

Beta blocker therapy underused in heart failure patients

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New Saint Louis University research has found that beta blockers, a class of drugs used to prevent the progression of heart failure and manage arrhythmias (irregular heart beat) and hypertension (high blood pressure), are underused in heart failure patients who receive implantable cardiac devices.

Failure to take [beta blockers](#) prior to implanting a cardiac device can affect the patient's overall outcome and survival rate, says Paul Hauptman, M.D., cardiologist and professor of internal medicine at Saint Louis University School of Medicine and lead author of the study.

Additionally, beta blocker use may eliminate the need for the cardiac device entirely by improving heart function. Multiple clinical practice guidelines, including those of the American College of Cardiology/American Heart Association, support the use of beta blockers.

The research, which was published in the March 2010 issue of *Circulation: Cardiovascular Quality and Outcomes*, used a large multi-state managed care database to examine the use of beta blockers both 90 days prior to and 180 days following the implantation of the device. When possible, researchers removed patients from the database who would not have qualified for beta blockers because of an underlying health issue, such as asthma, or because they received the device in an emergency situation.

Of the 2,766 patients included in the study, one third did not take beta blockers at any time in the 90 days before receiving a cardiac device. Additionally, less than 40 percent of the patients fell into the high use category, which was defined as having prescriptions for beta blockers that covered at least 80 percent of the 90 days prior to the procedure. The research found a modest increase of beta blocker use following the device procedure.

"Current guidelines for cardiac devices stress the importance of establishing optimal therapy, which includes the use of beta blockers, before considering a patient a candidate for the invasive procedure," Hauptman said.

"Cardiac devices alone are not the answer. Implantable defibrillators in particular function as a safety net; they provide protection in the event the heart would stop beating. Beta blockers, on the other hand, are a therapy. They can prevent progression of heart failure."

One of the criteria used to select candidates for cardiac devices is the ejection fraction, which refers to the fraction of blood pumped out of the heart with each heart beat. Beta blockers can improve a patient's ejection fraction and decrease the risk of sudden death. In fact, in some cases, taking beta blockers can improve ejection fraction so greatly that the patient no longer needs a cardiac device, Hauptman says.

While the research shows that less than 40 percent of patients take beta blockers for the recommended 90 days prior to receive a cardiac device, what is less clear are the reasons behind the lack of adherence.

"It's probably a combination of two factors: physicians are not prescribing the medication the way they should and patients may be non-compliant. From the proverbial 30,000 foot view, though, it doesn't matter why," Hauptman explained. "We need to have systems in place to ensure that patients are on optimal medical therapy prior to receiving a device."

Hauptman says the issue comes down to improving patient care and managing health care cost.

"Implantable cardiac devices are invasive and very expensive. We have a great opportunity to improve the way we care for [heart failure](#) patients. Plus, we

can save money along the way," Hauptman said.

Provided by Saint Louis University

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