

# *The Elderly Female Patient with Heart Failure*

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# DISCLOSURE STATEMENT

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## Name of Commitment

Research Grants/Contracts/Trial  
Steering Committee/Trial Adjudication  
Committee

Consultantship

## Name of Organization

Pfizer, Merck, NHLBI, CV Therapeutics,  
Abbott, Sanofi-Aventis, Eli Lilly

Women's Advisory Board, CV  
Therapeutics; Cardiovascular Advisory  
Board, Leadership Council for Improving  
Cardiovascular Care (LCIC) Executive  
Committee, Schering-Plough;  
AstraZeneca; Abbott; Merck; Pfizer

## The Elderly Female Patient with Heart Failure

# *Case Presentation (1)*

82 year old African American woman presents to ED with “smothering”

### HPI

- Very functional elderly woman
- Senior Citizen exercise classes at the “Y”
- Long history ↑ BP, treated, ± controlled
- 3-4 days ↑ dyspnea – sudden onset “smothering”
- Denies chest pain
- 1 wk NSAID use for exercise injury

## The Elderly Female Patient with Heart Failure

# *Case Presentation (2)*

### PH

- Always healthy although overweight
- ↑ cholesterol, many years, Rx'd with statin
- Possible diabetes

### FH

- Mother ↑ BP
- Father stroke
- Several siblings with ↑ BP

### SH

- Widowed, 3 children
- Retired bank clerk

## The Elderly Female Patient with Heart Failure

# *Case Presentation (3)*

### HABITS

- Never smoked cigarettes
- No alcohol
- No illicit drugs
- Overweight entire adult life
  - does not follow specific diet
  - exercises regularly

### CURRENT MEDICATIONS

- ASA 81 mg daily
- HCTZ 25 mg daily
- Metoprolol 25 mg daily
- Simvastatin 10 mg daily
- NSAID (past week only)

## The Elderly Female Patient with Heart Failure

# *Case Presentation (4)*

### PE

- Obese woman, acute respiratory distress
- Weight 185 lb, height 5' 5" (BMI 31.3)
- BP 170/95 mm Hg
- HR ST 120/min
- RR 22/min
- JVD to earlobe with large V wave
- Normal carotid pulsations, no bruit
- Bilateral rales 2/3 through lung fields
- Apex impulse sustained, non-displaced
- + S<sub>3</sub>, + S<sub>4</sub>, LLSB SM
- Abdominal examination unremarkable
- Normal peripheral pulses, 2+ ankle edema

## The Elderly Female Patient with Heart Failure

# *Case Presentation (5)*

WHICH INITIAL TESTS WOULD YOU ORDER

- EKG
- Cardiac biomarkers
- BNP
- Chest xray
- Echocardiogram
- Basic metabolic panel
- All of the above

## The Elderly Female Patient with Heart Failure

# *Case Presentation (6)*

### Test results (1)

- EKG
  - ST
  - LVH, secondary repolarization abnormalities
  - no acute changes
- Cardiac biomarkers
  - CK-MB, troponin – WNL x3
  - BNP = 870
- Chest xray
  - normal heart size
  - pulmonary edema
- Echocardiogram
  - ↑ LA size
  - normal LV chamber size
  - LVH

## The Elderly Female Patient with Heart Failure

### *Case Presentation (7)*

#### Test results (2)

- Glucose 121 mg/dl  
Hgb A1C 7.5%
- Lipids
  - TC 240 mg/dl
  - LDL-C 150 mg/dl
  - HDL-C 44 mg/dl
  - TG 155 mg/dl
- Creatinine 1.0 mg/dl
- Liver function tests WNL
- TSH WNL
- Electrolytes WNL

## The Elderly Female Patient with Heart Failure

### *Case Presentation (8)*

- Your clinical diagnosis is: Check all that apply
  - CHF secondary to diastolic dysfunction
  - CHF secondary to systolic dysfunction
  - Idiopathic pulmonary edema
  - CHF secondary to acute myocardial infarction
  - CHF likely precipitated by NSAID use
  - CHF likely precipitated by pneumonia

## The Elderly Female Patient with Heart Failure

### *Case Presentation (9)*

- Initial therapies should include: check all that apply
  - Diuretic
  - BP control
  - Lipid control
  - D/C NSAIDs
  - Diabetes management
  - ↓ Na, ↓ saturated fat diabetic diet
  - All of the above

## The Elderly Female Patient with Heart Failure

# *Case Presentation (10)*

- Subsequent management should include: check all that apply
  - Patient education: heart failure
    - Diet, including weight management
    - Continue exercise
    - Medications
    - Restrict NSAIDs
  - Plan for follow up

# *ARS Questions*

## The Elderly Female Patient with Heart Failure

# Heart Failure (1)

- ↑ Incidence and prevalence with ↑ age, even among elderly
  - Frequent normal LV systolic function, esp elderly women
- Cardiovascular Health Study (CHS)
  - Women: 4.1% age 70  
14.3% age 85
  - Men: 7.8% age 70  
18.4% age 85
- Systolic hypertension major modifiable risk factor
- Preponderance diastolic HF in CHS
  - 67% women
  - 42% men

## The Elderly Female Patient with Heart Failure

# *Heart Failure: Older vs Middle-Aged Patients*

<b>Characteristic</b>	<b>Elderly</b>	<b>Middle-Aged</b>
Prevalence	6-18%	< 1%
Gender	Predominantly women	Predominantly men
Etiology	Hypertension	Coronary heart disease
LV Systolic Function	Normal	Impaired
Co-morbidities	Multiple	Few

## The Elderly Female Patient with Heart Failure

# *Heart Failure (2)*

- ↓ Cardiovascular reserve → ↑ susceptibility to stressors
  - Uncontrolled hypertension
  - Myocardial ischemia
  - AF
  - Pneumonia
  - Iatrogenic volume overload
- Diagnosis challenging
  - Hx unreliable, gradual ↓ exercise tolerance
  - Atypical Sx: weakness, fatigue, somnolence, disorientation
  - Sx, exercise intolerance comparable – systolic, diastolic HF
  - ? BNP help
    - ↑ with systolic, diastolic HF

*Rich, Am J Geriatr Cardiol 2000;9(suppl):97*

*Clarkson, Circulation 1996;93:2037*

## The Elderly Female Patient with Heart Failure

# Heart Failure (3)

- Considerable morbidity
  - ↓ Exercise tolerance → ↓ independence
  - Frequent hospitalizations
  - ↓ Quality of life
  - ↑ Health care costs
- High mortality
  - 10 year mortality HF age 65-74
    - 50% women
    - > 70% men
  - Hospitalized elderly patients
    - 1 yr mortality 33%
    - 5 yr mortality 70-80%
    - mortality similar systolic, diastolic HF
  - More deaths normal systolic function with HF than without – LV function more often normal in elderly with HF
  - Address end-of-life issues

*Croft, Arch Intern Med 1999;159:505*  
*Senni, Circulation 1998;98:2282*  
*Gottdiener, Ann Intern Med 2002;137:631*

## The Elderly Female Patient with Heart Failure

# Heart Failure (4)

- Rx systolic HF elderly
  - ACE inhibitors – at least as effective as in younger → ↓ mortality, ↑ QOL
  - ARBs
    - elderly in ELITE-II, Val-HEFT, CHARM - Added
    - suitable alternative to ACE
  - Hydralazine-nitrate (AHeFT)
    - favorable in elderly, mean age 56
  - $\beta$  blocker – as effective as in younger
  - DIG study – similar older, younger
  - Aldosterone antagonists – few advanced elderly
    - RALES, EPHEBUS

*Pitt, Lancet 2000;355:1582*

*ACC/AHA 2005 Guidelines, JACC 2005;46:1116*

*Taylor, NEJM 2004;351:2049*

## The Elderly Female Patient with Heart Failure

# *Heart Failure (5)*

- Risks of beneficial therapies – older patients
  - First-dose hypotension with ACE inhibitors
  - ↑ Bradyarrhythmias with  $\beta$  blockade
  - ↑ Risk digoxin toxicity
  - ↑ Risk diuretic-induced renal insufficiency, electrolyte abnormalities
  - ↑ Susceptibility orthostatic hypotension
- Underutilization beneficial therapies
- Multidisciplinary approach
  - ↓ Hospitalizations
  - ↑ Quality of life
  - ↓ Costs
  - ↑ Survival

*Rich, N Engl J Med 1995;333:1190*  
*ACC/AHA 2005 Guidelines, JACC 2005;46:1116*