

## CASE 7 Isolated Systolic Hypertension; Diastolic Dysfunction

Level of  
Therapeutic  
Difficulty:

2

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### ▼ CASE 7 SCENARIO

<b>Patient and Setting:</b>	GB is a 76-year-old African-American female; new patient office visit
<b>Chief Complaint:</b>	Progressive dyspnea with recent exacerbation; recent ankle edema; orthopnea and PND
<b>History of Present Illness:</b>	Progressive exercise limitation, fatigue, and dyspnea for 1 year; recent onset of PND and orthopnea; inability to get shoes on; trouble climbing stairs; and a 2.5 kg weight gain over 2 months
<b>Past Medical History:</b>	Diagnosed by her physician as a borderline hypertensive; instructed to decrease salt intake by MD; OA for 20 years; uses acetaminophen 500 mg prn and OTC NSAIDs for OA; 1 week of indomethacin 25 mg t.i.d., obtained from a friend
<b>Past Surgical History:</b>	TAH / BSO, age 47
<b>Family/Social History:</b>	Widow, retired school teacher; Medicare recipient; (-) ETOH; (-) tobacco; 3 children who live out of town; active in church; eats at church 2 times per week and fast food 3 times per week; FH is (+) HTN, (-) CAD; mother died of CVA at age 65
<b>Medication History:</b>	Indomethacin 25 mg po t.i.d. for 1 week, obtained from a friend; acetaminophen 500 mg po prn; ibuprofen 200 mg po t.i.d.
<b>Allergies:</b>	NKDA

#### Physical Examination:

GEN: WD WN, thin female, noticeable SOB walking down hall

VS: T 37.4°C (Oral); BP 190/70; HR 90; RR 24; Ht 160 cm; Wt 59 kg (increased 2.5 kg over baseline 2 months ago)

HEENT: Bilateral corneal clouding; rapid carotid upstroke; no thyroidromegaly

COR: PMI nondisplaced; nl S1 and S2, S4; II/VI SEM

CHEST: Bibasilar rales

ABD: Hysterectomy scar

GU: Deferred

RECT: Deferred

EXT: 2+ pitting edema, knee crepitus

NEURO: Nonfocal, AO x 3

#### Results of Pertinent Laboratory Tests, Serum Drug Concentrations, and Diagnostic Tests:

BUN: 27

Cr: 1.9

ECG: NSR, remarkable for prominent voltage, left axis deviation

CXR: Pulmonary vascular congestion

UA: Trace protein, no casts

ECHO: Mild-moderate LV hypertrophy, E-A reversal with diastolic dysfunction, EF= 60

▼ **Case 7 SOAP NOTE**

**CASE 7 PROBLEM LIST**

**S:** \_\_\_\_\_

1. \_\_\_\_\_

**O:** \_\_\_\_\_

2. \_\_\_\_\_

**A: Problems:**

3. \_\_\_\_\_

1. \_\_\_\_\_

4. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**P: Problem 1:** \_\_\_\_\_

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**Problem 2:** \_\_\_\_\_

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**Problem 3:** \_\_\_\_\_

- \_\_\_\_\_

**Problem 4:** \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

CASE 7 QUESTIONS

**1. Which of the following mechanisms of action for ACE inhibitors reduces blood pressure in patients with isolated systolic hypertension? (EO-7)**

- a) Increases the concentration of angiotensin-II
- b) Decreases the available amount of bradykinins
- c) Improves vascular compliance
- d) Increases pulse rate

**2. When patients are taking an ACE inhibitor and a diuretic, the patient should be monitored for changes in: (EO-5,8)**

- a) Hemoglobin
- b) Renal function
- c) Platelet count
- d) Calcium level

**3. Which of the following psychosocial factors may affect GB's ability to follow a treatment plan? (EO-12,15)**

- a) Lives alone without support system
- b) Alcohol use
- c) Illiterate
- d) Cognitive impairment

**4. GB should be reevaluated in 2 weeks to follow up on: (EO-11)**

- a) Patient's lack of knowledge of disease and treatment
- b) Effectiveness of therapy
- c) Immediate effect of ACE inhibitor on blood pressure
- d) Rate of elimination of ACE inhibitor

**5. The mechanism of action of benazepril is: (EO-7)**

- a) Decreases preload and afterload
- b) Enhances conversion of angiotensin-I to angiotensin-II
- c) Lowers cardiac output
- d) Increases chymase activity

**6. The recommended dosing regimen for ACE inhibitors in a congestive heart failure patient is: (EO-6,8)**

- a) Dose titration to a maximum dose of enalapril 20 mg po b.i.d. or captopril 50 mg po t.i.d.
- b) Only 1 dose-titration step because blood pressure is already low in a heart failure patient before therapy is initiated

- c) ACE inhibitors should not be started until a patient has been aggressively diuresed.
- d) ACE inhibitors should not be used in a heart failure patient because blood pressure may drop too much.

**7. Which of the following influences the decision to treat GB with an ACE inhibitor? (EO-7,12)**

- a) Most effects of an ACE inhibitor are class effects, therefore substitution within the class can often occur with the goal of improving compliance and cost controlling.
- b) Dose titration of an ACE inhibitor is not an important consideration in congestive heart failure.
- c) Most effects of an ACE inhibitor are agent specific, therefore substitution cannot occur with the least costly compound.
- d) Cough is not a class effect, therefore after cough is recognized as a side effect patients may be safely switched to a different ACE inhibitor.

**8. Which of the following patient factors does not increase the risk of developing hypertension? (EO-1)**

- a) Gender
- b) Ethnicity
- c) Age
- d) Number of pregnancies

**9. Which of the following drug classes is least likely to have a negative impact on health-related quality of life? (EO-12,15,17)**

- a) Beta-blockers
- b) ACE inhibitors
- c) Centrally acting antihypertensives
- d) Selective alpha blockers

**10. When using a cost-minimization approach to select a drug class one should: (EO-4,8,15,16,17)**

- a) Be confident that outcomes are equivalent (class effect).
- b) Select product with lowest unit cost.
- c) Consider patient preference for treatment.
- d) Broadly define effectiveness.

*See test forms on page S163.*