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**CARDIAC RESYNCHRONISATION THERAPY EFFECTS
COMPARE OF THE SURGERY EPICARDIAL LEAD
VERSUS CORONARY SINUS LEAD PLACEMENT**

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Objectives Cardiac resynchronisation therapy (CRT) with biventricular pacing has demonstrated cardiac function improvement. Two strategies (coronary sinus vs epicardial) for left ventricular (LV) pacing were compared.

Methods 33 patients with ejection fraction <35%, widen QRS (168 ± 19 ms) and heart failure were enrolled. For left ventricular stimulation coronary sinus (CS) leads were placed in 19 pts. In 14 patients epicardial (Epi) leads were implanted with video-assisted thoracoscopy.

Results All the Epi-lead cases and 13 cases in CS-lead group received the LV lead implantation at the latest activated site examined by Tissue Doppler Imaging. For the entire series QRS-duration decreased from 168 ± 19 to 128 ± 14 ms ($P<0.05$) without difference between groups. The Epi-lead group got better left ventricle resynchronisation effect than the coronary sinus lead group. There was no hospital mortality in the entire series. The LV lead implantation procedure time was 53.4 ± 16.3 min for Epi-lead group and 136 ± 35.1 min for the CS-lead group ($p<0.05$). During the follow up there was clinical cardiac function improvement (15/19 in CS-lead group vs 13/14 in Epi-lead group, $p>0.05$). Threshold of the CS-leads increased significantly compared to Epi-leads (15.7 month control: 2.3 ± 1.6 V vs 1.02 ± 0.4 V/0.5 ms), which had no increase ($p<0.05$). One case died in the CS-lead group and none died in the Epi-lead group during the follow up. One patient in Epi-lead group and two cases in CS-lead group re-admitted because of the serious heart failure.

Conclusions Surgical Epi-lead placement for the resynchronisation therapy is a safe and reliable technique and should be considered as an equal alternative.