

Simple lab score diagnoses heart attack faster than current methods



A simple laboratory score provides a safer and faster way to diagnose patients who visit the emergency department with heart attack symptoms. Developed by an international research team, the score can also identify patients at risk of subsequent heart issues after discharge, according to a study published in CMAJ (Canadian Medical Association Journal).

The simple lab score, the research team says, is superior to using cardiac troponin alone for the identification of ED patients at low and high risk for heart attack or death. "This lab score may reduce both the number of blood tests and time spent in the emergency department for chest pain patients," explains Professor Andrew Worster, McMaster University, Hamilton, Ontario.

Patients with chest pain symptoms require multiple blood tests over several hours before a diagnosis is reached. Previous studies using high-sensitivity cardiac troponin alone to rule out and rule in heart attacks have not consistently demonstrated sufficient safety to use in clinical practice.

In this international study, researchers from Canada, Germany, Australia and New Zealand combined common laboratory blood tests available at many hospitals around the world to create a single laboratory score, or clinical chemistry score, to diagnose heart attack. These blood tests are part of the World Health Organization's list of essential in vitro diagnostics tests for healthcare facilities with clinical laboratories.

The researchers used data on 4,245 patients from emergency department studies in the four countries to validate the effectiveness of the clinical chemistry score as a predictor of heart attack or death within 30 days. Within one month of the ED visits, 727 heart attacks or death in patients occurred. A negative (or low-risk) clinical chemistry score at ED presentation missed only one of these events compared with up to 25 missed heart attacks/death when using a high-sensitivity cardiac troponin test alone.

Additionally, a positive (or high-risk) clinical chemistry score identified about 75 percent of patients at high risk of heart attack or death when positive compared with a low of 40 percent detected when the high-sensitivity cardiac troponin test alone was positive. The clinical chemistry score worked equally well in men and women, the researchers noted.

The score, according to the researchers, can be useful for standardising diagnoses and improving safety.

"Adoption of the clinical chemistry score algorithm would standardise reporting of high-sensitivity cardiac troponin test results, how the tests are interpreted in the normal range, and represent an option less susceptible to both analytical and preanalytical errors. This could result in the safest laboratory approach for physicians to use at presentation in the emergency department," says Dr. Peter Kavsak, also from McMaster University.

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Source: [Canadian Medical Association Journal](#)

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