

CVD Guidelines Updated

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Jr., professor of medicine and director of the Center for Cardiovascular Science and Medicine at the University of North Carolina at Chapel Hill.

Another major highlight of the guidelines is a first-ever provision for PCI in treating unprotected left main coronary artery disease.

Previous guidelines listed coronary artery bypass surgery as the standard of care for unprotected left main disease. PCI was rated 'don't do it.' But the 2009 focused update of the guidelines gives PCI a class IIb recommendation, largely on the basis of the favorable SYNTAX trial (N. Engl. J. Med. 2009;360:961-72), said Dr.

King, cochair of the guideline writing committee.

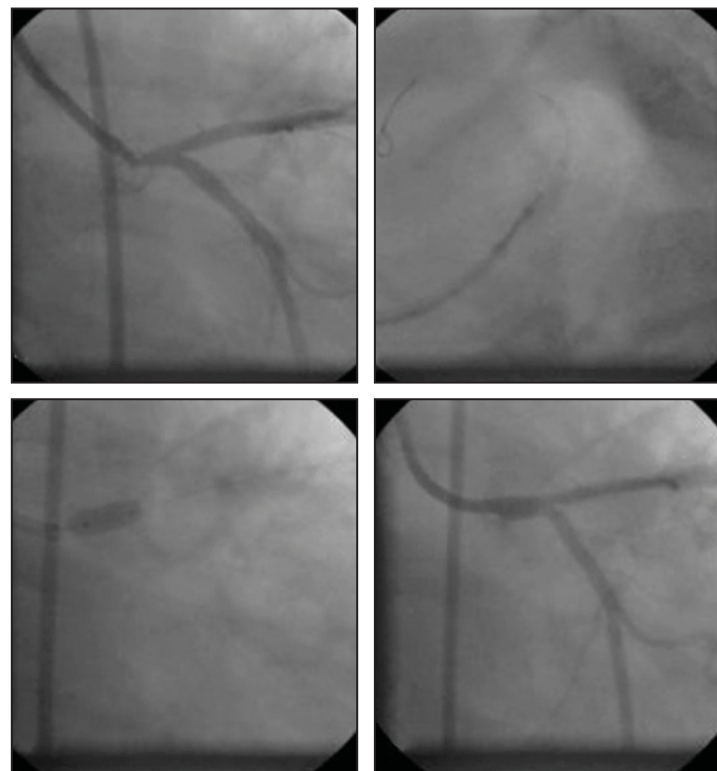
The new recommendation states that PCI with stenting "may be considered" when the coronary anatomy suggests the risk of procedural complications is low or a patient is at increased surgical risk. The best case is in ostial and mid-body left main lesions without significant multivessel disease, added Dr. King, president of Saint Joseph's Heart and Vascular Institute and professor of medicine emeritus at Emory University, both in Atlanta.

The fast-track update, a collaborative effort of the AHA, American College of Cardiol-

ogy (ACC), and Society for Cardiovascular Angiography and Interventions, includes 37 other new recommendations, all focused on the related areas of PCI and management of STEMI. The recommendations are based largely on evidence provided by close to two dozen practice-changing clinical trials and meta-analyses presented as late breakers at recent annual meetings of the AHA, ACC, and European Society of Cardiology.

Addressing the issue of underuse of PCI, Dr. Alice K. Jacobs, chair of the ACC/AHA Task Force on Practice Guidelines, provided the cold, hard numbers: Currently, 70% of STEMI patients with contraindications to thrombolytic therapy do not receive PCI, and up to 30% of those without contraindications do not receive any reperfusion therapy.

The National Cardiovascular Data Registry's ACTION Registry data show that in 2008, only 18% of STEMI patients who presented to a non-PCI hospital were transferred to a PCI-capable facility promptly enough to meet the door-to-balloon time of 90 minutes or less, in accordance with current guidelines. That's an especially disturbing finding given that



Top left: Narrowing is visible in the left main coronary artery. Top right: Atherectomy is performed. Bottom left: A stent is deployed. Bottom right: No residual stenosis remains.

most STEMI patients present initially to a non-PCI hospital, said Dr. Jacobs, professor of medicine at Boston University.

More positively, she continued, the ACTION Registry showed that 81% of STEMI patients who presented to a hospital with PCI capability in 2008

had a door-to-balloon time of 90 minutes or less. That's up sharply from the 67% rate in 2007.

The focused guidelines update can be accessed online at www.my.americanheart.org, www.acc.org, and www.scai.org.



Creating regional systems of emergency care for STEMI would greatly improve patient care, said Dr. Sidney C. Smith Jr. (center, with copanelists Dr. Spencer B. King III and Dr. Alice K. Jacobs).

Mass. Registry Study Supports PCI Without On-Site Surgery

BY BRUCE JANCIN

ORLANDO — In patients with ST-elevation MI who were treated with primary percutaneous coronary intervention and enrolled in a large Massachusetts registry study, the 1-year rates of mortality, MI, and target vessel revascularization were similar in hospitals with or without on-site cardiac surgery.

These data "suggest that in no-surgery on-site hospitals adhering to strict procedural volume requirements and the standards of care outlined in the ACC/AHA guidelines, primary PCI for STEMI patients may be performed with no difference in mortality through 1 year," Dr. Ather Anis said.

Primary PCI is recommended in the American College of Cardiology/American Heart Association guidelines as the reperfusion therapy of choice for STEMI when it can be accomplished in a timely manner. But the majority of U.S. patients with STEMI present to hospitals that lack the capacity to perform primary PCI because they don't have surgery on-site (SOS). Performing primary PCI in STEMI patients at non-SOS hospitals—provided that it can

be done safely—would be a strategy to increase the number of STEMI patients getting primary PCI, explained Dr. Anis of Boston University.

At the annual scientific sessions of the American Heart Association, he reported on 3,018 Massachusetts STEMI patients who underwent primary PCI during 2005-2007, including 977 treated at non-SOS hospitals.

One-year mortality and most other key outcomes were similar regardless of the type of hospital in which patients were treated. (See box.) The exceptions were 30-day all-cause mortality, which was significantly lower at non-SOS hospitals, and 30-day and 1-year repeat revascularization rates, which were significantly higher at non-SOS hospitals.

However, the results seem unlikely to change many physicians' established views on performing primary PCI in non-SOS facilities.

"You can't say a well-run primary PCI program without surgery on-site isn't as good as one with surgery on-site," said Dr. Spencer B. King III, president of the Saint Joseph's Heart and Vascular Institute and professor of medicine emeritus at Emory University, both in Atlanta.

On the other hand, Dr. Robert A. Guyton, professor of surgery and chief of cardiothoracic surgery at Emory, said that the Massachusetts data "don't really give you comfort" that STEMI patients have the same outcomes regardless of whether they present to hospitals with or without SOS. That's because the registry collected data only on the STEMI subgroup undergoing primary PCI, not on all comers with STEMI.

"We do this all too often in medicine, talking about results in patients in whom we choose to perform an intervention," Dr. Guyton said. "What the patient—and the state of Massachusetts—wants to know is, 'What is my outcome if I am taken with my STEMI to a hospital without surgery on-site versus my outcome if I am taken to a hospital with SOS?'"

Although the Massachusetts registry study doesn't address that question, a new report from the National Registry of Myocardial Infarction does, he said. The NRMI study included 58,821 STEMI patients who presented to PCI-capable hospitals during 2004-2006. The 8.1% of patients presenting to non-SOS hospitals had 9.8% mortality, sig-

nificantly higher than the 7.0% mortality in patients presenting to SOS hospitals. The patients at non-SOS hospitals also had a significantly lower rate of reperfusion (71% vs. 81%). "If I'm in the ambulance with a STEMI, I'm going to request to be taken to an SOS hospital," Dr. Guyton concluded.

In an interview, Dr. Elliott M. Antman pointed out that ACC/AHA guidelines already support primary PCI for STEMI at non-SOS hospitals. It has a

class IIb recommendation, meaning the benefit is deemed greater than or equal to the risk. A change in classification "would require a randomized trial," said Dr. Antman, a member of the ACC/AHA guidelines-writing committee and professor of medicine at Harvard Medical School, Boston.

The PCI registry study was funded through the Massachusetts Department of Public Health. Dr. Anis reported no financial conflicts.

Primary PCI Outcomes in Hospitals With or Without Cardiac Surgery On-Site

| End Point | SOS hospitals | non-SOS hospitals |
|--|---------------|-------------------|
| *30-day all-cause mortality | 5.7% | 4.5% |
| 1-year mortality | 9.4% | 8.6% |
| 30-day MI | 2.8% | 4.4% |
| 1-year MI | 5.1% | 6.7% |
| *30-day repeat revascularization | 7.6% | 14.9% |
| *1-year repeat revascularization | 14.7% | 21.0% |
| 30-day target vessel revascularization | 6.3% | 5.0% |
| 1-year target vessel revascularization | 10.9% | 9.7% |

*Statistically significant difference between SOS and non-SOS hospitals.

Note: Based on data from 2,041 patients treated at SOS hospitals and 977 treated at non-SOS hospitals.

Source: Dr. Anis