

Nuclear Scans Aid in Urgent Care Diagnosis of ACS

BY BETSY BATES
Los Angeles Bureau

LOS ANGELES — Nuclear cardiology scans performed in the emergency department can not only reduce admission rates by ruling out acute coronary syndrome (ACS), but also sound the alert on patients who warrant further testing despite normal laboratory tests, ECGs, and even coronary angioplasty.

"You need to detect those unstable anginas. Otherwise, you'll have a lot of potential events walking out your door," Jack A. Ziffer, M.D., medical director of nuclear cardiology for Baptist Cardiac and Vascular Institute, Miami, and Baptist Hospital of Miami, said at a meeting sponsored by the American College of Cardiology.

Other ACSs can be missed as well, even by angiography, which misses 3% of MIs and fails to diagnose significant pathology in a third of patients with elevated troponin levels, Dr. Ziffer said at the meeting, cosponsored by the American Society of Nuclear Cardiology and Cedars-Sinai Medical Center.

Spontaneous thrombolysis, prolonged vasospasm, injury location and patient anatomy, and misinterpretation may lead to false-negative test outcomes that might result in a patient being inappropriately discharged. Nuclear cardiology offers a quick, comprehensive look at perfusion and function that can help in clarify diagnoses.

Dr. Ziffer described the emergency de-

partment (ED) protocol that has been adopted by Cedars-Sinai and other hospitals.

Any patient who presents with symptoms suggestive of a suspected ACS is injected with radionuclide in the ED in preparation for a nuclear scan. A thorough history is taken, laboratory values are assessed, and an ECG and angiogram are performed. Treatment is commenced based on severity of symptoms and test results. Meanwhile, nuclear imaging is performed after about 30-45 minutes, once some hepatic clearance has been achieved.

Two paradigms direct the myocardial perfusion and function studies ordered for the patient:

► **In a patient with ongoing chest pain.** A rest MIBI (^{99m}Tc sestamibi) with gated single-photon emission computed tomography (gSPECT) scan is performed. If this test is normal, along with all other testing, the patient is sent home. If questions are raised, a stress MIBI test is ordered and/or the patient is admitted to the coronary care unit.

► **In a patient whose pain has resolved.** A rest thallium SPECT test is performed, and if questions arise, a stress MIBI gSPECT test follows, with results determining whether a patient will be admitted or can go home.

MRI can be helpful, but it cannot determine the age of an infarct and poses a practical challenge, since few MRI units operate in the middle of the night. Nuclear imaging "is straightforward and can

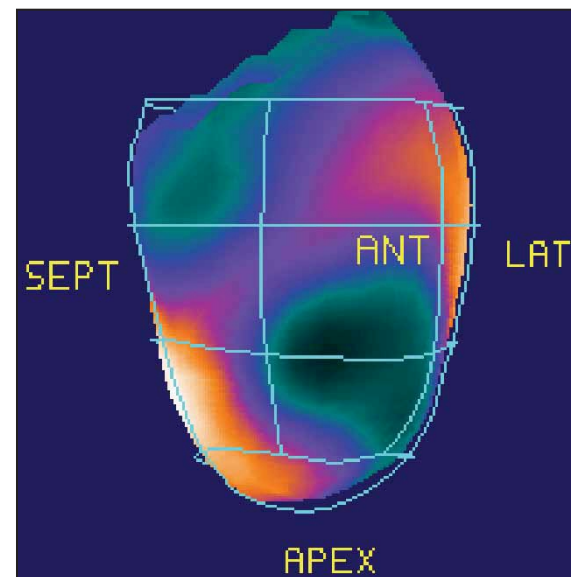
be delivered 24/7," Dr. Ziffer said.

Even an angiogram, which details anatomy, "doesn't necessarily tell you what you need to know," he said.

Perfusion, ejection fraction, wall motion, and wall thickening are all clues to underlying abnormalities that can be assessed with nuclear studies. Polar maps, for example, quantify wall thickness throughout the heart, which can be helpful when wall motion is not clear. "These are really very powerful tools. When you see 8% thickening and 19%, that's less than normal. You ought to see 30% thickening in normal myocardium, or 40%," he said.

Wall motion is another adjunctive clue within scans performed in the acute setting. "If a defect is present, we ask the question, 'Is wall motion normal or abnormal?' Normal wall motion does not mean that it's an artifact," he said. It may mean the patient has abnormal perfusion, but that the treatment initiated in the ED was effective in treating unstable angina, or that the patient has suffered a small infarct in an area where wall motion cannot be seen.

When wall motion is abnormal, the patient is more likely to have unstable angina and persistent stunning, or an infarct



A pattern of discrete perfusion defects was found in a 67-year-old man with atypical epicardial pain.

COURTESY DR. JACK A. ZIFFER

"age unknown: It could be 30 years ago, could be 2 minutes ago, or impending," he said.

Dr. Ziffer stressed that interpretation of nuclear studies requires an understanding of the impact of the delay between injecting and imaging. Perfusion parameters reflect the situation at the time the patient was injected, while cardiac function parameters are assessed in real time, while the patient is under the camera. "Sometimes the perfusion abnormalities we see may not reflect, in patients with resolved pain, for example, the entire jeopardized area." ■

CLASSIFIEDS

Also Available at www.ecardiologynews.com

PROFESSIONAL OPPORTUNITIES

BATON ROUGE AREA

Hospital sponsored solo cardiology position in desirable fast growing community 15 minutes from Baton Rouge associated with modern 137 bed hospital facility. Negotiable/Competitive net income guarantee including all start-up expenses. **Donohue and Associates 800-831-5475**
Fax 314-984-8246
E/m: donohueandassoc@aol.com

PRACTICE FOR SALE

Cardiology Medical Practice for Sale

Twenty-eight years established. Annual Collections \$750,000. Excellent net to Doctor. Great So. California beach area. Wonderful opportunity. **Call Professional Practice Sales 949.583.0893** or visit www.ppsmedical.com

PRODUCTS

WriteMD

Screen based EMR \$1,499 (Voice recognition/Scanning)
Medical Transcription 9c/line
Simplified Scheduling w/App Trek
Powerful Practice Management/eClaims-Click'nClaim \$999
New Generation Graphic Palettes
Customize to fit your style and Speciality
Lab Tests, Prescription Writer etc
Electronic Superbill & Rounds on PDA/Desktop
WWW.WriteMD.com or 866-277-8735
866-277-8735

NEW 2005! CLASSIFIEDS

Cardiology News Rates
4 Column Classified Ads
From 1" to 12"
Sizes from 1/48th of a page to a full page

For Deadlines and More Information Contact:

Robin Cryan
360 Park Avenue
New York, NY 10010
Tel: 1-800-379-8785
or fax your ad to: 212-633-3820
Email ad to: r.cryan@elsevier.com

Coming in October Cardio Connect Career & CME Guide II

Featuring
Cardiology Trends & Developments
in Recruitment & CME

with Career Job Postings, CME Course and Symposia Announcements

Included with the October Issue of *Cardiology News* (25,000 + Circulation)
plus Bonus Distribution at the American Heart Association Conference in Dallas

Get 50% off partnership discount

when you run your recruitment advertising* in any one of the Elsevier cardiology titles through October 2005.

• In addition, your ad will appear on the elsevierhealthcareers.com and ecardiologynews.com websites for two consecutive months **FREE OF CHARGE!** Added value \$400.

• *Elsevier Cardiology titles:* Aileen Rivera | p) 212-633-3721 | f) 212-633-3820 | e) a.rivera@elsevier.com
• *Cardiology News:* Robin Cryan | p) 800-379-8785 | 212-633-3160 | f) 212-633-3820 | e) r.cryan@elsevier.com
• *Journal of the American College of Cardiology:* Ariel Medina | p) 212-633-3689 | f) 212-633-3820 | e) a.medina@elsevier.com

Ad Space Closing/Materials Due: 8/19/05

* Ad must be same size and color.

International Medical News Group

ELSEVIER

Disclaimer

CARDIOLOGY NEWS assumes the statements made in classified advertisements are accurate, but cannot investigate the statements and assumes no responsibility or liability concerning their content. The Publisher reserves the right to decline, withdraw, or edit advertisements. Every effort will be made to avoid mistakes, but responsibility cannot be accepted for clerical or printer errors.