VERBATIM

'There's no reason to suggest to your patients they should expose themselves, because they will get enough otherwise.'

Dr. Darrell S. Rigel, p. 28

Algorithms Could Replace Stress Tests

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO — In some patients being evaluated for chest pain, stress tests might be avoided through the use of an algorithm designed to predict the probability of cardiac ischemia, David D. Moyer-Diener and his associates said at the annual meeting of the American College of Emergency Physicians.

In a prospective, observational cohort study of consecutive patients evaluated at a chest pain center, investigators obtained Acute Coronary Ischemia–Time Insensitive Predictive Instrument (ACI-TIPI) scores and conventional chest pain workups on 1,478 low- or intermediate-risk patients for whom acute myocardial ischemia had been ruled out. The treating physicians were blinded to the ACI-TIPI scores, and patients underwent conventional evaluations including serial enzyme tests and provocative cardiac testing.

Among 400 patients who had ACI-TIPI scores of 20 or less, 265 were men younger than aged 35 years or women younger than aged 45 years, and 217 underwent provocative cardiac testing. None of the 265 patients developed an acute coronary syndrome within 30 days, as determined by phone calls to patients and reviews of records and the Social Security Death Index.

If clinicians had used an ACI-TIPI score of 20 or less in these subsets of young patients to exclude provocative cardiac testing and had sent these patients home, 15% of all stress tests in the study cohort could have been avoided without causing any harm, said Mr. Moyer-Diener, a medical student at the University of Michigan, Ann Arbor, who conducted the study with Michael G. Mikhail, M.D., and associates at the university.

At the meeting, physicians on a separate panel discussing cutting-edge research both praised and criticized the study.

"There's been a lot of debate about just how useful" an ACI-TIPI score is, said Charles V. Pollack Jr., M.D., chair of emergency medicine at Pennsylvania Hospital, Philadelphia. Many emergency physicians would rather not have a quantitative number related to the risk of ischemia on a patient's chart, he said, because if the case sparks a lawsuit, they would rather defend their clinical impression that the patient didn't have ischemia.

The ACI-TIPI was designed to predict the probability of cardiac ischemia on a 0- to 100-point scale, to serve as support or a "second opinion" in clinical decision making. The way ACI-TIPI was used in the study to identify patients who don't need further tests "is not really the use for which it was designed," but the idea is intriguing, Dr. Pollack said.

Jerome R. Hoffman, M.D., lauded the investigators for trying to identify a strategy to cut down on the many unnecessary tests performed for chest pain evaluation that are not backed by evidence-based medicine.

"It's very hard to get us out of that rut," said Dr. Hoffman, professor of emergency medicine at the University of California, Los Angeles.

In practical terms, however, physicians are unlikely to adopt these criteria for avoiding stress tests. An ACI-TIPI score of 20 or less is associated with a 19% risk of acute myocardial ischemia, he explained. For medicolegal reasons, physicians will not feel comfortable sending patients home if that number appears on a patient's chart.

"That, more than anything, makes me question the value of an ACI-TIPI— other than as a research tool," Dr. Hoffman said.

Previous studies have shown that physicians were from two to three times more likely to admit patients if given an ACI-TIPI score to include in the patient's chart, said Ian G. Stiell, M.D., of the University of Ottawa.

On the other hand, it's "refreshing" to hear skepticism about widespread use in the United States of stress tests, chest pain units, and prolonged cardiac monitoring, he added. ■

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