

# Post-MI Depression, Anxiety Underappreciated

BY JANE SALODOF  
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SANTA ANA PUEBLO, N.M. — Residents and nurse practitioners are better at spotting anxiety than depression in patients recovering from acute myocardial infarction—but both disorders are underdiagnosed and undertreated, Dr. Felicia A. Smith reported at the annual meeting of the Academy of Psychosomatic Medicine.

In a study conducted at Massachusetts General Hospital in Boston, house staff and nurses identified three (4%) of 74 patients in cardiac units as having a major depressive disorder, Dr. Smith reported.

The researchers flagged 11 depressed patients (15%) in the same population.

The clinical teams treating

these patients were better at identifying anxiety, but they still recognized only half as many cases as did the researchers: 8 (11%) vs. 16 (22%).

“The results of this study suggest it may be unrealistic for these busy, front-line clinicians to adequately diagnose depression in the post-MI period in the absence of systematic screening,” said Dr. Smith, a fellow on a psychiatric consultation service at the hospital. She suggested better education of clinical teams and the development of new screening tools for them to use in this setting.

Depression and anxiety are common after myocardial infarction, according to Dr. Smith, and both disorders are associated with higher mortality and complications. “This has clearly been shown to be a major issue,” she said.

To gauge the ability of house staff and nurse practitioners to recognize and treat the two psychiatric disorders in high-risk cardiac patients, Dr. Smith and her

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colleagues compared assessments of patients being treated in a cardiac intensive care or step-down unit 72 hours after a myocardial infarction.

The average age of the largely male population was about 64 years. Dr. Smith said 22% had had a prior depressive episode.

The investigators used a screening battery that included the Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and the DMS-IV Structured Clinical Interview (SCID) for major and minor depression.

The house staff’s impressions correlated with the SCID, BAI, and a psychiatric evaluation for anxiety, but did not correlate with the SCID, BDI, and a psychiatric evaluation for depression, Dr. Smith said.

About 26% of the patients had a BDI score higher than 10; the mean BDI was 8, Dr. Smith said. The same proportion, 26%, of patients scored above 10 on the BAI, but the average anxiety score was more than twice as high, at 18.5.

As for treatment, Dr. Smith reported only one patient of the three identified as depressed by the house staff was started on an-

ti-depressant medication. “Some patients were started on antidepressants who did not meet criteria for depression and the study team did not identify as depressed,” she said.

Anxiety was more likely to be treated, and seven of the patients flagged by the house staff were started on benzodiazepines.

Dr. Smith said she did not know why residents and nurses were better at spotting anxiety, but offered a theory. “Maybe patients who are anxious call more attention to themselves,” she said, citing more frequent use of the call bell and physical manifestations of anxiety, such as dyspnea and nausea.

“Depressed patients may be energetic and withdrawn, and don’t call much attention to themselves,” she continued. “Less interaction with the team makes the diagnosis more difficult.” ■

## Brief Questionnaire Identifies MI Patients Needing Anxiety Treatment

BY MITCHEL L. ZOLER  
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DALLAS — A quick, six-question survey can diagnose anxiety in patients who’ve had a myocardial infarction and identify those who need treatment with an anxiolytic.

“The Brief Symptom Inventory [BSI] is performed similarly to the State Anxiety Instrument [SAI]. The brief symptom inventory is a valid instrument for quickly diagnosing anxiety and identifying patients who need anxiolytic therapy,” Mohannad Abu Ruz said at the annual scientific sessions of the American Heart Association.

“It’s important to treat anxiety during the first 72 hours following a myocardial infarction, but few patients get their anxiety level measured following an infarction,” said Mr. Abu Ruz, a nursing-PhD candidate at the University of Kentucky in Lexington. “There is a belief that the diagnostic instruments are time consuming and burdensome to patients, and many physicians rely on physiologic indicators of anxiety such as blood pressure and heart rate.”

The study involved 536 patients admitted for an acute MI at any of five participating hospitals in the United States and Australia. MIs were confirmed by ECG and cardiac enzymes.

Within 72 hours of admission, all patients were assessed for their anxiety level using the SAI, the standard diagnostic tool for anxiety, and by the BSI, which can be administered in 2-5 minutes.

Questions on the BSI all use simple language and are structured to ask about the patient’s mental state at the time of the interview—for example, “Are you nervous at this time?”

Answers are measured on a 0-4 scale, with 0 meaning no anxiety and 4 meaning a high level of anxiety. The ideal is an answer of 0 for all six questions.

For this study, an MI patient who scored 2 or more points on the BSI was considered anxious enough to need treatment.

A total of 261 were diagnosed as anxious using the SAI, and 262 were diagnosed as anxious by the BSI, producing a correlation coefficient of 0.7—a good level of correlation between the two measures, Mr. Aub Ruz said.

Further confirmation of the validity of BSI was based on the mean number of in-hospital complications experienced by the patients diagnosed as anxious or not anxious.

With diagnoses based on the SAI, patients who were anxious had an average of 1.3 complications during hospitalization, compared with 0.8 complications per patient among those who were not anxious.

Identical complication rates were seen when patients were categorized by the BSI, Mr. Abu Ruz reported.

In a logistic regression analysis, a diagnosis of anxiety using the BSI was a predictor of subsequent complications independent of other clinical and demographic factors including age, gender, smoking history, comorbidities, left ventricular ejection fraction, and Killip classification.

Patients diagnosed with anxiety immediately after a myocardial infarction should be treated with an anxiolytic drug for the next 3 days, or until they are discharged from the ICU or coronary care unit, Mr. Abu Ruz said. A typical regimen at his institution is 2.5-5 mg of diazepam q.i.d. ■

## Echocardiography Ferrets Out Post-Myocardial Infarction Risk

BY ROBERT FINN  
San Francisco Bureau

SAN FRANCISCO — Echocardiography provides a great deal of information to help determine a patient’s risk following a myocardial infarction, Dr. Thomas Ryan said at a cardiovascular imaging conference sponsored by the American College of Cardiology.

Echo and stress echo are not the only ways to risk stratify patients, acknowledged Dr. Ryan of Duke University, Durham, N.C.

“There are a lot of ways we can do it, but I think our goals should be to do it in the most efficient, the most effective, and the most cost-responsible fashion possible,” he said.

Echocardiography provides a variety of perspectives on left ventricular function. It allows for a calculation of ejection fraction. Doppler plus the principle of continuity of flow allows for the measurement of stroke volume across both valves, which in turn allows for the calculation of cardiac output. The contour of the mitral regurgitation depth can be used to measure the rate of change in left ventricular pressure (dP/dt). And finally, one can generate a wall-motion score.

“All of these different approaches to left ventricular systolic function have been shown to be prognostically important ... to identify patients at risk and to manage them accordingly,” Dr. Ryan said.

Together, the degree of left ventricular dysfunction and the presence and severity of mitral regurgitation are the most powerful predictors of early risk after acute MI.

The results of a study of more than 3,000 patients in the Duke database show

that an echo score derived from these two factors neatly stratifies patients into three categories.

Patients get no points for a good ejection fraction or good mitral regurgitation. They get 2 points each for poor ejection fraction and poor mitral regurgitation, and they get 1 point each for intermediate values. The echo score is the sum of the ejection fraction and mitral regurgitation scores.

Patients with an echo score of 0 have better than 90% 2-year survival. Those with an echo score of 3 or 4 have about a 50% 2-year survival, and those with a score of 1 or 2 have about a 75% 2-year survival.

Diastolic function has prognostic implications as well. If the deceleration time of the mitral P wave is 115 milliseconds or more, then the 30-month survival is 100%. Those with mitral deceleration times of less than 115 milliseconds have a 30-month survival rate of about 40%.

The combination of these measures means that the physician will get a great deal of information even before resorting to stress echocardiography.

Dr. Ryan said that he favors an algorithm based on echocardiography for the pre-discharge evaluation of patients following an MI. Those with ejection fractions of less than 40% should go to the catheterization laboratory.

If left ventricular function is preserved after an MI, then the management decision can often be made on the basis of the presence or absence of inducible ischemia.

Stress testing allows physicians to distinguish between those patients who should be sent to the catheterization laboratory for consideration for revascularization and those who can be treated medically. ■