

Discovery in cardiology: A medication reduces heart volume

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As guest speaker at the European Society of Cardiology's Congress currently under way in Paris, Dr. Jean-Claude Tardif, Director of the Montreal Heart Institute's Research Centre and professor of medicine at the Université de Montréal, today presented the results of an analysis demonstrating that ivabradine, a medication used to reduce heart rate, also reduces heart volume (left ventricle) among patients with cardiac insufficiency.

In 2010, the findings of the SHIFT (Systolic [Heart failure treatment with the If inhibitor Ivabradine Trial](#)) clinical trial were published in the scientific journal *The Lancet*. These findings demonstrated that reducing [heart rate](#) with ivabradine also led to a significant reduction in mortality and hospitalizations among patients with left [cardiac insufficiency](#). The objective of the sub-study presented today was to assess the effects of ivabradine responsible for this benefit.

To achieve this, Dr. Tardif and his team compared the echocardiographies of 411 patients with cardiac insufficiency randomly assigned to ivabradine or a placebo before and after eight months of treatment. After analyzing the results, they discovered a significant reduction in heart volume ([left ventricle](#)) among the patients taking ivabradine compared to the placebo group. They also noted an improvement in the ejection function of the left ventricle among patients treated with ivabradine. This constitutes a remarkable advance since patients with cardiac insufficiency are at risk of serious problems as the disease progresses.

Left cardiac insufficiency is characterized by the inability of the heart to properly execute its pumping function, which makes it possible to effectively eject the blood toward the aorta. This inability gives rise to compensating mechanisms such as increased heart rate, dilation of the left ventricle, and a thickening of the heart muscle. "In spite of current therapies, cardiac insufficiency, in

the last few decades, has been a leading public health concern associated with significant mortality and morbidity," said Dr. Tardif. "The reduction in heart volume and the improved left ventricle contraction observed with ivabradine hold a great deal of promise. This is a further step toward a new approach to the treatment of cardiac insufficiency."

Subsequent to the 2005 INITIATIVE study directed by Dr. Jean-Claude Tardif, ivabradine was eventually made available in 80 countries. Ivabradine is not yet available in Canada, however.

Provided by Montreal Heart Institute

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