Managing Patients with Rapid Atrial Fibrillation and Decompensated Heart Failure

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Atrial fibrillation (AF) and heart failure (HF) are 2 global epidemics of cardiovascular disease that often intersect, resulting in significant morbidity and mortality, with a reciprocal causal relationship existing between them. AF can exacerbate and, in some cases, cause HF. It has been associated with an adverse prognosis that has been partly attributed to the therapies used. It appears that there is no net benefit of a routine strategy to pursue sinus rhythm in patients with AF and chronic HF who have a low left ventricular ejection fraction. However, in clinical practice, rate control versus rhythm control for AF in HF represents a dynamic conflict between the neutral results of population trials and the symptomatic deterioration attributed to recurrent AF in selected individuals.

Regardless of the approach to rhythm control for chronic AF in HF, the importance of rate control is unquestioned. This is particularly challenging in the acute setting of HF hospitalization, during which AF is present in one third of patients, regardless of left ventricular ejection fraction. Fast rates in AF may exacerbate HF but can also result from dyspnea, anxiety, and hypoperfusion during acute exacerbation of HF with low ejection fraction. The American College of Cardiology/American Heart Association guidelines for the management of chronic HF recommend β-blockers in chronic AF to control heart rate with or without digoxin. However, the acute effects of β-blocker titration can include further elevation of filling pressures and depression of stroke volume and blood pressure, diverting a routine admission for diuresis into an intensive care unit admission for intubation and pressors. Calcium channel antagonists are contraindicated in chronic HF as well. Digoxin can slow atrioventricular conduction, but the risk of digoxin toxicity may be higher during acute decompensation, with fluctuating renal function and potassium balance.

How should we approach acute control of rapid ventricular response in the patient admitted to the hospital with AF and decompensated HF who has a low left ventricular ejection fraction? It may be necessary to separately consider the 3 situations of (1) new-onset HF with new-onset AF, (2) chronic HF with new-onset AF, and (3) chronic HF with chronic AF and rapid ventricular response in the setting of decompensation.
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