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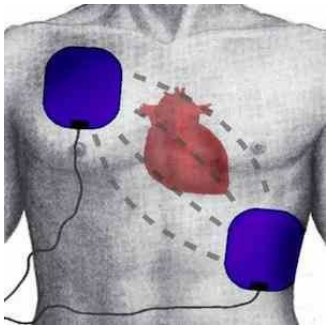
Johns Hopkins Study Reveals Defibrillators Boost Heart Function



According to a new study led by Johns-Hopkins, one in four patients with implanted defibrillators experienced improvements in heart function substantial enough to put them over the clinical threshold that qualified them to get a defibrillator in the first place. The results are published in the *Journal of the American College of Cardiology*.

The study was conducted with 1200 patients and revealed that these patients had a lower risk of dying and were also less likely to suffer arrhythmia-terminating device shocks because their hearts grow less prone to developing lethal rhythms. All patients included in the study had implanted defibrillators but had not experienced cardiac arrest.

The researchers believe that improvement in heart function is mainly due to the concurrent use of heart failure medications as they play a role in enhancing the heart's ability to pump. In some patients, the concurrent use of a pacemaker may also be a contributing factor. However, the researchers are surprised not at the fact that patients got better but they are more amazed at the number of patients that did.

The researchers explain that this does not mean that the risk of arrhythmia is totally eliminated in these patients but that these patients may continue to derive some benefit from implanted defibrillators even as their hearts become less susceptible to fatal rhythms. However, since defibrillators can result in complications, it is important to keep the risk-benefit ratio in mind. Implanted defibrillators can sometimes misfire resulting in startling, painful, unnecessary and dangerous shocks. In addition, the procedure of placing the devise is highly invasive and complex and there is always a risk of blood vessel damage and dangerous heart valve infections.

“Our results highlight an urgent need to refine the risk-benefit assessment in people repeatedly, over the course of their treatment, and not just at the time of device implantation,” says senior investigator Alan Cheng, MD, a cardiac electrophysiologist and an associate professor of medicine at the Johns Hopkins University School of Medicine. He emphasises that determining if patients with defibrillators whose hearts get better over time may be better off without the device is just as important as determining who needs a defibrillator in the first place.

It is thus important to predict which patients are at a higher risk of cardiac arrest and can benefit most from a defibrillator. This may be tricky and may require guesswork as pointed out by the researchers. Currently, the guidelines the American College of Cardiology and the American Heart Association recommend device implantation for people with heart failure whose hearts’ ejection fraction is below 35 percent

“Heart function below 35 percent is the current standard guiding device placement. But our study shows in one-quarter of people with defibrillators, heart function, over time, goes above that threshold, suggesting that a person’s risk for arrhythmia is not static. Monitoring such fluctuations is essential to optimise the clinical management of these patients,” Cheng says.

The study researchers also point out that regular follow-up with a general cardiologist or a heart failure specialist is necessary for heart failure patients because heart function can change over time and also because new therapies are constantly being developed that could potentially improve or change their prognosis and treatment.

Source: Johns Hopkins Medicine

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