

EVALUATION AND MANAGEMENT OF COUGH
MEDPLEX CLINIC TALK
5/2002 - J. LEWIS

1. Causes and Treatment

- A. Acute - less than 3 weeks; lab and XR usually not required
 - 1) Consider smoking and environmental allergens, ACEI
 - 2) URI - Intranasal ipratropium or dexbrompheniramine plus pseudoephedrine (Dimetapp). Treatment unproven.
 - 3) Sinusitis - Decongestants. Add antibiotics if severe.
 - 4) Pertussis - Suspect if epidemic or nausea/vomiting with cough. Erythromycin or Septra
 - 5) Allergic rhinitis - antihistamines
 - 6) Acute bronchitis - Ventolin
 - 7) Other - pneumonia, LV failure, asthma, aspiration

- B. Subacute (3-8 weeks)
 - 1) Postinfectious (postnasal drip, tracheobronchitis, rhinitis) - dexbrompheniramine plus pseudoephedrine, intranasal ipratropium, Ventolin, or 3 days Prednisone
 - 2) Asthma - Ventolin, inhaled steroids
 - 3) Pertussis - see above

- C. Chronic (8+ weeks)
 - 1) 95% are postnasal drip from rhinitis or sinusitis, GERD, chronic bronchitis, bronchiectasis, eosinophilic bronchitis, ACEI use, asthma, combined causes. Smoking and environmental allergens may be causative also.
 - 2) 5% - miscellaneous; bronchogenic cancer, sarcoid, interstitial lung disease, carcinomatosis, LV failure, aspiration, psychogenic.

2. Evaluation of Chronic Cough

- A. Careful H and P, CXR, stop ACEI and smoking.
- B. If suspected PND (postnasal drip) from allergic and nonallergic rhinitis or sinusitis, treat depending on cause with antihistamines, Dimetapp, or Afrin/Dimetapp/ATBs. Suspect PND if oropharyngeal cobblestoning. Consider sinus XR.
- C. Methacholine challenge to exclude asthma.
- D. Empiric treatment for GERD. May take 2-3 months to improve. Can exclude diagnosis later with 24 hour pH probe.
- E. If sputum, check for eosinophils. In absence of wheezing, eosinophils suggest eosinophilic bronchitis.

3. Test Questions

- A. A 42 y.o. man presents with a 3-month history of a persistent nonproductive cough. The cough occasionally awakens him at night. He has had no wheezing, shortness of breath, heartburn, or chest pain. On physical examination, he appears healthy. His temperature is 98, pulse 80, RR - 16, and blood pressure 122/78. He has mild oropharyngeal cobblestoning. Examination of the heart and lungs is normal. CXR is normal. Which of the following is the next best step in the management of this patient's cough?
- 1) Trial of dextromethorphan-containing preparation
 - 2) Trial of decongestant-antihistamine preparation
 - 3) Trial of a proton pump inhibitor
 - 4) Sinus radiographs
 - 5) Methacholine challenge test
- B. A 35 y.o. hypertensive smoker comes to you because of a chronic cough occurring for about 3 months. The cough was not preceded by a URI. The only medication is Lisinopril. On physical examination HEENT, chest, and heart examinations are normal. Place in order the following evaluation and management steps; some may be done simultaneously.
- 1) Methacholine challenge
 - 2) CXR - PA & lateral
 - 3) Sputum for eosinophils
 - 4) Sinus X-rays
 - 5) Trial of antihistamine/decongestants
 - 6) Trial of nasal decongestant/ATBs
 - 7) Esophageal pH monitoring
 - 8) Referral to pulmonary physician
 - 9) Trial of GERD rx.
 - 10) Smoking cessation
 - 11) Stop ACEI

References:

1. Irwin R, Madison J. The diagnosis and treatment of cough. *NEJM* 2000;343:1715-1721.
2. Schroeder K, Fahey T. Systematic review of randomised controlled trials of OTC cough medicines for acute cough in adults. *BMJ* 2002;324:1-6.
3. Gonzales R, Sande M. Uncomplicated acute bronchitis. *Ann Intern Med* 2000;133:981-991.
4. Goroll A, Mulley A. Evaluation of chronic cough in Primary Care Medicine. Lippincott, Williams, and Wilkins. 2000. pp. 271-276.

Answer Sheet

3.A. 2) Trial of decongestant-antihistamine preparation

Postnasal drip syndrome is the most common cause of persistent cough, followed by asthma and gastroesophageal reflux. In the absence of symptoms or signs suggesting the latter two causes, and with some abnormality of the nasal mucosa detected, a treatment trial of a decongestant-antihistamine is the best method both to establish the diagnosis and to treat the condition. Treatment trials of proton-pump inhibitors or inhaled bronchodilators might be appropriate if the trial of a decongestant-antihistamine is unsuccessful, or if the history and physical examination suggest the presence of asthma or gastroesophageal reflux.

Dextromethorphan is commonly used for symptomatic relief, but there is no evidence that it is effective in this situation, and administering it would not help to establish a diagnosis. Additional tests, including chest computed tomography, bronchoscopy, sinus radiographs, or methacholine challenge, are commonly ordered, but such tests have a low yield in the absence of specific clinical findings suggesting lung or sinus disease.

3.B. Note: This set of answers is not necessarily the only approach.

- 1) 2.
- 2) 1.
- 3) 6.
- 4) 3.
- 5) 2.
- 6) 4.
- 7) 7.
- 8) 8.
- 9) 5.
- 10) 1.
- 11) 1.