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## **LONG-TERM MONITORING OF THE HEART RHYTHM AFTER MYOCARDIAL INFARCTION PREDICTS SURVIVAL**

**Chicago, IL** – After patients experience a heart attack, doctors are challenged to track their long-term outcomes due to limited tools to monitor and document cardiac arrhythmias. It is important, however, to be able to closely monitor these abnormal heart rhythms, as they can be strong predictors of long-term patient outcomes.

According to research presented today at the American College of Cardiology's 57<sup>th</sup> Annual Scientific Session, knowledge of the frequency of cardiac arrhythmias after a severe heart attack is limited due to the lack of measurement tools. Currently, conventional 24-hour ECG recorders are used to assess arrhythmias a few weeks after the heart attack, but results are limited as they only provide a snapshot of the patient's arrhythmic profile. ACC.08 is the premiere cardiovascular medical meeting, bringing together cardiologists and cardiovascular specialists to further breakthroughs in cardiovascular medicine.

Long-Term Cardiac Arrhythmias Recorded by Insertable Loop Recorder in Patients with Reduced Ejection Fraction After Acute Myocardial Infarction, the CARISMA Study, took an extended look at cardiac arrhythmias recorded by an insertable loop recorder (ILR), that has the advantage of monitoring the heart beat continuously for two years. This may eventually offer doctors a better understanding of long-term survival outcomes in cardiac patients. The study was designed to be observational, and therefore does not draw conclusions as to how the results might impact current clinical practice. However, implantation of an ILR can establish the diagnosis of cardiac arrhythmias that may be treated pharmacologically or by implanted cardiac devices.

CARISMA was a multicenter observational prospective study to assess the incidence and prognostic significance of arrhythmias using an ILR and determined that patients who survive a

heart attack experience many episodes of what are mostly asymptomatic brady- and tachy-arrhythmias. The study screened 1393 patients right after an acute myocardial infarction (AMI, three to 21 days post-event) with an ejection fraction (EF) of less than 40 percent. Of these, 312 patients (22%) consented to participate and 297 patients were implanted with an ILR within 21 days of acute myocardial infarction. As a result of the study, 24 patients (8%) received treatment with a pacemaker or implantable defibrillator.

A substantial number of serious and potentially treatable cardiac arrhythmias were recorded by the ILR during the first two years of follow-up. Significant arrhythmias were documented in 137 patients, asymptomatic in 86%. The study analysis found a substantial number of these arrhythmias: one-third of the patients experienced new onset atrial fibrillation; one-fifth of the patients developed severe brady-arrhythmias; and, one-tenth of the patients presented ventricular tachy-arrhythmias.

Some of the arrhythmias were significant predictors of cardiac death – in particular, slow heart rhythm, high degree atrio-ventricular (AV) block and non-sustained ventricular tachycardia (VT), which could be addressed with either pacemaker or defibrillator (ICD) therapy. High-degree atrioventricular block was the most powerful predictor of cardiac death.

“The loop recorder turned out to be a strong diagnostic tool to record abnormal heart rhythms, and should be considered in future studies as a clinical tool to better manage patients” said Poul Erik Bloch Thomsen, MD, PhD, Gentofte Hospital, University of Copenhagen, Denmark and lead study author.

*Dr. Bloch Thomsen will present “Long-Term Cardiac Arrhythmias Recorded by an Insertable Loop Recorder in Patients With Reduced Ejection Fraction After Acute Myocardial Infarction: The CARISMA Study” at the Late-Breaking Clinical Trials II session on Tuesday, April 01, 2008, 10:00 a.m. - 11:30 a.m., McCormick Place, North Hall B1.*

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The American College of Cardiology ([www.acc.org](http://www.acc.org)) represents the majority of board certified cardiovascular physicians in the United States. Its mission is to advocate for quality cardiovascular care through education, research, promotion, development and application of standards and guidelines – and to influence health care policy. ACC.08 is the largest cardiovascular meeting, bringing together cardiologists and cardiovascular specialists to share the newest discoveries in the treatment and prevention, while helping the ACC achieve its mission to address and improve issues in cardiovascular medicine.