



MODIFIED "JURDHAM" PROCEDURE AFTER LV LEAD FAILURE

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Background:

A 76-year-old male with ischemic cardiomyopathy (left ventricular ejection fraction [LVEF] ~30%) and status post cardiac resynchronization therapy-defibrillator (CRT-D) implantation with epimyocardial lead presented to our hospital with worsening dyspnea (NYHA III-IV) and device alarm. Interrogation showed epimyocardial lead dysfunction with impedance of $>3000\Omega$, loss of left ventricular (LV) lead capture and low residual battery voltage. The electrocardiogram showed right axis deviation, QRS duration of 160ms and complete heart block (A). The patient was on un-interrupted warfarin (INR 2-3) for atrial fibrillation.

Purpose:

A modified "Jurdham" procedure was performed for placement of a new endomyocardial LV lead. Typically, "Jurdham" comprises a transeptal lead implantation with snaring of the lead from the device pocket. For our modification, the left axillary vein was punctured following explantation and disconnection of the old device. Then a transesophageal echocardiogram (TEE)-guided transeptal puncture was conducted from the right femoral vein (B). The transeptal puncture site was localized with a conventional coronary sinus sheath supported by TEE-guiding and an Amplatz left coronary catheter. After crossing the interatrial septum, the LV was probed from endocardially and the new lead was placed at the lateral LV wall using a conventional IS-1 active-fixation pacemaker lead (C).

Conclusion:

Postinterventional CRT-D interrogation showed regular measurements for both leads (pacing threshold RV lead: 0.7V/0.5ms, LV lead: 0.6V/0.5ms) and no RV-LV delay was programmed. Postinterventional electrocardiogram showed QRS 120ms (D). In addition, postinterventional echocardiography demonstrated improved LVEF of ~40%. The patient remained well (NYHA II) with follow-up of 1.5 years.

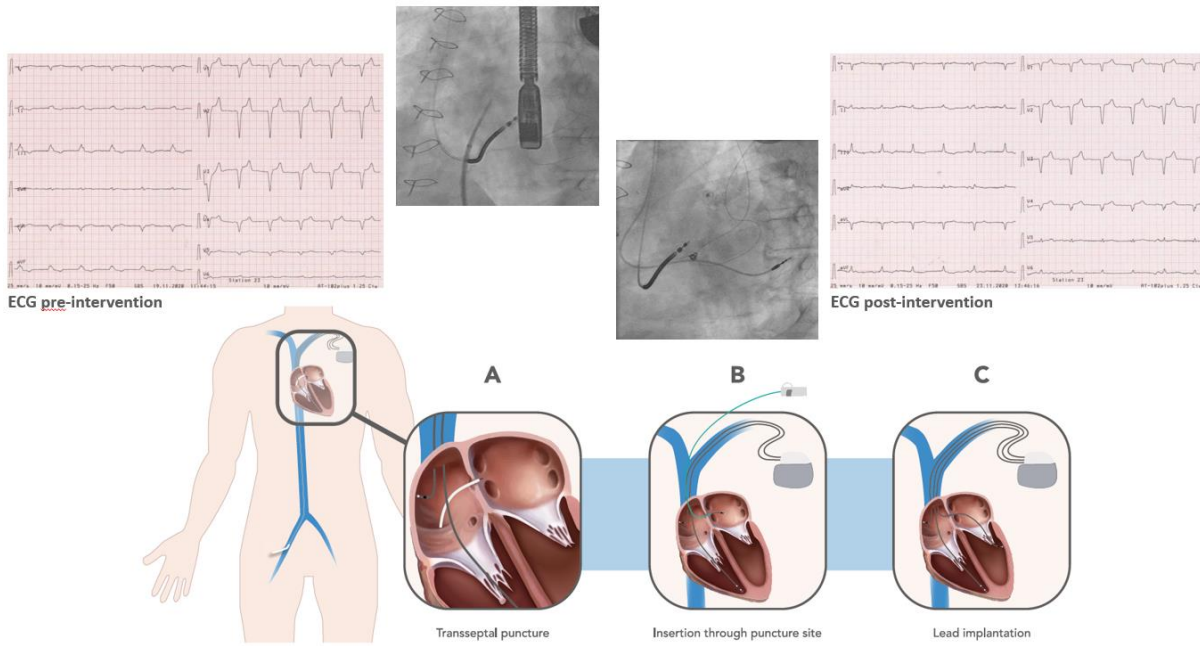


Figure Legend:

A: ECG pre-intervention, B: fluoroscopic image (LAO 20°) of TEE probe and transseptal sheath, C: final LV lead position (LAO 20°), D: ECG post-intervention, E: schematic of modified "Jurdham" procedure - 1) transseptal puncture, 2) cannulation of inter-atrial septum, 3) LV endocardial lead implantation

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