A Rapid Blood Test to Quickly Rule Out Appendicitis?

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(PhysOrg.com) -- A new a rapid blood test to rule out appendicitis among the 8 million patients who come to U.S. emergency rooms with abdominal pain each year may save patients from unnecessary radiation from a diagnostic CT scan, eliminate extra tests and hours of hospital observation, and cut costs in the process.

A new a rapid blood test to rule out appendicitis among the 8 million patients who come to U.S. emergency rooms with abdominal pain each year may save patients from unnecessary radiation from a diagnostic CT scan, eliminate extra tests and hours of hospital observation, and cut costs in the process. The test, which is currently being studied at two Penn Medicine hospitals and 11 other sites, screens for a novel biomarker of inflammation, and is designed to be used along with other common blood tests used to detect appendicitis. Young women and children are expected to benefit most from the test, since their reproductive organs are especially sensitive to radiation from imaging studies.

“Abdominal pain is the number-one reason people come to the emergency department, and appendicitis is one of the most commonly performed emergency surgeries in the United States,” says Angela Mills, MD, an assistant professor of Emergency Medicine at the University of Pennsylvania School of Medicine. “People wind up getting a lot of tests, and waiting a long time, in order for us to be sure they don’t have this condition. This test may help us limit unnecessary radiation to patients, and cut the costs and emergency room crowding associated with waiting

for answers from standard tests."

Mills is leading the study at the Hospital of the University of Pennsylvania and Penn Presbyterian Medical Center, which will enroll about 110 of the study's 800 patients. The test, which was developed by AspenBio Pharma, is a simple blood draw which is taken along with other labs ordered by physicians to evaluate a patient's condition, including those that check for signs of infection like elevated white blood cell counts. Eventually, Mills said, the test is expected to be administered as a standalone test at the bedside, saving even more time by eliminating the need to send the blood to a hospital lab for analysis - similar to how chest pain patients' cardiac enzymes can be rapidly tested to determine if they may have had a heart attack.

Women of childbearing age will likely benefit most from the new test, Mills says, since it's important to limit exposure of their reproductive organs to radiation from CT scans that are typically used to detect appendicitis. This age group comprises a large percentage of patients who come to the emergency room with abdominal pain, but their symptoms can have many other causes, from ovarian cysts and ectopic pregnancies to pelvic inflammatory disease. Radiation exposure is also a concern for small children, who may not be able to explain the type of pain they're having and are likely to undergo extensive testing.

Mills and her co-investigators at 11 other sites around the country say the test will be best used to identify "low-risk" patients - those who get a negative result and, because of their health history and other blood test results, are unlikely to require further studies and are able to be sent home. Patients who test positive, however, may require more testing to be certain of a diagnosis, since those with inflammatory bowel disease or other inflammatory conditions appear to be prone to "false positive" results even when they do not have appendicitis.

“At a time when the country is focused on reducing health care spending, tests that can increase efficiency and eliminate unnecessary tests are a welcome addition to the tools we use to care for patients in our increasingly crowded emergency rooms,” Mills says. “A negative test result could help us reassure our patients about what might be wrong with them, and help us open space for other sick patients.”

Provided by University of Pennsylvania School of Medicine