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CMAJ headlines:

- ☐ **Simple score to diagnose heart attacks is safer, faster than current methods**
- ☐ **#MeToo and the medical profession** – *editorial*

Simple score to diagnose heart attacks is safer, faster than current methods

International research team hopes lab score will improve diagnosis, reduce deaths

An international team of researchers has developed a simple laboratory score that is safer and faster at diagnosing patients who visit the emergency department with heart attack symptoms. The score, published in *CMAJ (Canadian Medical Association Journal)*, can also identify patients at risk of subsequent heart issues after discharge.

"We have developed a simple lab score that is superior to using cardiac troponin alone for the identification of patients at low and high risk for heart attack or death at emergency department presentation," say Dr. Peter Kavsak, McMaster University, Hamilton, Ontario. According to Professor Andrew Worster, also from McMaster University, "This lab score may reduce both the number of blood tests and time spent in the emergency department for chest pain patients."

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, Australia, New Zealand and Germany 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 health care facilities with clinical laboratories.

The researchers validated the clinical chemistry score as a predictor of heart attack or death within 30 days using data on 4245 patients from emergency department studies in the four countries. Within one month of the emergency department visits, 727 heart attacks or death in patients occurred. A negative (or low-risk) clinical chemistry score at emergency department 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. A positive (or high-risk) clinical chemistry score also identified about 75% of patients at high risk of heart attack or death when positive compared with a low of 40% detected when the high-sensitivity cardiac troponin test alone was positive. The clinical chemistry score worked equally well in men and women.

The authors suggest the score can be useful for standardizing diagnoses and improving safety.

"Adoption of the clinical chemistry score algorithm would standardize 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. Kavsak.

The Canadian Institutes of Health Research funded the study with reagent support from Abbott Laboratories and Roche Diagnostics.

"Clinical chemistry score versus high-sensitivity cardiac troponin I and T tests alone to identify patients at low or high risk for myocardial infarction or death at presentation to the emergency department" is published August 20, 2018.

MEDIA NOTE: Please use the following public links after the embargo lift:

Research: http://www.cmaj.ca/lookup/doi/10.1503/cmaj.180144

Media contact: Susan Emigh, Media Relations, McMaster University, tel: (905) 525-9140 x 22555, emighs@mcmaster.ca

#MeToo and the medical profession

The medical profession is not immune to bullying, harassment and discrimination, and in this #MeToo era, it is time that physicians, medical schools and institutions aim to abolish these behaviours, argue the authors of an editorial in *CMAJ (Canadian Medical Association Journal)*.

"A work climate that enables bullying, harassment, discrimination and micro-aggressions can negatively affect a person's health and career pathway," write Drs. Jayna Holroyd-Leduc, University of Calgary, Calgary, Alberta, and Sharon Straus, St. Michael's Hospital, Toronto, Ontario. "Harassment and discrimination of female medical staff and trainees are well documented."

Unprofessional behaviour affects both men and women, and it can affect patient care. Organizational factors that may lead to inappropriate behaviour include poor leadership, power imbalances, unconscious biases and a culture of silence.

“As a profession, we need to stop excusing unprofessional behaviour toward colleagues just because physicians are accomplished in clinical care or academia.”

The authors suggest that measures of professionalism be included in review and promotion processes. Medical workplaces should also have safe, transparent processes to report and investigate unprofessional behaviour, as well as strategies to address unprofessional behaviour.

“It is time that all Canadian medical schools and health care institutions implement and evaluate initiatives aimed at achieving a culture of respect within medicine. The medical profession — and ultimately patient care — will improve for all when we treat each other with respect, regardless of gender, age, race or stage of career,” they conclude.

MEDIA NOTE: Please use the following public links after the embargo lift:

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General media contact: Kim Barnhardt, Communications, *CMAJ*,
kim.barnhardt@cmaj.ca
@CMAJ