Leadless pacemaker feasible in animal models

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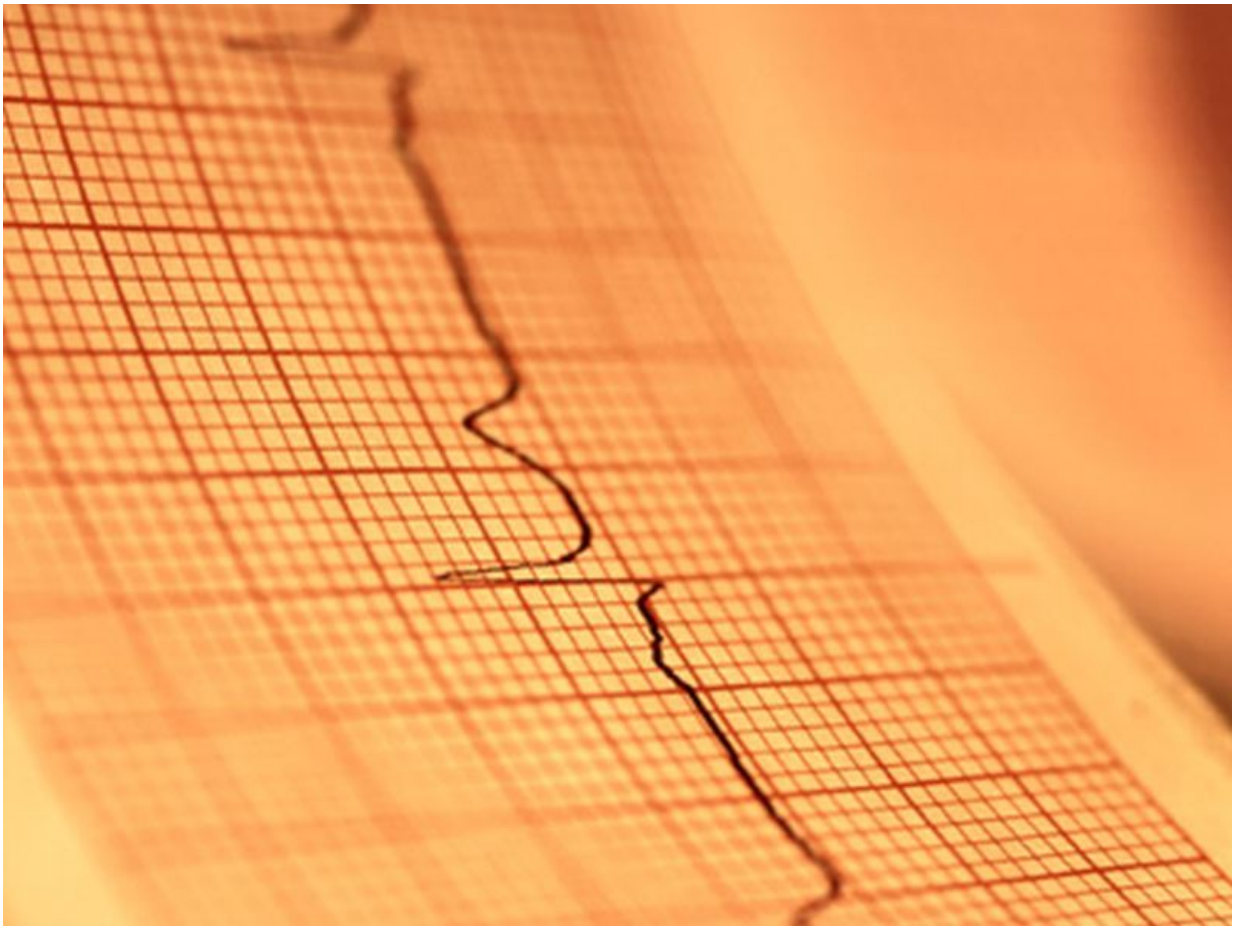

(HealthDay)—A leadless anti-tachycardia pacemaker (LP) and

subcutaneous implantable cardioverter defibrillator (S-ICD) are feasible in animal models, according to a study published online May 12 in *JACC: Clinical Electrophysiology*. The research was published to coincide with the annual meeting of the Heart Rhythm Society, held from May 10 to 13 in Chicago.

Fleur V.Y. Tjong, M.D., from the Academic Medical Center in Amsterdam, and colleagues evaluated the combined modular cardiac rhythm management therapy system of LP and S-ICD prototypes in three animal models (ovine, porcine, and canine) in acute and chronic experiments. The authors tested LP performance, S-ICD to LP communication, S-ICD and LP rhythm discrimination, and anti-tachycardia pacing (ATP) delivery triggered by the S-ICD.

LP and S-ICD were successfully implanted in 39 of 40 animals; 23 animals were followed for 90 days after implant. The researchers found that during 90 days of follow-up, LP performance was adequate and demonstrated appropriate single chamber pacemaker (VVI) behavior. In 99 percent of attempts, unidirectional communication between the S-ICD and LP was successful, resulting in 100 percent ATP delivery by the LP. During normal sinus rhythm, LP pacing, and ventricular tachycardia/ventricular fibrillation, adequate S-ICD sensing was observed.

"We demonstrated appropriate VVI functionality, successful wireless device-device communication, and ATP delivery by the LP," the authors write. "Clinical studies on safety and performance are needed."

Several authors disclosed financial ties to medical device companies, including Boston Scientific, which partially funded the study.

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More Information