



## BRINGING CLINICIANS TOGETHER TO DISCUSS CURRENT DRUG THERAPY

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Based on

The following succinct analysis appeared in *Pharmacist's Letter*.

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### HEART FAILURE

Questions will come up about how to treat "DIASTOLIC" heart failure...or heart failure with a PRESERVED ejection fraction (HFpEF).

Over HALF of heart failure patients have this type, which is due to a stiff left ventricle that can't adequately fill.

This is different from "SYSTOLIC" heart failure...or heart failure with a REDUCED ejection fraction (HFrEF). These patients have a weak left ventricle that can't pump effectively.

There's less evidence for how to treat heart failure with a preserved ejection fraction...so the meds used may be different.

ACEIs or ARBs might reduce hospitalizations, but don't seem to decrease mortality...like they do in reduced ejection fraction HF.

Beta-blockers don't seem to reduce mortality either.

Recommend treating hypertension. Most patients with preserved ejection fraction HF have high BP...and BP control may slow progression.

Suggest BP meds based on the patient's other conditions, such as an ACEI or ARB for kidney disease...or a beta-blocker or amlodipine for angina. It's also okay to suggest a thiazide diuretic.

But expect to see less use of loop diuretics (furosemide, etc) in preserved ejection fraction HF. Loops may be needed for fluid overload, but overdoing it may worsen symptoms.

If these measures aren't enough, don't be surprised to see spironolactone added. Early evidence suggests it may be helpful for preserved ejection fraction HF...but hyperkalemia is common.

Don't recommend *Entresto* (sacubitril/valsartan) or *Corlanor* (ivabradine). It's too soon to say if they improve outcomes in this case.

Help manage other comorbidities that can aggravate heart failure symptoms...atrial fibrillation, COPD, obesity, sleep apnea, etc.

See our toolbox, *Improving Heart Failure Care*, for patient education tools, monitoring tips, and more about treatment options.

(For more on this topic, see Clinical Resource #330409 at [PharmacistsLetter.com](http://PharmacistsLetter.com).)

Primary Reference – Pfeffer MA, Claggett B, Assmann SF, et al. Regional variation in patients and outcomes in the Treatment of Preserved Cardiac Function Heart Failure With an Aldosterone Antagonist (TOPCAT) trial. *Circulation* 2015;131:34-42.

See LEADER NOTES for answers to discussion questions

Discussion Questions

**Overview of current therapy**

1. What is known about treating heart failure with preserved ejection fraction?

**Analysis of new study**

2. What type of study was this? How were the patients selected for inclusion?

3. How were the study groups defined?

4. How were the outcomes evaluated?

**5. What were the outcomes of this *post hoc* analysis?**

**6. What were the strengths and weaknesses of this study?**

**7. Were the results expressed in terms we care about and can use?**

**How should the new findings change current therapy?**

**8. Do the results change your practice? How?**

**Apply the new findings to the following case**

F.M. is a 67-year-old female who presented to the ED with shortness of breath and O<sub>2</sub> sats of 84% on room air. F.M.'s chest x-ray showed bilateral pulmonary edema and pulmonary vascular congestion, and her BNP was elevated at 814 pg/mL. The rest of her bloodwork was normal. Her EKG shows left ventricular hypertrophy. F.M. was admitted for an acute HF exacerbation, or acute decompensated HF.

You find F.M. resting comfortably on 3L O<sub>2</sub> via nasal cannula with sats of 96%. You note that she has a history of hypertension, diabetes, and osteoarthritis with a current BP of 176/93 mmHg and a heart rate of 82. Her current medication list includes lisinopril 40mg daily, chlorthalidone 50mg daily, metformin 1000mg twice daily, pioglitazone 15mg daily, and naproxen 500mg twice daily.

F.M. tells you her dyspnea has been gradually worsening over the last two weeks. She has become more short of breath when walking up stairs and wakes up at night gasping for air. Last night, she could not lay flat without becoming short of breath, which prompted her to come to the ER. She also states that she's had increased swelling in her legs over the last week, but she attributed it to the warmer weather. Her physical exam is notable for bilateral pulmonary crackles at the bases and 2+ pitting edema bilaterally.

**9. What should you recommend for initial treatment of F.M.'s acute heart failure exacerbation?**

F.M. is doing well after two days of IV furosemide. She no longer needs supplemental oxygen and is ready to go home. Ischemic heart disease was ruled out, but F.M.'s echocardiogram showed left ventricular hypertrophy and an ejection fraction of 60%. She wants to know if she can do anything in the future to prevent this from happening again. Upon review of her medications, you note that her BP has been persistently elevated on her home regimen despite multiple doses of PRN hydralazine during her admission.

**10. How do you counsel F.M. upon discharge about her new diagnosis of heart failure with preserved ejection fraction? What medication adjustments should you consider?**

F.M. returns to the clinic for hospital follow-up. Her BP is well-controlled on her new regimen of lisinopril 40mg daily, chlorthalidone 50mg daily, and amlodipine 10mg daily. She was discussing her new heart failure diagnosis at her weekly bridge club and a fellow member mentioned she also had heart failure. They were comparing medication lists and she noticed that her friend is taking 3 medications that she has not been prescribed: carvedilol 6.25mg twice daily, sacubitril/valsartan 49/51mg twice daily, and spironolactone 25mg daily. F.M. asks if she should be on any of these medications.

**11. How should you respond to F.M.? Are there other medications that you should consider adding?**

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### **Additional Pharmacist's Letter Resources** available at [PharmacistsLetter.com](http://PharmacistsLetter.com)

- Chart, Lipid Treatment FAQs. *Pharmacist's Letter/Prescriber's Letter*. March 2017.
- Chart, Meds for Pulmonary Arterial Hypertension. *Pharmacist's Letter/Prescriber's Letter*. March 2017.
- Toolbox, Improving COPD Care. *Pharmacist's Letter/Prescriber's Letter*. February 2017.
- Toolbox, Improving Diabetes Outcomes. *Pharmacist's Letter/Prescriber's Letter*. February 2017.
- Toolbox, Improving Heart Failure Care. *Pharmacist's Letter/Prescriber's Letter*. February 2016.
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- Chart, Antihypertensive Combinations. *Pharmacist's Letter/Prescriber's Letter*. September 2016.
- Chart, Obstructive Sleep Apnea (OSA). *Pharmacist's Letter/Prescriber's Letter*. July 2014.
- Chart, Treatment of Hypertension: JNC8 and More. *Pharmacist's Letter/Prescriber's Letter*. February 2014.
- Algorithm, Stepwise Treatment of Hypertension. *Pharmacist's Letter/Prescriber's Letter*. February 2014.
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