CTスキャンと負荷試験はMI否定には役立たない (2017 AHA, Abstract 735)

ROMICAT-II：侵襲的な検査は救急外来の胸痛患者に有益性をもたらさない

ROMICAT-II: Aggressive testing provides no benefits to patients in emergency room with chest pain

救急外来において胸痛患者に対しコンピュータ断層撮影（CT）および心臓負荷検査は過剰に使用されており、患者が心筋梗塞の状態か否かを判断するのに何も情報を提供していない、と2017 American Heart Association Scientific Sessions で発表され、*JAMA Internal Medicine* に掲載された。研究者らはROMICAT-II試験の結果に立ち戻り、臨床評価のみを受けた患者とCTスキャンまたは負荷試験を受けた患者との転帰の差を検討した。その結果、2群間に有意差はなかった。追加の検査は入院延長につながり、被曝が増加した。

Full Text

Patients who go to the emergency room (ER) with chest pain often receive unnecessary tests to evaluate whether they are having a myocardial infarction (MI), a practice that provides no clinical benefit and adds to health-care costs, according to a new study from researchers at Washington University School of Medicine in St. Louis.

Specifically, computed tomography (CT) scans and cardiac stress tests are overused in the ER for patients with chest pain and provide no information to determine whether a patient is in the midst of an MI, the researchers found.

The study appears Nov. 14 in *JAMA Internal Medicine*, which coincides with a presentation of the study at the American Heart Association's Scientific Sessions in Anaheim, Calif.

A typical clinical evaluation includes a medical history, physical exam, electrocardiogram and blood test for a protein that becomes elevated after the heart is damaged. In addition, many patients also are given a CT scan of the arteries that deliver blood to the heart or a cardiac stress test. A stress test measures heart function during exercise.

"Our study suggests that in the emergency room, stress testing and CT scans are unnecessary for evaluating chest pain in possible heart attack patients," said cardiologist and senior author David L. Brown, MD, a professor of medicine. "Patients don't do any better when given these additional tests. Our study is not a definitive randomized clinical trial, but it does suggest that we are over-testing and over-treating these patients."

In recent years, Brown said doctors can more accurately diagnose MIs largely because of advances in the blood test that measures levels of a protein called troponin. High troponin levels signal injury to the heart.

"This troponin test is super-sensitive," Brown said. "But earlier blood tests were much less accurate. A patient could be having an MI and these older tests often would come back normal. Doctors didn't trust the tests, so they looked for other ways to evaluate the patient. CT scans and stress tests were among the methods used. But now that the blood testing method is so much better, there is less reason to continue doing these screening tests in the emergency room."

The investigators evaluated data from 1,000 patients treated at nine medical centers across the country, including Washington University School of Medicine, that were a part of the Rule Out Myocardial Ischemia/Infarction by Computer Assisted Tomography (ROMICAT-II) clinical trial. The current study revisited data from that trial, looking for any differences in outcomes for patients who received a clinical evaluation alone (118 patients) compared with those who received a clinical evaluation plus either a CT scan or a stress test (882 patients). In the study, 88 percent of patients received the extra testing. Nationwide, the overwhelming majority of patients evaluated for chest pain in the ER get such extra tests, Brown said.

During the nearly month-long follow-up period, there were no differences between the two groups in the percentages of patients that had a stent placed to open an artery, underwent coronary artery bypass surgery, returned to the emergency room or experienced a major cardiac event, such as an MI.

While providing no clear health benefit to emergency room patients, the extra tests also led patients to stay in the hospital longer than may have been necessary and exposed them to radiation from testing that was not required to diagnose an MI. Length-of-stay for patients who received less testing was, on average, 20 hours compared with 28 hours for those who did receive either of the two additional tests.

The analysis also showed that, on average, a patient receiving more testing accrued $500 more in health-care costs during the ER visit. Patients who received more testing during the initial ER visit also received more follow-up tests, leading to $300 more in health-care costs for this group during the 28-day follow-up period. With 10 million patients coming to the ER for chest pain each year in the United States, these extra costs add up, according to the investigators.

"It's important to keep in mind that CT scans and stress tests are used to diagnose coronary disease – whether someone has plaque in the arteries," Brown said. "Many people have coronary plaque but are not having a heart attack.

"The goal of evaluating patients with chest pain in the ER is not to screen for coronary artery disease," he said. "Anyone who goes to the ER for chest pain and gets sent home should make an appointment to see their primary care doctor to talk about their recent hospital visit. It's important to follow up to see if additional testing is warranted because screening tests are not appropriate in this specific emergency situation."

The investigators report no external funding.

Cardiology特集

AHA2017 (第90回米国心臓病協会)

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