

CLINICAL PEARL

Empiric therapy and management of children should NOT be altered regardless of the immunization status or number of doses received of the conjugated pneumococcal vaccine (Prevnar).

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ACUTE BRONCHITIS

Mr. Comeaux's Cough. Level II

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LEARNING OBJECTIVES

After completing this case study, the reader should be able to:

- Identify signs and symptoms of acute bronchitis and their duration, and evaluate relevant laboratory values in order to rule out more serious illness such as pneumonia for elderly patients.
- Discuss why obtaining sputum cultures and Gram stains is not relevant in evaluation and treatment of patients with uncomplicated acute bronchitis.
- Discuss why antibiotic treatment is not indicated for uncomplicated acute bronchitis.
- Identify clinical cases when an elderly patient should be reevaluated for another ongoing illness that has been previously undetected.
- Select nonpharmacologic and pharmacologic treatment alternatives for supportive care, incorporating new data regarding efficacy.

PATIENT PRESENTATION

■ Chief Complaint

"My father has been coughing and wheezing for several days. He has been staying with my brother for the past month, but he didn't even take my father to the doctor, let alone start him on antibiotics."

■ HPI

Kathryn Comeaux appears distraught and hurried as she brings her father, Cole Comeaux, into the primary care clinic. She states that her father, a 63-year-old widower, has been complaining of a productive, purulent cough, wheezing, and rhinorrhea for the past 5 days. Upon questioning the patient, Mr. Comeaux denies that he has had any fever, chills, or myalgia. He also insists that the only problem he has now is the cough, and the wheezing and rhinorrhea have almost stopped. He states that, besides having "children who constantly bicker with each other," he is almost completely free of problems and is "feeling much better than before, thank you very much."

■ PMH

Hypertension \times 10 years
Diabetes \times 5 years
Hyperlipidemia \times 2 years

■ FH

The patient's wife passed away at age 60 (6 months ago) due to a stroke, and his father and mother both lived to be in their 90s and died of "natural causes." He was vaccinated for pneumonia last year.

■ SH

Mr. Comeaux's children, both divorced, have taken turns letting him live with them after the death of their mother, since he has no gainful employment and could not keep up with his house mortgage. He used to write children's books, including the Boudreaux's Bayou Adventures series, but his last meaningful project was over a decade ago. He spends most of his time reading and smoking Barrington cigarettes (1 ppd \times 30 years). Also, he admits that he would like to quit before he starts having any chronic lung problems. He tried quitting 1 year ago and was smoke-free for 2 days, but he could not tolerate the itchiness that the nicotine patches caused. Once he stopped using the patches, he started smoking again. He denies any alcohol use.

This month is his daughter's turn to serve as caretaker, but she is distressed that she will have to send him to a senior daycare center during the day while she starts her new job as a waitress at a local restaurant that serves Cajun cuisine. She is also upset because she thinks that her brother has not been taking care of their father well, since he did not take Mr. Comeaux to the doctor, let alone start him on antibiotics.

■ Meds

Lisinopril 40 mg daily
Metformin 1,000 mg BID
Simvastatin 20 mg daily

Note: This is patient's current list over the past 6 months. He is unsure what he took in the past because his wife used to take care of his medication responsibilities.

■ All

NKDA

■ ROS

No fever, chills, myalgia, chest pain, or shortness of breath; no nausea, vomiting, or diarrhea

■ Physical Examination

Gen

Well-developed, overweight male in NAD; overall demeanor seems slightly disheartened, but he is communicative and clean and well-shaven in appearance

VS

BP 142/92 mm Hg, P 84, RR 17, T 37°C; Wt 78 kg, Ht 5'6"

HEENT

PERRLA, conjunctivae clear, TMs intact. No epistaxis or nasal discharge. No sinus swelling or tenderness, and mucous membranes are moist. There are no oropharyngeal lesions. Wears dentures.

Neck

Supple without adenopathy or thyromegaly

Chest

(–) rhonchi, rales, increased fremitus, wheezing, or egophony

Heart

RRR without MRG

Abd

Soft, nontender, (+) BS

Ext

Pulses 2+ throughout

Neuro

A & O × 3; 2+ reflexes throughout, 5/5 strength; CN II–XII intact

■ Labs

Na 140 mEq/L	FPG 104 mg/dL	WBC $4.9 \times 10^3/\text{mm}^3$	<i>Fasting Lipid Profile</i>
K 4.5 mEq/L	A1C 6.4%	Segs 55%	<i>(from outpatient visit</i>
Cl 102 mEq/L	Hgb 14 g/dL	Bands 3%	<i>1 month ago):</i>
HCO ₃ 24 mEq/L	Hct 45%	Lymphs 33%	T. chol 150 mg/dL
BUN 14 mg/dL	RBC $5.0 \times 10^6/\text{mm}^3$	Monos 6%	TG 145 mg/dL
SCr 0.9 mg/dL	Plt $250 \times 10^3/\text{mm}^3$	Eos 2%	LDL 69 mg/dL
		Basos 1%	HDL 52 mg/dL

■ Sputum culture

No pathogens isolated

■ Assessment

A 63-year-old man with presumed acute bronchitis that is likely viral in origin

(+) smoking history; patient currently expressing desire to quit Diabetes and dyslipidemia—well controlled on current medication regimen

Family/caregiver issues that should be further explored and addressed

QUESTIONS**Problem Identification**

- Create a list of the patient's drug therapy problems.
- What information (signs, symptoms, laboratory values) indicates the presence or severity of acute bronchitis?
- Could any of the patient's symptoms have been caused by drug therapy?
- What additional information must be considered before deciding whether antimicrobial therapy is indicated?

Desired Outcome

- What are the goals of pharmacotherapy in this case?

Therapeutic Alternatives

- What nondrug therapies might be useful for this patient?
- What feasible pharmacotherapeutic alternatives are available for treatment of uncomplicated acute bronchitis?
- What are the most likely alternatives for the uncontrolled hypertension and smoking cessation attempt?
- What psychosocial considerations are applicable to this patient?

Optimal Plan

- What drugs, dosage form, dose, schedule, and duration of therapy are best to alleviate this patient's symptoms of acute bronchitis?
- What medication and dosage should be recommended for this patient's elevated blood pressure and smoking cessation plan?

Outcome Evaluation

- What clinical and laboratory parameters are necessary to evaluate the therapy for achievement of the desired outcome and to detect or prevent adverse effects?

Patient Education

- What information should be provided to the patient to enhance compliance, ensure successful therapy, and to minimize adverse effects?

■ FOLLOW-UP QUESTION

- What vaccinations should this patient receive?

■ SELF-STUDY ASSIGNMENTS

- Outline a treatment plan for a patient with chronic bronchitis presenting with an acute exacerbation, and contrast how this treatment would differ from treatment for a patient with a new diagnosis of acute bronchitis.
- Prepare a patient education pamphlet on acute bronchitis. Be sure to address why antibiotics are not usually first-line therapy for uncomplicated acute bronchitis.
- Discuss the differences in presentation and treatment, if any, of uncomplicated acute bronchitis for a child versus an elderly patient.

CLINICAL PEARL

Many patients who present with symptoms of acute bronchitis expect to receive an antibiotic. Therefore, time should be spent with the patient to explain what goes into the decision to not prescribe an antibiotic, and why excessive use of unnecessary antibiotics could harm the community at large.

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INFLUENZA: PREVENTION AND TREATMENT

Run Over by the Flu Level II

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LEARNING OBJECTIVES

After completing this case study, the reader should be able to:

- Recognize the clinical presentation of influenza.
- Discuss influenza-related complications.
- Develop a patient-specific treatment plan for influenza.
- Identify appropriate target populations for vaccination against influenza.
- Compare and contrast available options for preventing influenza.
- Discuss strategies to control influenza outbreaks.

PATIENT PRESENTATION

■ Chief Complaint

“I feel like a truck ran over me. Every muscle and bone hurts, and I am burning up.”

■ HPI

Vladimir Kharitonov is a 57-year-old Russian man who presents in mid-December to an Urgent Care clinic with complaints of 1 day history of fever, up to 39°C (102.2°F), muscle and bone aches, feeling tired, and headache. He has not had anything to eat in the past 12 hours due to loss of appetite and has not taken his glyburide this morning. He has been in his usual state of health previously and

reports that some of his coworkers have been sick with the “flu.” He decided to come to the clinic in hopes that an antibiotic can allow him to recover sooner since his son is getting married next weekend. He missed his regular physical appointment 1 month ago because he was “too busy.”

■ PMH

Type 2 DM for 14 years
Hyperlipidemia
HTN

■ SH

Lives at home with his wife; works full time; quit smoking 10 years ago, but smokes occasionally when really stressed or in a social setting; drinks alcohol in social a setting—mostly vodka.

■ Meds

Aspirin 81 mg po daily
HCTZ 25 mg po daily
Glyburide 5 mg po every morning
Metformin 1 g po twice daily
Lantus 35 units SC at bedtime
Lipitor 10 mg po daily
Centrum Silver 1 tab po daily

■ All

NKDA

■ ROS

Patient complains of severe fatigue, body aches, alternating between being too cold or sweating, sore throat, non-productive cough, and a headache. He denies nasal congestion, nausea, vomiting or diarrhea.

■ Physical Examination

Gen

WDWN overweight man in NAD

VS

BP 145/85, P 95, RR 18, T 38.5°C; Wt 95.5 kg, Ht 5'10"

Skin

Warm and moist secondary to diaphoresis, no lesions

HEENT

PERRLA; EOMI; TMs intact; wears dentures; mild pharyngeal erythema with no exudates

Neck/Lymph Nodes

Neck is supple and without adenopathy; no JVD

Lungs/Thorax

CTA; no crackles or wheezing

CV

RRR; Normal S₁, S₂; no murmurs

Abd

Soft, slightly obese; NT/ND; normal BS

Genit/Rect

Not performed

MS/Ext

Muscle strength and tone 4–5/5; no CCE