

# Checklist Predicts Depression in HF

BY BRUCE JANCIN  
Denver Bureau

NEW ORLEANS — A brief checklist of social and health factors predicts onset of depressive symptoms in heart failure patients, Edward P. Havranek, M.D., said at the annual scientific sessions of the American Heart Association.

The four-item checklist consists of living alone, alcohol abuse, poor health status as measured by the Kansas City Cardiomyopathy Questionnaire (KCCQ), and the patient's perception that his or her medical care poses a substantial economic burden. A heart failure patient's risk of developing depression within 1 year rises in stepwise fashion as the number of applicable risk factors increases (see box), according to Dr. Havranek of Denver Health Medical Center.

The checklist was developed as part of a multicenter prospective cohort study involving 245 outpatients with heart failure (HF) and a left ventricular ejection fraction less than 40% who were free of depression at baseline. During 1 year of follow-up, 21.5% of patients developed clinically significant symptoms of depression as defined by a score above 0.06 on the widely

used Medical Outcomes Study Depression Scale.

Multivariate analysis identified four independent predictors of onset of depression in this HF population. Alcohol abuse was associated with a 3-fold elevated risk, living alone conferred a 2.8-fold risk, and medical care being seen by the patient as a substantial economic burden carried a 2.9-fold increased risk.

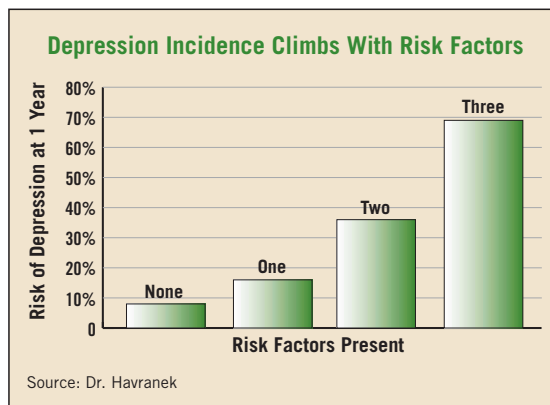
In addition, the risk of depression rose by 22% for each 10-point decrement on the KCCQ. The study results were published in December (*J. Am. Coll. Cardiol.* 2004;44:2333-8).

The KCCQ is a self-administered 23-item multiple-choice instrument that inquires about the impact of HF upon a pa-

tient's life. For example, the KCCQ asks patients how much swelling in their feet, ankles, or legs has bothered them in the last 2 weeks, how many times during that period they have been forced by shortness of breath to sleep sitting in a chair propped up by at least three pillows, and how much HF has limited their enjoyment of life during the last 2 weeks.

The range of possible scores on the KCCQ is 0-100. Higher scores indicate less disease impact. Study participants with a baseline score greater than 75 had a 13% incidence of depression onset within 1 year. The incidence of depression rose to 20% among those with a baseline score of 51-75, 42% in those who scored 26-50, and 44% with a score of 25 or less.

"Routine screening of high-risk patients with heart failure followed by psychosocial intervention to reduce the incidence of depression is a strategy that deserves study," Dr. Havranek observed. "This would be consistent with the Institute of Medicine position that one of the changes necessary for American health care is for the system to anticipate patient needs rather than simply to react to events." ■



# HF Patients Go Home Faster With High-Dose Nitro

BY SHERRY BOSCHERT  
San Francisco Bureau

SAN FRANCISCO — Giving high-dose nitroglycerin to patients with heart failure who come to the emergency department between midnight and 8 a.m. may shorten their length of stay by nearly a day, John R. Allegra, M.D., said in a poster at the annual meeting of the American College of Emergency Physicians.

Nineteen patients treated by physicians who use high-dose nitroglycerin went home after a mean of 3.7 days in the hospital, compared with 4.6 mean days of hospitalization for 105 patients seen by emergency physicians who don't use high-



**Patients arriving between midnight and 8 a.m. were more likely to benefit from high dose nitroglycerin.**

DR. ALLEGRA

dose nitroglycerin, said Dr. Allegra of Morristown (N.J.) Memorial Hospital. The difference of 0.9 days was statistically significant.

The retrospective analysis used data from a previous study which showed that patients arriving in the emergency department (ED) between midnight and 8 a.m. were more likely than patients arriving at other times to benefit from aggressive nitroglycerin therapy in the ED.

The investigators chose to study that time period because patients seen in the ED between midnight and 8 a.m. had the highest rates of intubation and mechanical ventilation, Dr. Allegra said in an interview. "If we were to see any effects of the nitroglycerin, it would be in those patients," he explained.

The current analysis included patients seen in the ED during those hours over a 20-month period who were admitted for heart failure. To lessen the influence of statistical outliers on the results, the analysis excluded patients who spent more than 10 days in the hospital.

A prior survey on the treatment of heart failure in the hospital's ED asked physicians if they use nitroglycerin boluses to treat heart failure. Based on responses to that survey, investigators assigned patients in the current study to nitroglycerin or non-nitroglycerin groups depending on the treating ED physician.

Several previous studies have shown that high-dose nitroglycerin treatment decreased the incidence of death, myocardial infarction, and the use of mechanical ventilation in patients with heart failure.

The current data show that patients who arrive in the ED during the first 8 hours of the day spend almost 1 less day in the hospital if they receive nitroglycerin boluses in the ED, compared with patients who don't get nitroglycerin, Dr. Allegra said. ■

# Pulmonary Artery Catheterization Not Useful

BY BRUCE JANCIN  
Denver Bureau

NEW ORLEANS — Routine use of an indwelling pulmonary artery catheter to guide medical therapy in patients hospitalized for decompensated heart failure can no longer be justified, based on the results of a National Heart, Lung, and Blood Institute-sponsored randomized trial.

Use of a pulmonary artery catheter to titrate therapy aimed at lowering pulmonary capillary wedge pressure didn't affect the primary end points of mortality or days hospitalized during the next 6 months, compared with therapy guided solely by clinical assessment, in the Evaluation Study of Congestive Heart Failure and Pulmonary Artery Catheterization Effectiveness (ESCAPE), Lynne W. Stevenson, M.D., said at the annual scientific sessions of the American Heart Association.

ESCAPE was a 26-site randomized trial involving 433 patients with decompensated severe heart failure in whom urgent pulmonary artery catheterization wasn't considered necessary.

A pulmonary artery catheter (PAC) is placed in roughly 40,000 heart failure (HF) patients per year. Controversy has surrounded the procedure since a 1996 study suggested PACs involve excessive risk with no proven benefit. ESCAPE was undertaken to answer the unresolved questions about PAC safety and efficacy. Although use of a PAC had no effect on

the primary end points in ESCAPE, at least it proved safe. Although PAC-related complications occurred in 4.2% of patients, 30-day mortality was 4.7% in the PAC group and 5.0% in controls, noted Dr. Stevenson, principal investigator in ESCAPE and codirector of the cardiomyopathy/HF program at Brigham and Women's Hospital, Boston.

However, 19% of patients in both arms died within 6 months. "This is higher mortality than most cancers, and we need to do better," she said.

There was a consistent trend favoring the PAC group in terms of greater improvement in functional status and quality of life measures during 6 months of follow-up, which were secondary end points in ESCAPE.

The difference in one of these measures—time trade-off—reached statistical significance. Time trade-off is a measure in which patients are asked a difficult hypothetical question: If you had 24 months to live in your current state of health, how many of your remaining months would you be willing to trade in order spend your remaining time feeling better? The answer at baseline was a mean of 9 months.

"We found this astounding," Dr. Stevenson said. "At the same time as we're designing trials to test survival, the patients are saying what matters to them most is not to live longer, but to live better."

At 6 months' follow-up, PAC-managed patients were only willing to trade 3 of their remaining 24 months in order to feel better; the control group would trade 7.5 months.

Still being analyzed are echocardiographic data from ESCAPE. If therapy aimed at lowering pulmonary capillary wedge pressure can be titrated reasonably well using noninvasive echocardiographic measurements and the result is a patient perception of enhanced value of life, then echocardiography may provide a risk-free replacement for PAC.

Discussant Mariell L. Jessup, M.D., said the 19% mortality at 6 months in ESCAPE highlights the limitations of medical therapy. Better times are ahead, with the shift from medical to nonpharmacologic therapies for advanced HF, including heart transplants, second- and third-generation ventricular assist devices, cellular therapies, and passive ventricular restraint systems, said Dr. Jessup of the University of Pennsylvania, Philadelphia. ■



**In both arms, 19% of patients died within 6 months. 'We need to do better.'**

DR. STEVENSON