PO BID, *dextromethorphan* 10–30 mg PO q6h, *sodium cromoglycate* 10 mg NEB QID, *levodropropizine* 75 mg PO TID, *guaifenesin* 200–400 mg PO q4h or 600 mg PO BID, *gabapentin* 100–300 mg PO TID
- **NON-PHARMACOLOGIC MEASURES**—consider endobronchial therapy for cancer airway lesions, high intrathoracic vagotomy in refractory severe cases

SPECIFIC ENTITIES

POST-NASAL DRIP/UPPER AIRWAY COUGH SYNDROME

- **PATHOPHYSIOLOGY**—secretions in the upper airway stimulate cough receptors within the pharyngeal or laryngeal mucosa
- **CAUSES**—allergic, perennial non-allergic rhinitis, vasomotor rhinitis, acute nasopharyngitis, sinusitis
- **DIAGNOSIS**—non-specific findings; consider sinus imaging

SPECIFIC ENTITIES (CONT'D)

- **TREATMENTS**—reduce irritant exposure, antihistamine-decongestant combinations (*diphenhydramine* 25–50 mg PO q4–6 h PRN, pseudoephedrine, *ipratropium nasal spray* 0.03% 2 sprays/nostril BID–TID, nasal corticosteroids, nasal saline rinses BID), surgical correction for anatomical abnormalities