心臓再同期療法は心不全の生存率を改善する

2つのタイプのペースメーカーを比較したスタディの結果、軽度心不全患者における明らかな有益性が認められた

Study comparing two types of pacemakers finds clear benefits for patients in mild heart failure

両室ペーシング機能付き植込み型除細動器（CRT-D）として知られる特別なペースメーカーを植え込まれた軽度心不全患者は、従来の植込み型除細動器（ICD）を植え込まれた患者よりも生存期間が長い可能性があるとの研究結果が第63回American College of Cardiology学会で発表された。Multicenter Automatic Defibrillator Implantation with Cardiac Resynchronization Therapyトライアルでは、軽症心不全症状を有する患者および心不全症状を有さない患者1,820人（左脚ブロックを有する1,281人を含む）を組み入れ、彼らをCRT-D療法またはICDを施行される群にランダムに割り付けた。患者はクラス1または2の心不全と診断され、左室機能障害を有し左室駆出率は30%以下であった。オリジナルのトライアルは患者を平均2.4年間追跡したが、今回のスタディではこの追跡期間を組み入れから最長7年間に延長した。CRT-Dを植え込まれた左脚ブロック患者は従来のICDを埋め込まれた患者よりも死亡リスクが41%低下した。このサブセットにおいて、CRT-D患者の7年間後の総死亡率は18%であったのに対し、ICD群では29%であった。CRT-D群患者の5年生存率は90%近かった。

Full Text

Patients in mild heart failure who receive a specialized pacemaker known as cardiac resynchronization therapy with a defibrillator (CRT-D) may live longer than those implanted with a traditional implantable cardioverter defibrillator (ICD), according to research presented at the American College of Cardiology's 63rd Annual Scientific Session.

In the first study to look at CRT-D in mildly symptomatic patients, researchers found that patients with left bundle branch block implanted with a CRT-D had a 41 percent reduced risk of death compared to patients who had a conventional ICD. The probability of all-cause mortality at seven years was 18 percent among the CRT-D patients, compared to 29 percent in the ICD group in this subset of patients. The five-year survival rate for patients with CRT-D was close to 90 percent.

"Based on our findings, we now have an intervention that can potentially change the outcomes for certain heart failure patients," said Ilan Goldenberg, M.D., director of the department of cardiology, Israel's Leviev Heart Center, and one of the lead investigators of the study. "We can intervene early in the course of the disease to reduce the risk of long-term mortality in these patients."

The Multicenter Automatic Defibrillator Implantation with Cardiac Resynchronization Therapy trial enrolled 1,820 patients with mild or no heart failure symptoms – including 1,281with left bundle branch block in this analysis – and randomized them to receive CRT-D therapy or ICD. A CRT-D differs from an ICD in that it has a second electrode over the left ventricle of the heart to help synchronize a patient's heartbeat and improve cardiac function.

Patients enrolled in the study were diagnosed with New York Heart Association Class 1 or 2 heart failure, left ventricular dysfunction and an ejection fraction of 30 percent or lower. The original trial followed patients for an average of 2.4 years, and the current study extended this follow-up for up to seven years from enrollment.

According to Goldenberg, previous studies have shown survival benefits from CRT-D in patients with moderate-to-severe symptoms, where intervention took place relatively late in the course of the disease when mortality rates are high. This study is the first to show the significant survival benefit when CRT-D is used with mildly symptomatic patients or asymptomatic patients with cardiac dysfunction.

Approximately half of patients who develop moderate or severe heart failure die within five years of diagnosis, making it important to intervene early in the clinical course of the disease.

The significant long-term survival benefit of CRT-D in the trial was observed only among patients with left bundle branch block, Goldenberg said. The study does not support early intervention with CRT-D in patients without left bundle branch block.

While researchers expected to find mortality reduction in patients with left bundle branch block during long-term follow-up, Goldenberg said, "we were surprised by the consistency of results in each subgroup of these patients, regardless of age, gender or the cause or duration of heart failure."

Goldenberg recommends additional research to see if similar benefits are found in patients with higher ejection fractions and among those without any symptoms of heart failure. The study was supported by an unrestricted grant from Boston Scientific, St. Paul, Minn.

This study will be simultaneously published online in the *New England Journal of Medicine* at the time of presentation.

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