

## Case images

## Olgu görüntüsü

## Detection and management of ICD lead implanted in middle cardiac vein

## Orta kardiyak vene implante edilen ICD'nin tanısı ve yönetimi

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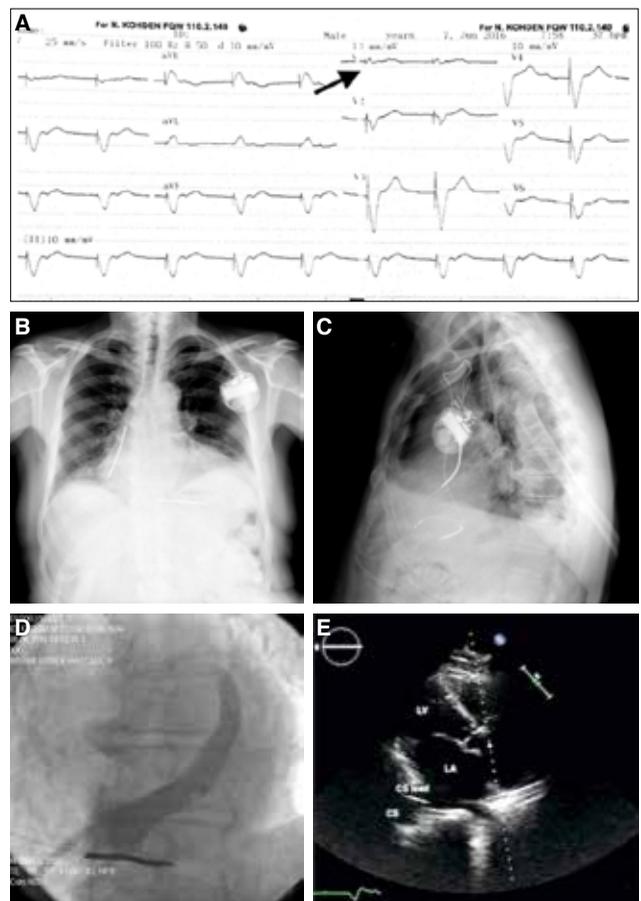
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An 81-year-old male patient presented at outpatient clinic for check-up of implantable cardioverter defibrillator (ICD). Nine years previously, secondary to cardiopulmonary arrest, single-chamber ventricular demand ICD with rate modulation on (EnTrust Model D154VRC; Medtronic, Minneapolis, MN, USA) had

been implanted. He had been diagnosed with dilated cardiomyopathy and ICD was inserted as secondary prevention. At clinic, electrocardiogram (ECG) revealed paced rhythm with strange R wave of V1 origin (Figure A). ICD test demonstrated R wave amplitude (ventricle sensing) as 1.4 mV, and elective replacement indicator was also proved. Thirteen appropriate clinical shocks had been delivered since 2007 and pacing had been on in 75% of pulses for a year. Chest X-ray was performed in order to see the lead position whereas chest X-ray was unsatisfactory (Figure B, C). ECG finding and R wave amplitude directed us to inadvertently placed lead. Transthoracic echocardiography (TTE) was performed and lead was detected in the coronary sinus (Figure D). Coronary sinus angiography validated ICD lead positioned in middle cardiac vein (Figure E). Because pace rhythm QRS was 200 msn before the procedure, we upgraded ICD to cardiac resynchronization therapy defibrillator system (Sprint Quattro Secure, Model 6947;

Medtronic, Minneapolis, MN, USA) by adding another sense/pace lead in the right ventricle. We decided to plug the left ventricular (LV) lead into the right ventricular

(RV) port and the RV lead into the LV port in order to prevent sense failure. Replacement was performed after lead placement. After procedure, TTE was repeated, and leads in coronary sinus and right ventricle were displayed. He was discharged on fifth day of admission under the same medical therapy.



**Figures– (A)** R wave was seen in V1 lead despite pacing state. **(B)** Is anteroposterior chest X-ray image indicating first position of implantable cardioverter defibrillator (ICD) lead. **(C)** Shows final lead positions in lateral chest X-ray taken after ICD was upgraded to cardiac resynchronization therapy defibrillator. **(D)** Is coronary sinus angiography image demonstrating misplacement of ICD lead in the middle cardiac vein. **(E)** Is transthoracic echocardiography image showing coronary sinus lead in parasternal long axis view.

