

The importance of Lewis leads in a patient with wide QRS complex tachycardia

Geniş QRS kompleksli taşikardisi olan bir hastada Lewis kayıtlarının önemi

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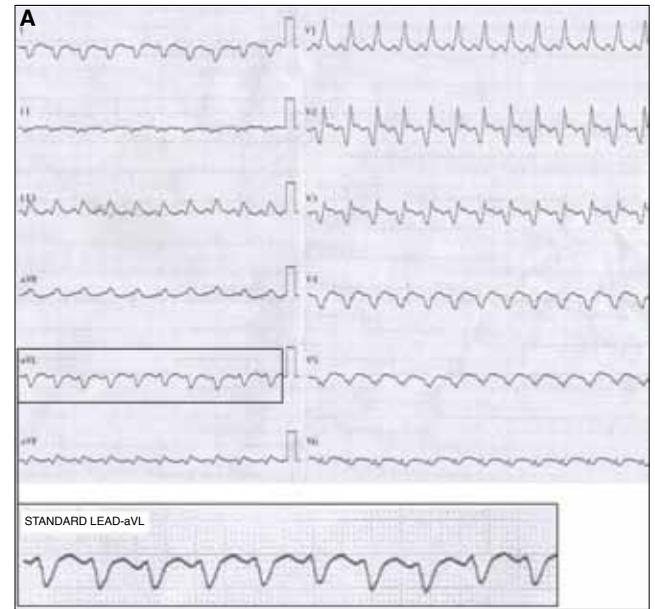
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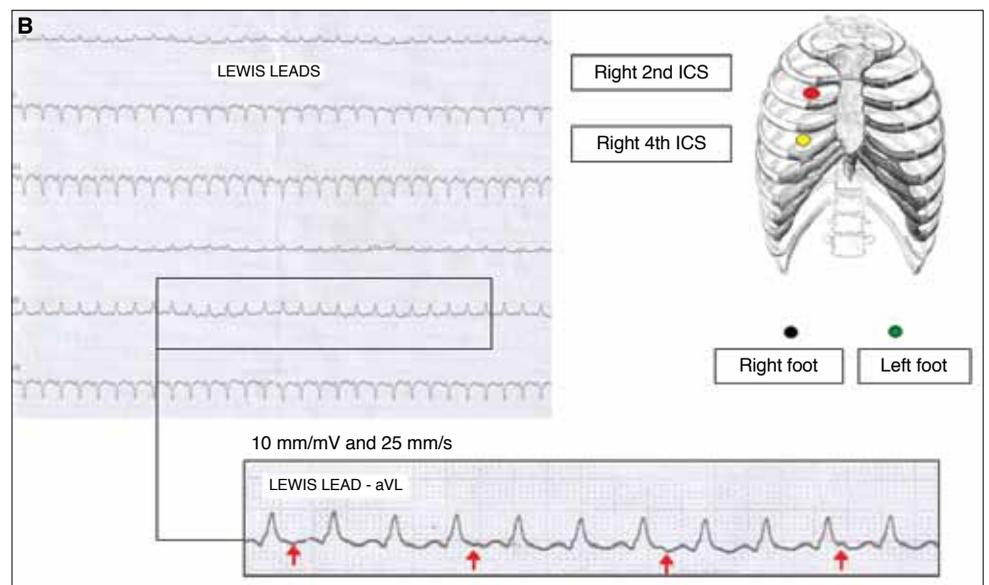
An 84-year-old male was admitted to our hospital with complaints of new-onset dizziness, palpitation and dyspnea. Initial 12-lead ECG showed wide QRS complex tachycardia. There was some suspicion about the presence of atrio-ventricular (AV) dissociation in the initial

ECG recordings (Fig. A). Therefore, Lewis leads were recorded (Fig. B). In the Lewis lead records, at 25 mm/sec paper speed at 10 mm/mV amplitude, AV dissociation was obvious. This confirmed without doubt the diagnosis of ventricular tachycardia (VT). After restoration of sinus rhythm by cardioversion, an implantable cardioverter defibrillator (ICD) was implanted. The Lewis lead configuration was first described by Sir Thomas Lewis in 1931. In the original description, he developed this lead configuration for the purpose of magnifying atrial oscillations present during atrial fibrillation. AV dissociation is one of the most specific (100% specificity) signs for the diagnosis of VT; how-



ever, its sensitivity (20-50%) is lower relatively. We conclude that in patients with wide QRS complex tachycardia, if AV dissociation is not definitely present in the standard ECG recordings, Lewis lead records might be useful in demonstrating the relationship between atrial and ventricular activity.

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Figures- (A) Standard 12-lead ECG - No obvious p wave in both 12-lead and zoomed standard aVL recordings. (B) Left panel: Lewis lead records - Obvious p waves are seen. Right panel: For the Lewis lead recordings, the right arm electrode was applied to the right of the sternum at the second intercostal space, and the left arm electrode was applied to the fourth intercostal space.