



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
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New Treatment Protocol Delivers Four-Fold Reduction in Mortality Among Higher Risk Heart Attack Victims

Early Diagnosis by Paramedics Triggers Speedy, Effective Treatment Response

OTTAWA – October 25, 2005 – Training advanced care paramedics to interpret and react appropriately to electrocardiograms (ECG) is leading to a greater than four-fold reduction in mortality among older, more fragile and higher risk patients experiencing a heart attack. That is one of the major conclusions of a new study being presented today by Dr. Michel Le May from the University of Ottawa Heart Institute (UOHI), Canada's leading cardiovascular centre.

The study, presented at the Canadian Cardiovascular Congress, hosted by the Heart and Stroke Foundation of Canada and the Canadian Cardiovascular Society, is reporting the results of an advanced treatment protocol developed at UOHI. It compared the real-world outcomes of heart attack patients arriving by ambulance who received treatment under UOHI's experimental program with patients receiving conventional treatment between July 2004 and June 2005. The results were dramatic.

The mortality rate among ambulance patients receiving conventional treatment in control hospitals was 8.9% compared to only 1.9% for patients treated by UOHI. One factor for this difference was the time-to-treatment, another was the treatment method employed. Generally, UOHI patients were receiving care in half the time because of the new protocol and they were treated with a more proven method of correcting the medical ailment.

The ambulance population tends to be older, and more fragile and sick which means they are much higher risk patients, said Dr. Michel Le May, Director, Coronary Care Unit, UOHI. The results of our new program come from early diagnosis by paramedics coupled with methods that lead to a complete and sustained resolution of the problem. Clearly this helps improve survival rates and contributes to an improved quality-of-life for the patient.

The new protocol, which is now standard within the Institute, holds much promise for significantly reducing mortality rates of heart attack victims in hospitals across the country and around the world.

The development of this new protocol will help ensure better, faster treatment for patients, said Dr. Jacques Genest, Heart and Stroke Foundation spokesperson and scientific chair of the Congress.

How the Program Works

The hearts of patients experiencing chest pains caused by blocked arteries typically exhibit a particular type of ECG waveform called a STEMI (ST-Elevation Myocardial Infarction). The

UOHI team trained paramedics to recognize the STEMI waveform and initiate a protocol designed to deliver the fastest, most effective treatment by bypassing normal emergency room procedures and routing the patient directly to a specialized treatment lab. To clear blocked arteries, the team used a mechanical method known as percutaneous coronary intervention (PCI) wherein a balloon is inserted into the artery to eliminate obstructions, a procedure known as angioplasty.

In the conventional approach, a patient experiencing chest pains is delivered by ambulance to an emergency room where the STEMI condition is first diagnosed. The patient is then routed appropriately, leading to delays in treatment. As well, there is greater reliance on using drugs (thrombolytics) to clear obstructed arteries, which studies have shown to be less effective than PCI methods.

The paramedics early diagnosis is key. When the paramedic triggers a Code STEMI, we have a team assembled, in-place and ready to go when the patient arrives at our door, said Le May.

UOHI's STEMI program and today's results stem, in part, from an innovation investment of just \$10,000 from Ontario's Ministry of Health and Long-Term Care (MOHLTC). The Ministry's support helped design, develop, and launch the earliest phases of the program.

This program is a terrific example of the innovation that can be achieved in Ontario with the appropriate encouragement and support, said Dr. Le May. We look forward to further refinements of our new STEMI program and hope to achieve even better results.

The ultimate goal is to develop a triage tool using the ECG and other variables to bring the right patient to the right place, at the right time. Dr. LeMay's study will help inform our work to develop a model similar to Ontario and other provinces where advanced care paramedics have training to be able to read ECG and take important decisions about patients' orientation, he said.

The University of Ottawa Heart Institute is one of the largest heart centres in North America dedicated to the prevention, diagnosis, treatment, rehabilitation, research and education of cardiovascular disease. Annually, UOHI serves over 76,000 outpatients, more than 6,000 inpatients, and an alumni of some 10,000 patients. UOHI is also home to the Canadian Cardiovascular Genetics Centre, an emerging international leader and the first in Canada dedicated to mapping, identifying and determining the function of genes responsible for heart disease. For more information, visit www.ottawaheart.ca.

The Heart and Stroke Foundation (www.heartandstroke.ca) is a leading funder of heart and stroke research in Canada. The Foundation's mission is to improve the health of Canadians by preventing and reducing disability and death from heart disease and stroke through research, health promotion and advocacy.

About UOHI

The University of Ottawa Heart Institute is Canada's largest and foremost cardiovascular health centre dedicated to understanding, treating and preventing heart disease. We deliver high-tech care with a personal touch, shape the way cardiovascular medicine is practiced, and revolutionize cardiac treatment and understanding. We build knowledge through research and translate discoveries into advanced care. We serve the local, national and international community, and are pioneering a new era in heart health. For more information, visit www.ottawaheart.ca

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