ACC: Leadless pacemaker, subcutaneous ICD feasible

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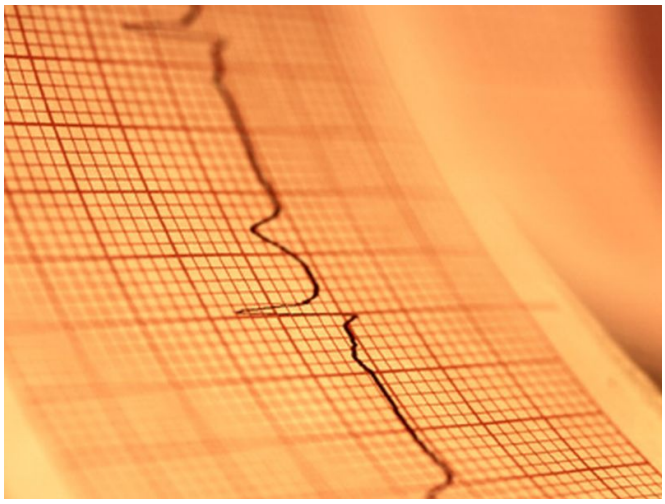

(HealthDay)—Intrabody, wireless unidirectional communication is possible using a leadless cardiac pacemaker (LCP) and subcutaneous implantable-cardioverter defibrillator (S-ICD), according to a letter published online March 21 in the *Journal of the American College of Cardiology*. The research will also be presented at the upcoming annual meeting of the American College of Cardiology, to be held from April 2 to 4 in Chicago.

Fleur V.Y. Tjong, M.D., from the Academic Medical Center in Amsterdam, and colleagues reported the first proof of concept preclinical study of a combined implant of an adenosine triphosphate (ATP)-enabled LCP and S-ICD. The study was performed in an ovine animal model (two animals).

The researchers found that the LCP and S-ICD were implanted successfully in both animals. They established programmer-LCP and S-ICD to LCP communication without interference. During intrinsic rhythm, LCP pacing, and ventricular arrhythmia, S-ICD rhythm discrimination was adequate in all S-ICD sensing vectors. The LCP adequately sensed ventricular fibrillation (VF) and inhibited pacing when programmed to high sensitivity settings. The LCP did not sense the VF rhythm at low sensitivity settings and converted to VVI pacing. In all attempts, unidirectional communication from S-ICD to LCP resulted in successful ATP delivery by the LCP.

"We demonstrated appropriate VVI functionality, successful S-ICD to LCP communication, and ATP-delivery by the LCP," the authors write. "The next steps should include larger and chronic studies of independently functioning ATP-enabled LCP and S-ICD systems."

Several authors disclosed financial ties to Boston Scientific, which produced the LCP and S-ICD prototypes.

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