

## Title: The Hemodynamic Duo: Atrial Fibrillation and Heart Failure

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Atrial fibrillation and heart failure are two highly prevalent cardiac disease states. They commonly occur together, with the presence of heart failure increasing risk of atrial fibrillation by up to 600%. Development of atrial fibrillation is associated with poor prognosis in patients with heart failure. Treatment of atrial fibrillation in the setting of heart failure is challenging and lacks conclusive evidence. The presence of heart failure is a contraindication for several antiarrhythmic medications, limiting pharmacology rhythm control options. Rate control in the setting of heart failure may result in reduced cardiac output and may be contraindicated, especially in the setting of decompensated heart failure. Historically, it has been thought that rhythm control provides no benefit over rate control. However, recent evidence regarding the treatment of atrial fibrillation in heart failure challenges this. Several trials have shown benefit with early rhythm control in patients with atrial fibrillation and heart failure, with both ablation and pharmacologic antiarrhythmics. This presentation will outline emerging evidence for the treatment of atrial fibrillation in heart failure.

### Objectives:

- 1) Describe the relationship between atrial fibrillation and heart failure
- 2) Explain the challenges of treating patients with atrial fibrillation and heart failure
- 3) Discuss the evidence regarding treatment strategies for atrial fibrillation in patients with heart failure.

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#### Questions:

MA is a 57-year-old female with a history of heart failure (EF 25-35%) and atrial fibrillation diagnosed 6 months ago on apixaban. Patient presents with SOB, leg edema, and weight gain. In the ED, her BP is 90/64, HR 160, afebrile, SpO2 97 on RA. Her extremities are cool and dusky. She is found to be in cardiogenic shock and atrial fibrillation with RVR. What AF treatment is contraindicated in this patient?

- a. IV diltiazem
- b. IV amiodarone
- c. Cardioversion
- d. Ablation

Based on the EASTAFNET-4 trial, which patient may benefit most from rhythm control therapy for atrial fibrillation?

- a. 83 YOF diagnosed with AF 20 years ago
- b. 64 YOM with a history of stroke and HFpEF diagnosed with AF 3 months ago
- c. 15 YOM with AF after cardiac surgery
- d. 54 YOF with AF diagnosed 8 months ago and no other comorbidities

Based on the RAFT-AF trial, which patient may benefit most from rhythm control therapy for atrial fibrillation?

- a. 70 YOM with NYHA Class IV HF
- b. 62 YOF with NYHA Class II HFpEF and high burden atrial fibrillation diagnosed 13 months ago
- c. 51 YOM with NYHA Class III HFpEF and longstanding AF
- d. 67 YOM with NYHA Class II HFpEF and AF diagnosed 4 days ago