

Aggressive testing provides no benefit to patients in ER with chest pain

November 14 2017

Patients who go to the emergency room (ER) with chest pain often receive unnecessary tests to evaluate whether they are having a heart attack, a practice that provides no clinical benefit and adds hundreds of dollars in 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 a [heart attack](#), 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 heart attacks 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 a heart attack 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 heart attack.

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 a heart attack. 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."

More information: Reinhardt SW, Lin CJ, Novak E, Brown DL. Noninvasive cardiac testing vs. clinical evaluation alone in acute chest pain. *JAMA Internal Medicine*. Nov. 14, 2017.

Provided by Washington University School of Medicine

Citation: Aggressive testing provides no benefit to patients in ER with chest pain (2017, November 14) retrieved 25 April 2024 from <https://medicalxpress.com/news/2017-11-aggressive-benefit-patients-er-chest.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.