

The Montreal Heart Institute presents findings on congestive heart failure and atrial fibrillation

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Simpler approach to atrial fibrillation treatment in heart failure patients eliminates need for repeated cardioversions and reduces hospitalization rates

The results of a major international clinical trial coordinated by the Montreal Heart Institute were reported in the New England Journal of Medicine. The Atrial Fibrillation and Congestive Heart Failure Trial (AF-CHF) was a prospective, multicentre project involving patients with heart failure and atrial fibrillation.

The trial was launched in 2001 and enrolled 1,376 patients at 123 hospital sites in North America, South America, Europe and Israel. The project's goal was to improve treatment with the objective of reducing mortality and morbidity linked with atrial fibrillation and heart failure. Made possible by a grant of more than \$6.5 million from the Canadian Institutes of Health Research (CIHR), this study was directed by Dr. Denis Roy, a cardiologist at the Montreal Heart Institute (MHI) and Chair of the Department of Medicine at the Université de Montréal, in collaboration with Dr. Mario Talajic, also a cardiologist at the MHI, and several Canadian researchers and international experts who contributed to this large-scale research project.

Methodology

Between May 2001 and June 2005, the 1,376 patients were randomly assigned to a rhythm-control strategy (where patients received electrical

shocks and medication to suppress the abnormal rhythm) or a more simpler strategy of rate-control (where two common drugs, beta-blockers and digitalis, are used to prevent rapid heart rates with no specific efforts to regularize the rhythm). The primary endpoint of the study was cardiovascular mortality. Data management and analysis were performed at the Montreal Heart Institute Coordinating Center (MHICC).

Rate-control as effective as rhythm-control

The intention-to-treat analysis revealed no difference in the primary endpoint between the two groups. Cardiovascular death occurred in 182 (27%) patients in the rhythm-control group compared with 175 (25%) in the rate-control arm. Total mortality, worsening heart failure and stroke were similar between the two groups. Hospitalizations were more frequent in the rhythm-control group, many due to hospitalization for management of atrial fibrillation.

Rate-control should be the primary approach

The AF-CHF trial provides important new information concerning two widely-used treatment strategies for atrial fibrillation in patients with heart failure. The routine use of a rhythm-control strategy did not reduce the rate of death in comparison with a rate-control strategy.

Furthermore, there were no significant differences in other important outcomes such as worsening heart failure or stroke. The rate-control strategy eliminated the need for repeated cardioversions and reduced rates of hospitalization. In conclusion, the results of this trial suggest that rate-control, should be considered the primary approach for patients with atrial fibrillation and congestive heart failure.

"It is now clear that the rate-control strategy offers a less complex approach for the management of atrial fibrillation and could reduce rates

of hospitalization" says Dr. Denis Roy, the principal investigator.

"The result of this provocative study challenges the conventional wisdom, and shows that these patients can be conservatively managed, without repeated electric shocks. This will serve as a new goal post for future care of these patients," said Dr. Peter Liu, Scientific Director of the CIHR Institute of Circulatory and Respiratory Health.

About atrial fibrillation

Atrial fibrillation is a cardiac rhythm disorder in which the upper chamber of the heart (the atria) beats irregularly and very rapidly. Patients may experience this in the form of palpitations, shortness of breath or chest pain. This is the most common form of sustained arrhythmia. Contrary to ventricular fibrillation (originating in the ventricles or lower chamber of the heart), atrial fibrillation is rarely fatal but does require treatment as it can lead to severe discomfort, heart failure or stroke. Atrial fibrillation affects roughly 2.2 million Americans, predominantly the elderly.

About congestive heart failure

Congestive heart failure affects over 4 million Americans and the number of patients suffering from heart failure will continue to rise over the next few decades. Heart failure is a clinical syndrome where the heart is unable to pump enough blood to satisfy the organism's metabolic needs. In roughly two-thirds of cases, the dysfunction is caused by defective cardiac muscle contraction due to coronary disease and hypertension. Despite recent advances in our understanding of the physiopathology of heart failure and the development of new drugs, the prognosis remains serious. The five-year mortality rate is 50%, and heart failure is the main cause of cardiovascular hospitalizations.

Source: University of Montreal

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