

# Cardiac Catheterization Rate Up in Women

BY BRUCE JANCIN

ATLANTA — Campaigns aimed at increasing awareness among physicians and the public that heart disease is underdiagnosed and undertreated in women appear to be paying off.

In a new report from a large contemporary national registry, women with chest pain were twice as likely as were men to be referred for cardiac catheterization following a noninvasive imaging study, Dr. Marcelo Di Carli said at the annual meeting of the American College of Cardiology.

That's a dramatic turnaround from the situation just a few years ago, when an abundance of studies documented that cardiac catheterization was significantly underused in women. This major



**'Widespread public awareness campaigns [can] change well-entrenched practice.'**

DR. DI CARLI

shift is most likely a consequence of campaigns such as the American Heart Association's "Go Red For Women" as well as other programs designed to increase public and physician understanding of how serious a problem heart disease is in women, according to Dr. Di Carli, director of the noninvasive cardiovascular imaging program at Brigham and Women's Hospital, Boston.

"It seems the pendulum has swung in the opposite direction," he said. "The results of this study suggest that it is possible, through widespread public awareness campaigns, to change well-entrenched practice by reaching a diversity of physicians who, based on this information, altered their practice patterns."

Dr. Di Carli reported on 891 women and 812 men at 40 diverse academic and nonacademic U.S. sites who participated in the Study of Myocardial Perfusion and Coronary Anatomy Imaging Roles in CAD (SPARC) registry. All had chest pain and underwent noninvasive cardiovascular imaging. Physicians referred 13% of the women but only 6% of men for cardiac catheterization within the next 90 days.

In a multivariate analysis adjusted for variables including age, diabetes, type of imaging, and the test findings, female gender stood out as an independent predictor of referral for cardiac catheterization, with a twofold increased likelihood.

It is impossible to say with certainty whether the increased rate of referral of women for catheterization documented in this study represents overuse of the procedure, appropriate use, or simply underutilization in men, he said. That's because there are no practice guidelines addressing when it is appropriate to send patients for catheterization. However, he believes there was a reasonably high rate

of appropriate catheterization, because two-thirds of the 163 angiograms ordered in the SPARC participants showed obstructive coronary disease resulting in a revascularization procedure. Moreover, this rate was similar in women and men.

This 66% rate of revascularization in patients referred for cardiac catheterization is glaringly at odds with a widely publicized study released by other investigators only a few days before Dr. Di

Carli's Atlanta presentation. In the National Cardiovascular Data Registry study of nearly 400,000 patients undergoing cardiac catheterization at 663 U.S. hospitals, slightly over one-third were found to have obstructive coronary disease (N. Engl. J. Med. 2010;362:886-95).

The most likely explanation for these discordant findings, in Dr. Di Carli's view, lies in the fact that the National Cardiovascular Data Registry study covered the

years 2004-2008, while SPARC is a more recent series reflective of current practice. It is his impression that cardiac catheterization practices were different in the early and middle years of the decade. ■

**Disclosures:** Dr. Di Carli is co-principal investigator of SPARC, which is supported by the National Heart, Lung, and Blood Institute and four medical companies. He said he has no relevant financial interests.

For patients with  
type 2 diabetes whose  
blood glucose control  
is not on track  
with orals alone

**“YOU MAY WANT TO  
HAVE THE INSULIN  
TALK SOONER”**



**“By the time of diagnosis, up to 50% of patients' beta-cell function may have been lost.”<sup>4</sup>**