

# Acute Noncardiac Ills Threaten 8% of MI Patients

BY BRUCE JANCIN  
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ORLANDO, FLA. — One in 12 patients with acute MI presents with a concomitant acute potentially life-threatening noncardiac condition at admission, Judith H. Lichtman, Ph.D., reported at the annual meeting of the American College of Cardiology.

None of the current risk-adjustment models for MI patients that are widely used to guide clinical care and benchmark hospital and physician performance take account of these life-threatening noncardiac conditions.

Instead, the prognostic models are restricted to variables that are directly related to the patient's cardiovascular disease. That's largely because the models were developed using data from randomized clinical trials from which patients with significant comorbidities are generally excluded.

As a consequence, the risk-adjustment models fail to account for much of the variation in short-term outcomes in MI patients, explained Dr. Lichtman of Yale University, New Haven.

This is a glaring oversight, she stressed,

because those 1 in 12 MI patients who have a dueling potentially life-threatening acute noncardiac condition account for a disproportionate share of total inpatient deaths.

Indeed, in the Prospective Registry Evaluating Outcomes After Myocardial Infarction: Events and Recovery (PREMIER) study such patients had an in-hospital mortality of 20%, compared with 3% in MI patients without such comorbidities.

"We feel that in this study we've identified a very important subgroup of acute MI patients at increased risk for mortality that have really not been previously described in the literature," Dr. Lichtman added.

The PREMIER registry involved 3,948 acute myocardial infarction patients prospectively enrolled at 19 participating U.S. medical centers during 2003-2004. Chart review showed that 8% of these patients enrolled had an acute potentially life-threatening noncardiac condition pre-

sent at the time of their admission.

These were not chronic conditions such as arthritis or seizure disorders. The most common of these conditions included severe pneumonia requiring intubation, trauma, stroke, sepsis, severe GI bleeding, and hip fracture.

Patients who present with one of these conditions in addition to an acute MI typically have been found to require care from multiple specialists, including both car-

diovascular and noncardiovascular.

The MI patients with acute potentially life-threatening noncardiac conditions in PREMIER presented differently from those with MI alone. They were older—a mean age of 62 years compared with 56—and more likely to be women and nonwhite.

They also were more likely to have diabetes and hypertension and less likely to present with ST-elevation MI. And they were less likely to receive early therapy with aspirin, fibrinolytic agents, and  $\beta$ -

blockers, as recommended in national guidelines.

After adjustment for the lesser use of guideline-based initial therapies for MI in the patients with potentially life-threatening comorbid conditions, along with differences in demographics, prior history, and clinical presentation, the patients still had a 4.9-fold increased risk of in-hospital mortality.

"I think this underscores a strong need to adopt a broader perspective of the clinical factors that contribute to the initial assessment, process of care, and outcomes for acute MI patients. ... These factors need to be put on the radar of these risk-adjustment models," Dr. Lichtman concluded.

Session cochair Eric D. Peterson, M.D., of Duke University in Durham, N.C., who was a coinvestigator in the PREMIER registry, said that while most MI patients with an acute potentially life-threatening noncardiac condition are routinely admitted to coronary care units, it might make more sense for them to go directly to the intensive care unit, where the caregivers are experienced in managing a wider array of very serious medical conditions. ■

**Patients with acute potentially life-threatening noncardiac conditions were older and more likely to be women and nonwhite, compared with those with MI alone.**

## Gender Differences Persist in Mortality and Treatment Intensity After Q-Wave Acute MI

BY SHARON WORCESTER  
Tallahassee Bureau

ORLANDO, FLA. — Women presenting with myocardial infarction continue to receive less intensive treatment and have higher mortality than men with similar presentations, but the gender gap in medical interventions prescribed at hospital discharge may be narrowing, according to studies presented at an international conference on women, heart disease, and stroke.

One retrospective study included nearly 26,700 Swedish patients who were treated for ST-elevation myocardial infarction (STEMI) at cardiac intensive care units during 1997-2001. Reperfusion therapy was administered to 71% of the 17,243 men in the study, compared with 62% of the 9,455 women who participated in the study, Sofia Sederholm Lavesson, M.D., reported.

Men, compared with women, had lower in-hospital mortality (9% vs. 16%), 30-day mortality (11% vs. 18%), and 1-year mortality (16% vs. 25%), said Dr. Lavesson of Linköping (Sweden) University.

After adjustment for numerous confounding factors, women remained significantly less likely than men to receive reperfusion therapy (odds ratio 0.83) and to survive while in the hospital (OR 1.23), she said, noting that the differences between

men and women cannot be fully explained by differences in age and comorbidities. "[Greater] age is the main explanation for the higher mortality in women, but less intensive treatment also appears to contribute," she said.

A similar conclusion was reached in a study of more than 55,000 patients who were admitted to any of 153 different hospitals with a primary diagnosis of Q-wave acute MI during January 2000-June 2004.

Mortality was 13% in the 19,034 women in the study, compared with 7% in the 35,969 men.

Even after adjustment for a total of 24 variables, including age, various comorbidities, and the type of hospital setting that provided the treatment (heart surgery hospital, cath lab hospital, or a hospital with neither a heart surgery or cath lab), men were still shown to be less likely than women to die (OR 0.71).

Additionally, men were more likely than women to be transferred for further treatment (OR 1.24), receive thrombolytics (OR 1.16), receive percutaneous coronary intervention (OR 1.12), and/or receive coronary artery bypass grafting (OR 1.64), reported Allan L. Anderson, M.D., a cardiologist at the Medical City Dallas Hospital.

"Women with Q-wave acute MI continue to have significantly worse mortality rates and receive less revascularization than

men," he concluded, noting that additional research is needed to determine how women with MI can obtain clinical parity with men.

But such parity is being achieved when it comes to the prescribing of medical interventions at hospital discharge in patients who present with heart attack or chest pain, a third study suggests.

That ongoing study showed such men and women are being prescribed appropriate drug interventions at the about the same frequency.

The subanalysis of a National Institutes of Health-funded study of 177 men and 35 women with acute coronary syndrome showed that women were prescribed aspirin,  $\beta$ -blockers, and statins as frequently as men.

However, it also showed that 10% of women with acute coronary syndrome didn't receive aspirin or  $\beta$ -blockers and that more than 30% didn't receive statins, Shu-Fen Wung, Ph.D., and Heather Hiscox of the University of Arizona, Tucson, reported in a poster.

Also, women in this study lived significantly longer than men following their hospitalization (179 days vs. 156 days), with both age and gender showing a significant association with 6-month survival, the investigators noted.

The findings suggest that more people are following the guidelines of the American Heart Association and American College of Cardiology, and that progress is being made in the treatment of both men and women, Dr. Wung said in a statement. ■

## Early Angiogram Boosts Women's ACS Outcomes

ORLANDO, FLA. — Early angiography is associated with improved survival in women presenting with acute coronary syndrome, Rasha N. Bazari, M.D., reported at an international conference on women, heart disease, and stroke.

Women who underwent coronary angiography within 2 days of presenting with ACS had a significantly lower 3-year mortality rates than did those who had later procedures (a difference of 7% vs. 20%), said Dr. Bazari of the Henry Ford Heart and Vascular Institute, Detroit.

Angiography beyond 48 hours after presentation was the most significant predictor of mortality, after adjustment for confounding variables (odds ratio 3.7).

Marginal predictors of mortality included older age and lower diastolic blood pressure, she said.

Dr. Bazari and associates reviewed the records of 836 patients (350 women and 486 men) admitted to the hospital during 1997-2000 who underwent angiography during their stay.

The study also showed that fewer women than men admitted during the study period underwent early coronary angiography (63% vs. 74%), she noted.

"Gender should not be a reason to delay early angiography" Dr. Bazari said.

—Sharon Worcester