CME CAST EPISODE 1

The Pharmacist's Role in Improving Early Diagnosis for Patients with Chronic Cough

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Learning Objective 1

Recognize the clinical presentation of chronic cough.

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Learning Objective 2

Provide guidance to patients about appropriate actions to take to receive an accurate diagnosis and treatment plan for chronic cough.

Case Study: Lisa

- Lisa M. presents to local pharmacy asking the pharmacist if there is anything new or different that she can try for cough
- She is a 61 y/o nonsmoking female
- The pharmacist recognizes the patient as a frequent visitor but was unaware of the reasons for trying the various therapies over the years

Case Study: Lisa (cont.)

Symptom/Characteristics:

- Dry cough prompted by throat tickle
- Minimal cough at night
- “Postnasal drip” but has no mucous
- ~3 years of continuous cough with onset after URI
  - Aggravating factors: Triggered by talking, scents/odors, and by changes in temperatures
- Burden:
  - Incontinence frequently induced by cough
  - Feels socially isolated, anxious, and can be depressed
  - Family members and co-workers have expressed annoyance

URI = upper respiratory infection

Case Study: Lisa (cont.)

Diagnostic and Therapeutic Journey

- Evaluated by PCP, two ENT's, GI, Pulmonary, and Allergy Specialists
- Unresponsive to course of PPI's as well as intranasal and inhaled steroids and antihistamines. Has tried OTC cough products containing dextromethorphan, guaifenesin, and codeine per pharmacist recommendations.
- Remitting Factors:
  - Finds throat lozenges and sipping on water helpful
  - Responds briefly to prednisone burst

OTC = over-the-counter; PPIs = proton pump inhibitors

Cough Characterization by Duration

Classification	Duration	Potential Etiology
Acute Cough	< 3 weeks	Upper respiratory tract infection Pneumonia Asthma and COPD exacerbation Heart failure exacerbation Malignancy Foreign body
Subacute Cough	3-8 weeks	Post-viral Bacterial sinusitis Bordetella pertussis, chlamydia, mycoplasma
Chronic Cough	> 8 weeks	Drug induced (ACE inhibitor) GERD COPD/Asthma/Bronchitis Upper airway cough syndrome-rhinosinusitis Refractory/Unexplained Chronic Cough

ACE = angiotensin-converting-enzyme; COPD = chronic obstructive pulmonary disease; GERD = gastroesophageal reflux disease

Braman SS. Chest. 2006;129(1):138S-146S.; Gibson P, et al. Chest. 2016;149(1):27-44.; Irwin RS, et al. Chest. 2006;146(4):885-9.

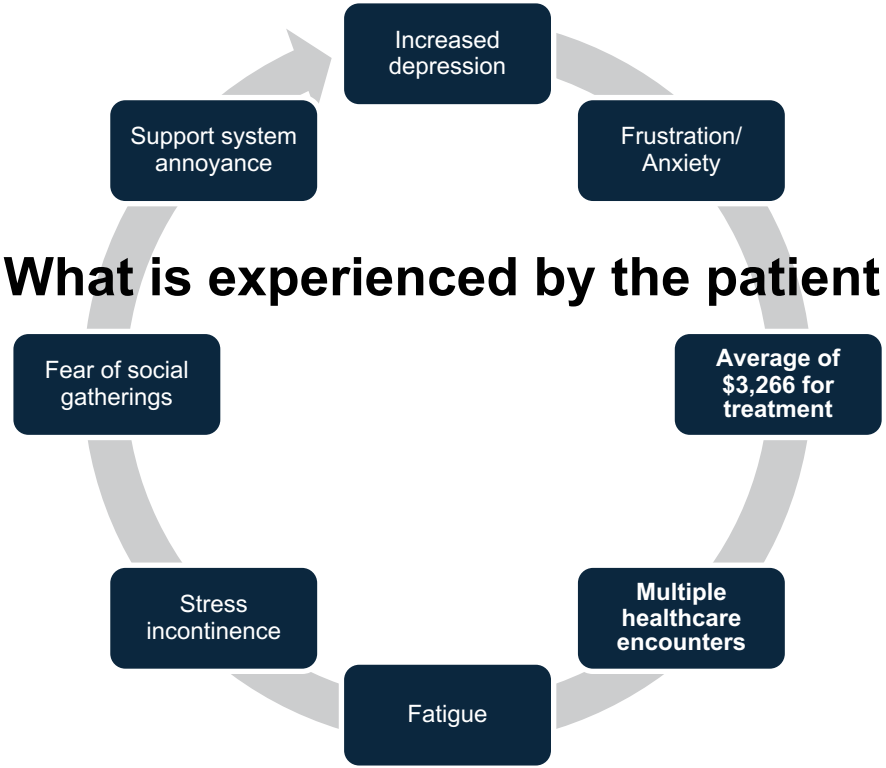
Red Flags: Alarm Symptoms and Findings in Cough

- **Cough over 3 weeks**
- Hemoptysis
- **Smoker** over 45 years of age with a new cough, altered cough, or cough with voice disturbance
- Prominent **dyspnea,** especially at rest or at **night**
- Substantial **sputum** production: more than one tablespoon a day
- Hoarseness
- Systemic symptoms: fever, weight loss
- Symptoms of GERD
- Recurrent pneumonia
- **Have you seen a health care provider for your cough?**

Gibson PG, et al. *Med J Aust.* 2010;192(5):265-271.;
Krinsky D, et al. *Handbook of Nonprescription Drugs: An Interactive Approach to Self-Care.* 19th ed.. 2017.

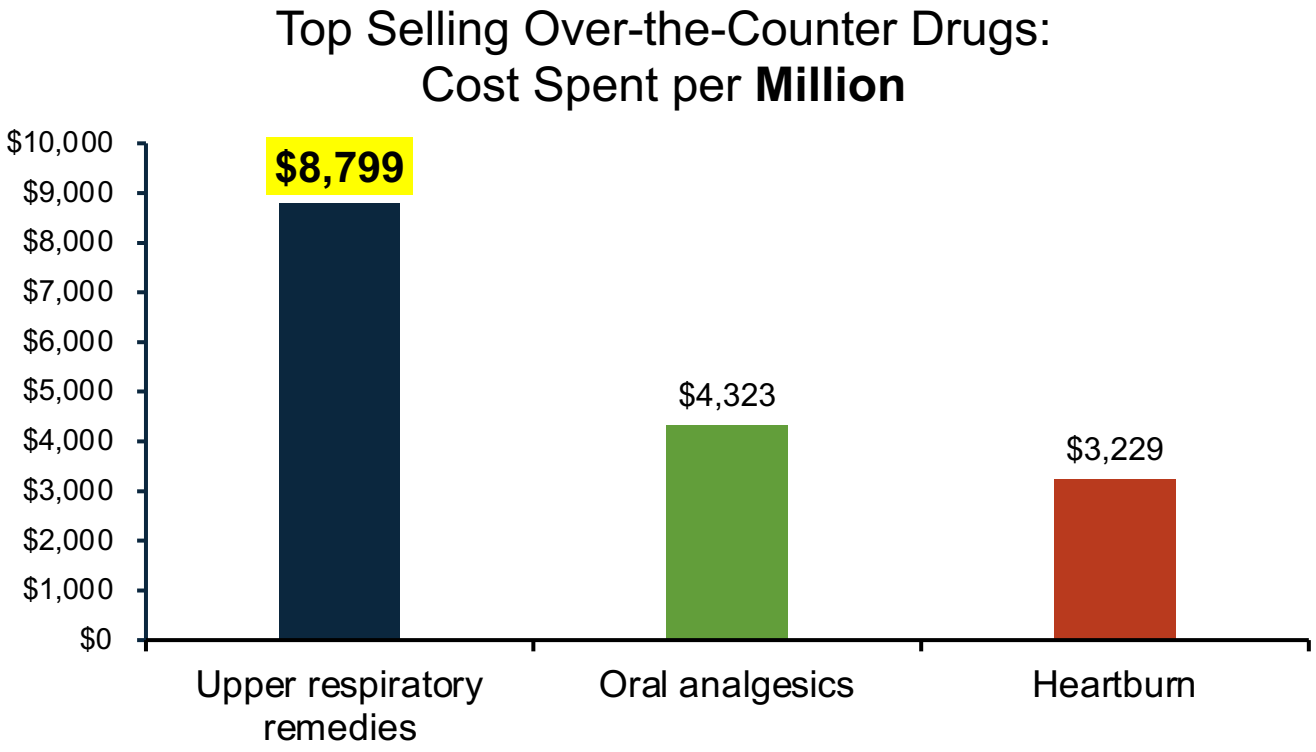
The Burden of Cough: Complications

What is seen at the pharmacy



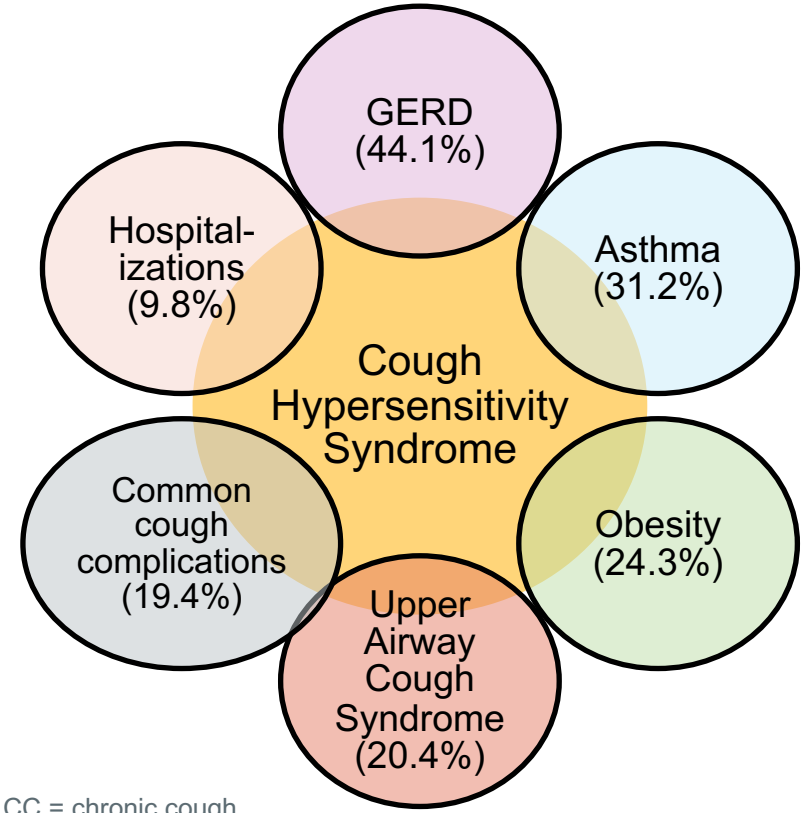
Chamberlain SA, et al. *Lung*. 2015; 193:401-408.; Davis D. *Am J Manag Care*. 2020;26(11 Suppl):S246-S250.; French C, et al. *Arch Intern Med*. 1998;158:1657-1661.; Dicpinigatis PV, et al. *Chest J*. 2006;130-1839-1843.; McGarvey L, et al. *Cough*. 2006;2-4.

The Burden of Cough: In the Pharmacy



Stone K. Verywellhealth. 2020. https://www.verywellhealth.com/top-selling-otc-drugs-by-category-2663170. Accessed June 14, 2021.

The Burden of Cough: By the Numbers



- CC cohort of 11,290 patients, ~61 yo, and 66.7% female
- Cohort revealed:
  - Patients with CC, respiratory disease and GERD exhibited the most common cough comorbidities, specialist care, **and dispensed respiratory and non-respiratory medications including proton pump inhibitors, antitussives, psychotherapeutics, oral corticosteroids, and antibiotics** compared with the other subgroups.
- Cough is the most common reason for primary care visits, **with up to 85% receiving prescriptions for treatment.**

CC = chronic cough

Desola D. Am J Manag Care. 2020;26(11 Suppl):S246-S250).; Ziegler RS, et al. J Allergy Clin Immunol Pract. 2020;8(5):1645-1657.

The Cough that Just Doesn't Go Away…

- **Refractory Chronic Cough (RCC)**: a cough that persists despite guideline-based treatment for underlying conditions such as GERD, asthma, and rhinosinusitis
- **Unexplained Chronic Cough (UCC)**: a cough that persists longer than 8 weeks, and remains unexplained after investigation

RCC and UCC may be due to Cough Hypersensitivity Syndrome

Irwin SR, et al. *Chest,* 2018;153(1):196-209.; Song WJ, Morice AH. *Allergy ASthma Immunol Res.* 2017;9(5):394-402.

Anatomy Of Cough

- **Protective cough reflex**
  - “True” cough reflex
  - Protect against aspiration of objects and acid
  - Conscious and anesthetized-difficult to suppress

- **Irritative cough reflex/response**
  - Urge to cough leading to a “cough response”
    - “The tickle in the back of my throat”
  - Chemical irritants and lung inflammation
    - Respiratory virus potent trigger
  - Conscious, but not anesthetized

Cough Hypersensitivity Syndrome

- Primarily women over the age of forty
- Increased “urge to cough” sensations leading to “dry” cough continuum from mild throat clear to spasmodic cough
- Cough increases with talking and odors (allotussia), exposure to irritants (hypertussia), and usually decreases/extinguishes at night and with exercise
- May have GERD, asthma, and rhinitis as a trigger mechanism
- 96% of patients with unexplained chronic cough have a tickle in their throat
- Poor response to current cough agents or unacceptable side effects

Dicpinigaitis P. *Am J Manag Care.* 2020;26(11 Suppl):S232-S238.; Morice AH, et al. *Lung.* 2021;199(2):121-129.

New Treatments in Development

- There is a need to address unmet needs in cough
- Designed to target specific pathways of cough pathophysiology
- Promising treatments in development

The Long Journey to Lisa's Diagnosis

- Evaluated by primary care MD, two ENTs, GI, Pulmonary, and Allergy.
- Unresponsive to multiple therapies including intranasal and inhaled steroids, antihistamines, courses of PPIs, and multiple OTC options.
- Family and friends likely encouraged the patient to seek additional care.
  The pharmacist continued to see the patient acutely for cough given OTC trials.
- Finds throat lozenges and sipping on water helpful. Responds briefly to prednisone burst and codeine and hydrocodone.
- The pharmacist recognizes the patient as a frequent visitor but was unaware of the reasons for trying the various therapies over the years.

Who should these patients seek help from? In what order?

For a pharmacist, is it important to know why a patient is receiving a medication? Could that have helped this patient via more effective counseling?

How do we do a better job of advocating for patients with chronic cough?

Are these adequate solutions to this problem? How does this reveal the unmet need in current cough treatments?

This patient started in the pharmacy – how many patients are like this? How can pharmacists step up in the care of a patient with chronic cough? Medication expert? Knowing what needs to be ruled out? Making action plan for additional care?

SMART Goals

Specific, Measurable, Attainable, Relevant, Timely

- Talk to patients presenting with cough prior to recommending cough products
- Facilitate patients who may have chronic cough to next steps by making an action plan to see a provider
- Talk to patients about cough hypersensitivity syndrome

Don't Miss…

EPISODE 2

A Guide to New and Emerging Treatment Options for Chronic Cough

www.CMEOutfitters.com

Additional Resources

Visit **www.cmeoutfitters.com** for clinical information and certified educational activities

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