

## Right Versus Left Apical transvenous pacing for bradycardia: Results of the RIVELA randomized study

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### AIMS

To compare cardiac function when pacing from the right or left ventricular apex in patients with preserved left ventricular systolic function, at 1-year follow-up.

### METHODS

Prospective, multicentre randomizing conventional right ventricular apical (RVA) versus left ventricular apical (LVA) pacing using a coronary sinus lead in patients requiring ventricular pacing for bradycardia. Follow-up was performed using 3D-echocardiography at 6 and 12 months.

### RESULTS

A total of 36 patients (age  $75.4 \pm 8.7$  years, 21 males) were enrolled (17 patients in the RVA group and 19 patients in the LVA group). A right ventricular lead was implanted in 8 patients in the LVA group, mainly because of high capture thresholds. There were no differences in the primary endpoint of LVEF at 1 year ( $60.4 \pm 7.1\%$  vs  $62.1 \pm 7.2\%$  for the RVA and LVA groups respectively,  $P = 0.26$ ) nor in any of the secondary endpoints (left ventricular dimensions, left ventricular diastolic function, right ventricular systolic function and tricuspid/mitral insufficiency). LVEF did not change significantly over follow-up in either group. Capture thresholds were significantly higher in the LVA group, and two patients had unexpected loss of capture of the coronary sinus lead during follow-up.

### CONCLUSIONS

Left univentricular pacing seems to be comparable to conventional RVA pacing in terms of ventricular function at up to 1 year follow-up, and is an option to consider in selected patients (e.g. those with a tricuspid valve prosthesis).

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