

Elevated Risk of MI Seen in Men Who Are Anxious

A 10-year study of 740 initially healthy men found that anxiety independently predicted chances of MI.

BY DAMIAN McNAMARA
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MIAMI — Anxiety in men may be a robust and independent predictor of the 10-year incidence of myocardial infarction, according to a study presented at the annual conference of the Anxiety Disorders Association of America.

"This is kind of exciting because most work has been done with psychosocial factors like depression and hostility," Yael E. Avivi said in an interview during the meeting.

Depression and negative affect have been the focus of most of the literature addressing a possible association between psychosocial factors and heart disease. Other researchers have reported evidence suggesting that anxiety contributes to coronary heart disease (*Ann. Behav. Med.* 1998;20:47-58) and to an elevated risk of fatal coronary heart disease (*Circulation* 1994;90:2225-9). But these investigators used relatively short assessment scales to measure anxiety, noted Ms. Avivi, a doctoral student in the department of psychology at the University of Miami.

Her associates, including lead author Biing-Jiun Shen, Ph.D., analyzed data that included a more comprehensive assessment to look for a possible association between anxiety and subsequent MI. The study assessed follow-up data for 740 healthy men who entered the Veterans

Administration Normative Aging Study in 1986. Initial assessments included the Minnesota Multiphasic Personality Inventory, a comprehensive physical examination, and a cardiovascular disease risk profile. The participants did not have diabetes or a history of MI. The mean age at study entry was 60 years.

The researchers calculated an overall anxiety factor for each participant based on a combined score from four anxiety scales used in the Minnesota Multiphasic Personality Inventory. Those included measures for psychasthenia and social introversion, as well scores from the Wiggins phobia scale and the Taylor Manifest Anxiety Scale.

During the 10 years of follow-up, there were 60 new-onset myocardial infarctions, including two fatal heart attacks. The researchers used hierarchical logistic regression to predict the likelihood of an MI using the composite score and each of the four anxiety constructs.

"We looked at the odds ratios for predicting new MI incidence when controlling for age, education, marital status, weight, blood pressure, glucose, cholesterol, drinking, smoking, and caloric intake," Ms. Avivi said. "We could control for those and still see a significant effect."

The overall anxiety factor was an independent and significant predictor of subsequent MI in the sample population (odds ratio, 1.46). Also, each of the four anxiety

components independently and significantly predicted MI: psychasthenia (odds ratio, 1.42), social inhibition (odds ratio, 1.36), phobia (odds ratio, 1.44), and Taylor Manifest Anxiety (odds ratio, 1.50). In addition, being single and having lower HDL cholesterol levels predicted onset of MI in a multivariate analysis.

"The next question we had was, can depression and other psychosocial factors explain this association?" she said. Interestingly, these other psychosocial factors could not explain the link between anxiety and the new cases of MI that emerged in this study. After controlling for depression, anger, hostility, type A personality, and perceived stress, anxiety remained an independent predictor of a subsequent MI.

The researchers divided participants into quartiles based on their anxiety scores. "We also saw a dose-response effect," Ms. Avivi said. "People with the highest anxiety scores had the highest incidence of MI."

The association between anxiety and acute myocardial infarction was not surprising to Dr. James J. Ferguson, chairman of the Research Committee at the Texas Heart Institute, Houston. Still, he commented, the results could have important implications for any physician treating patients with anxiety.

"Yes, these people are at risk, but what

can we do about it?" he asked. He described the findings as an important first step, but added that "there is a long ways to go before we understand how changing anxiety or stress can affect outcomes" and noted that the study did not address that point.

Mechanisms that would explain the relationship between anxiety and subsequent MI remain unknown and require further study, Ms. Avivi said. Anxiety might adversely affect health behaviors, promote atherogenesis, or trigger fatal coronary events through arrhythmia, plaque rupture, coronary vasospasm, or thrombosis (*Ann. Behav. Med.* 1998;20:47-58).

General distress across a range of negative emotions might play an important role in the relationship between psychosocial factors and coronary heart disease, according to a recently published study that also was based on follow-up data from the Veterans Administration Normative Aging Study (*Ann. Behav. Med.* 2006;31:21-9).

Those researchers also concluded that aspects of anxiety may independently increase the risk for coronary heart disease. However, they also assessed anger and depression in their cohort, and they urged future researchers to consider a shared component of these features as a possible explanation for the elevated coronary disease risk. ■

Each of the four anxiety components independently and significantly predicted MI: psychasthenia, social inhibition, phobia, and Taylor Manifest Anxiety.

Be Culturally Sensitive in Screening

BY JANE SALODOF
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SANTA ANA PUEBLO, N.M. — Different populations may require different screening instruments for depression, according to investigators who compared the accuracy of methods for detecting depression in 209 terminally ill cancer patients in Japan.

The patients' total score on the Hospital Anxiety and Depression Scale (HADS), the most indirect tool in the study, was the most accurate indicator, Dr. Tatsuo Akechi reported in a poster at the annual meeting of the Academy of Psychosomatic Medicine.

Direct questions such as "Are you depressed?" and "Have you lost interest or pleasure?" were the least effective, identifying fewer than half the patients who were diagnosed with depression or an adjustment disorder.

"This is a very interesting and important finding because most Japanese people are not likely to

express their emotion," Dr. Akechi of Nagoya City University, Honshu, Japan, said in an interview at the meeting. "We can obtain much more information if we use [HADS] than just screening positive and negative," he said.

Dr. Akechi and his colleagues

The most accurate indicator of depression in the Japanese was the patients' total score on the Hospital Anxiety and Depression Scale, the most indirect tool in the study.

conducted the study because similar ones had shown different results in North America and Britain. The North American study found asking "Are you depressed?" to be the best method for screening the terminally ill (*Am. J. Psychiatry* 1997;154:674-6), while British investigators found that method to be less effective (*Palliat. Med.* 2003;17:40-3; *Gen. Hosp. Psychiatry* 2004;26:384-9).

The HADS questionnaire asks indirect questions, such as whether patients feel tense or

wound up, enjoy the things they used to enjoy, or can sit at ease and feel relaxed.

Dr. Akechi reported the total HADS score had a sensitivity of 80% and a specificity of 67% in the Japanese patients. The HADS depression subscale was nearly as accurate, with a sensitivity of 78% and specificity of 58%.

Though highly specific, the direct questions each had a sensitivity of only 47% when considered alone. Asking a Japanese patient both questions and considering both answers raised the sensitivity only to 68%.

"When the screening target includes both an adjustment disorder and major depression, the HADS is a more useful screening method than the single-item interviews," the investigators concluded.

Two-thirds of the patients were men. Their mean age was 61. Dr. Akechi reported that 22% were diagnosed with depression: 33 patients with an adjustment disorder and 14 with major depression. ■

Depression Deepens as CHD Risks Rise in Diabetic Patients

DENVER — Increased risk of coronary heart disease is significantly associated with stronger symptoms of depression in diabetic adults, Susan M. Barry-Bianchi, Ph.D., reported in a poster presented at the annual meeting of the American Psychosomatic Society.

Dr. Barry-Bianchi of the Behavioural Cardiology Research Unit at the University Health Network in Toronto, and her colleagues recruited 353 patients for the study from an ongoing investigation, the Community Outreach and Health Risk Reduction Trial. The average patient age was 56 years.

The average score on the Beck Depression Inventory (BDI) was 11.1 among the 184 patients at high risk for coronary heart disease (CHD), compared with 8.8 among the 169 patients at low risk for CHD, Dr. Barry-Bianchi wrote. The 10-year absolute risk for CHD was nearly 22% for high-risk patients and 9% for the low-risk patients. CHD risk for each pa-

tient was determined using the Framingham index.

Given the significant difference in the depression levels based on the risk for developing heart disease, depression and CHD risk should be evaluated jointly, when investigating morbidity and mortality in diabetic patients, the investigators suggested. They also suggested that treatment of CHD risk factors in diabetic patients may correspond with a reduction in depressive symptoms and improved overall health.

In addition, the results supported previous findings of increased depression among women and patients with low levels of emotional support. Women demonstrated a significantly higher average BDI score, compared with men (11.4 vs. 8.4). Patients with low reported levels of emotional support demonstrated a significantly higher average BDI score, compared with those who reported more support (12 vs. 8).

—Heidi Splete