



**INSTITUT DE  
CARDIOLOGIE  
DE MONTRÉAL**

**AFFILIÉ A**  
Université   
de Montréal

## **PRESS RELEASE**

**For immediate release**

### **MAJOR INTERNATIONAL STUDY SHOWS LOWERING HEART RATE LESSENS RISK OF HEART ATTACKS IN PATIENTS WITH CORONARY ARTERY DISEASE AND A HEART RATE ABOVE 70 BEATS PER MINUTE**

#### **MONTREAL HEART INSTITUTE LEADS CANADIAN RESEARCH TEAM**

**Montréal, September 3, 2008** – For the first time, a major international study has demonstrated that using a medication to lower high heart rate in patients with coronary artery disease and a heart rate above 70 beats per minute can significantly lessen – by 30 percent or more – the risk of those patients suffering major cardiovascular problems such as heart attacks, a finding which could change the medical management of the disease.

The Montreal Heart Institute led the Canadian portion of the study, which involved almost 11,000 patients in 33 countries on four continents. The much-anticipated study results were presented this week at the 2008 European Society of Cardiology Congress in Munich, Germany and published simultaneously in the medical journal *The Lancet*.

The study, called BEAUTIfUL, followed 10,917 patients who had known heart disease and evaluated whether using a medication, a selective heart rate lowering agent ivabradine, would help prevent them from developing serious cardiovascular events such as heart attacks. All the patients were already receiving the guideline-recommended cardiovascular therapy, including the use of antiplatelet agents (by 94% of the study patients), angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) (91%), beta-blockers (87%), as well as lipid-lowering agents (76%).

The results showed there was a neutral effect overall in the study, but that using the drug to lower heart rate had a significantly positive impact on patients who started with an elevated resting heart rate, defined as greater than 70 beats per minute.

BEAUTIfUL data conclusively demonstrated that these patients with an elevated resting heart rate greater than 70 bpm are more likely to die or suffer another cardiovascular event than patients with a lower resting heart rate. The increase in risk is 34% for cardiovascular death, 46% for myocardial infarction (heart attack), 56% for heart failure and 38% for coronary revascularisation. In those patients, the addition of the heart rate-lowering treatment resulted in a 36 percent lowering of the risk of hospitalization for fatal and non-fatal myocardial infarction ( $p=0.001$ ) and a 30 percent lowering of the risk of coronary revascularization ( $p=0.016$ ).

“The results from BEAUTIfUL support the role of selectively reducing heart rate in patients with known coronary heart disease who have a baseline heart rate more than 70,” said Dr. Jean-Claude Tardif, the study’s Canadian lead investigator, member of the study steering committee, director of the Montreal Heart Institute Research Centre and professor of medicine at the Université de Montréal. “What is most interesting about the results is that by lowering heart rate sufficiently in these patients we can indeed have the potential to reduce the incidence of cardiovascular events over and above what we can achieve with the best standard of care we have available right now.”

Ivabradine is not yet approved or available in Canada.

### **About Coronary Artery Disease**

Coronary artery disease (CAD) is the most common manifestation of cardiovascular disease. It refers to the hardening and shrinking of the coronary arteries (atherosclerosis) which leads to diminished blood flow and reduces oxygen supply to the heart muscle (ischemia). The lack of oxygen supply to the heart muscle may cause angina (heart pain). If the coronary artery becomes completely blocked, a whole section of the heart muscle is deprived of oxygen and dies, resulting in a myocardial infarction (MI) or heart attack. Coronary artery disease is a progressive silent disease that very often is unobserved until the first symptoms of ischemia or MI occur. Although the prognosis of patients with CAD has been greatly improved by advances in cardiovascular treatment, it is still the first cause of death.

Cardiovascular disease accounts for the death of more Canadians than any other disease. In fact, in Canada someone dies every 7 minutes from it. According to the latest statistics available from Statistics Canada, in 2004 cardiovascular disease accounted for close to one third of all deaths in Canada (more than 72,000 deaths).

### **Heart rate and CAD**

Heart rate is a major determinant of oxygen consumption and can precipitate most episodes of ischemia, both symptomatic and silent. Consequently, lowering the heart rate in patients with CAD reduces the heart's need for oxygen. A number of epidemiological studies have shown that heart rate is a strong and independent predictor of cardiovascular events in a wide range of patients, including those with CAD and post-myocardial infarction. This risk seems to become particularly evident with heart rate above 70 bpm.

### **About the Montreal Heart Institute**

Founded in 1954 by Dr. Paul David, the Montreal Heart Institute constantly aims for the highest standards of excellence in the cardiovascular field through its leadership in prevention, ultra-specialized care, training of professionals, clinical and fundamental research, and assessment of new technologies. It is affiliated with the Université de Montréal and its clinical outcomes are among the best in the world.

The MHI Research Centre began its work in 1976, and major achievements have occurred since its creation. Today, there are some 500 employees, students and researchers at the MHI Research Centre. Its outstanding feature is the balance it achieves between basic research, clinical research and clinical care. Its prime focus areas of research are vascular disease, myocardial function, and electrophysiology. MHI researchers also contribute to the advancement of knowledge and medical applications in the fields of genomics (notably, genetics and pharmacogenomics), biomarkers, and preventive cardiology. To learn more about the Institute, please visit our website at [www.icm-mhi.org](http://www.icm-mhi.org).

### **About the Université de Montréal**

Deeply rooted in Montreal and dedicated to its international mission, the Université de Montréal is one of the top universities in the world, particularly in the French-speaking world. Founded in 1878, the Université de Montréal now has 13 faculties and, together with its two affiliated schools, HEC Montréal and École Polytechnique, constitutes the largest centre for higher education and research in Québec, the second largest in Canada, and one of the major centres in North America. It brings together some 2,500 professors and researchers, accommodates over 55,000 students, offers more than 650 programs at all academic levels, and awards some 3,000 Master's and PhD diplomas every year.

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### **Video News Release available via satellite**

Wednesday September 3, 2008 at 10:30 - 11:00 and again at 14:30 - 15:00 Eastern

#### **SATELLITE FEED COORDINATES:**

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