

# Acutely Decompensated Heart Failure: Opportunities to Improve Care and Outcomes in the Emergency Department

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Acutely decompensated heart failure (ADHF) is the leading cause for hospitalization in patients over the age of 65, and a common reason for patients to seek emergency department (ED) care. The Medicare insurance program spends more on the evaluation and treatment of patients with heart failure than on patients with any other medical diagnosis. As many as 5 million Americans carry a diagnosis of heart failure.

Patients who are diagnosed in the ED as having ADHF will frequently describe dyspnea as a prominent symptom. There are, however, many conditions that will prompt patients to seek ED care because of symptoms that include dyspnea. Until recently, when ADHF was suspected, the traditional assessment included a review of symptoms, past medical history, an examination, an electrocardiogram, a chest x-ray, and laboratory tests to determine the patient's metabolic status. Ultimately the ED diagnosis of ADHF has been based on the clinical judgment of the physician after review of these data points. No single piece of data was able to confirm the diagnosis of ADHF in the ED. In many cases empiric therapy was started for ADHF as well as other possible diagnoses, such as pneumonia or emphysema. Prior to August 2001, no significant advances in the treatment of ADHF had occurred for more than a decade.

Recent advances in the understanding of the complex pathophysiologic processes that lead to clinical heart failure have yielded improvements in the ability to accurately diagnose ADHF in the ED. The measurement of B-type natriuretic peptide levels has markedly improved our ability to differentiate ADHF from other clinical entities and to some degree stratify the patient's risk of devel-

oping complications. The approval of nesiritide (Natrecor®, Scios Inc., Sunnyvale, CA) in 2001 now has made available a new therapeutic modality, which specifically targets a neuro-hormonal imbalance that is known to exacerbate heart failure. Infusion of nesiritide will aid in the stabilization of many ADHF patients while

in the ED or in an observation unit.

The objective of this supplement to *Reviews in Cardiovascular Medicine* is to present to emergency personnel recent advances in our understanding of the pathophysiologic processes that lead to the development of ADHF. New diagnostic tests and pharmacologic treatment modalities

based on this new understanding will be discussed. The authors of this supplement have provided information that will allow emergency personnel to better tailor treatment of heart failure patients, regardless of the severity of their condition or the underlying cause of their heart failure.