

Study finds alternative lead position is safe in cardiac resynchronisation therapy

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In heart failure patients undergoing cardiac resynchronisation therapy (CRT), right ventricular (RV) lead placement in the mid-septum as compared to the conventional apical position results in similar outcomes, according to the SEPTAL-CRT study.

The findings, presented as a Hot Line at the ESC Congress 2014, have potentially important implications for many [heart failure patients](#).

"CRT is currently only successful in about two thirds of heart failure patients, and the optimal location of the RV lead is still a matter of debate," said study investigator Christophe Leclercq, MD, from Rennes University, France.

"Conventional lead placement in the apex of the right ventricle can induce cardiac dyssynchrony and thus increase morbidity and mortality. Therefore, knowing that we have an alternative position for RV lead placement means there is potentially a way to improve the CRT success rate."

CRT involves a pacemaker or a defibrillator with simultaneous or sequential RV and LV pacing to restore cardiac synchrony in a dyssynchronous heart.

The SEPTAL-CRT study was conducted at 25 European centres and randomised 263 CRT patients (mean age 63.4 years) to either conventional RV lead positioning in the apex (n=132), or positioning in

the mid-septum (n=131).

The left ventricle (LV) lead was inserted conventionally, into the coronary sinus.

The main objective of the study was to demonstrate that the RV septal position was not inferior to the apical position in terms of changes in the left ventricular end systolic volume (LVESV) – the volume of blood in the ventricle at the end of contraction.

At six months follow-up there was a similar decrease in LVESV from baseline in both the septal and apical groups (-25 vs. -29 ml respectively; $p=0.79$).

There were also no differences between groups in clinical outcome, with both showing the same benefit in the six-mile walk test and the Milton Packer score, a composite score of death, hospitalisation for [heart failure](#), New York Heart Association class and global assessment.

The mid-septal position of the RV lead was also associated with the same implantation success and complication rates as the conventional position.

"The SEPTAL-CRT trial is the first prospective, multicenter, randomised trial demonstrating the non inferiority of the mid-septal location as compared to the conventional apical location of the right ventricular lead in CRT patients on left ventricular reverse remodelling," concluded Professor Leclercq. "The implantation success rate was similar in both groups, and the clinical outcome was also similar at one year. Therefore both implantation sites are appropriate and could be used for CRT."

Provided by European Society of Cardiology

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