

Early dysfunction of an implanted pacemaker in a patient with complete atrioventricular block

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Introduction: Complete atrioventricular (AV) block is a life-threatening condition characterized by a partial or complete interruption of impulse conduction from the atria to the ventricles. The most common causes are fibrosis and sclerosis of the conduction system, ischemic heart disease, and electrolyte imbalance¹.

Case report: 85-year-old patient was admitted via the Emergency Department due to recurrent episodes of loss of consciousness, with ECG showing complete AV block and a ventricular rate of 28 bpm (**Figure 1**). Multiple comorbidities were present, including type 2 diabetes mellitus with complications, arterial hypertension, and a history of stroke 30 years ago, with resulting right-sided hemiparesis and aphasia. Temporary external pacing electrodes were promptly placed, and upon admission to the Coronary Care Unit, a temporary pacemaker was inserted via the right jugular vein, after which the patient was stabilized. On the following day, a permanent dual-chamber pacemaker was implanted via the cephalic vein, with excellent stimulation parameters (**Figures 2 and 3**). On the third day post-implantation, telemetry recorded an asystolic episode with cardiorespiratory arrest and loss of pacemaker output, prompting resuscitation and re-initiation of external pacing. A temporary pacemaker was reinserted, and the revision of the previously implanted pacemaker was performed. Radiographic

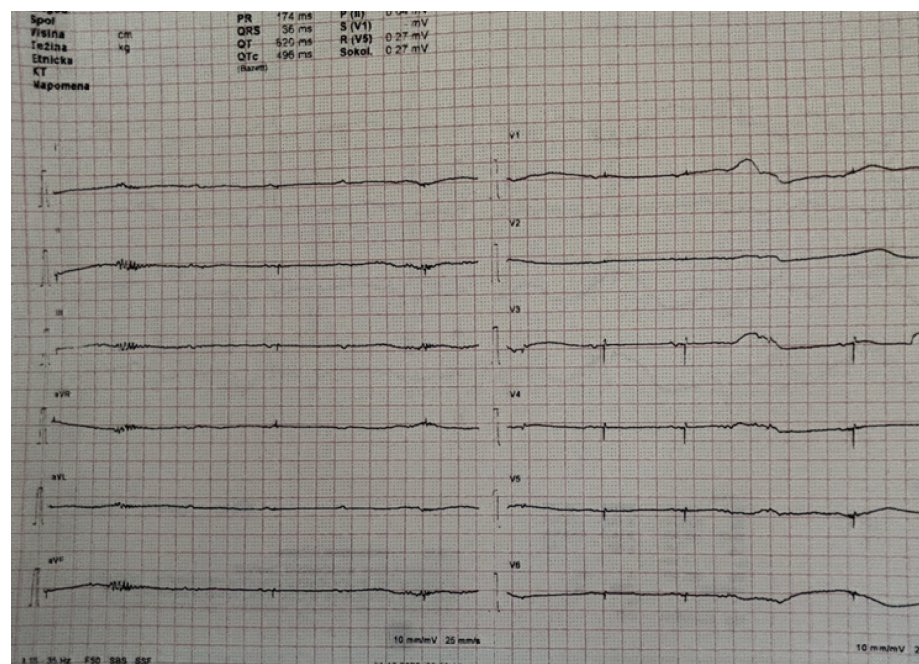


FIGURE 1. 12-lead electrocardiogram on admission.

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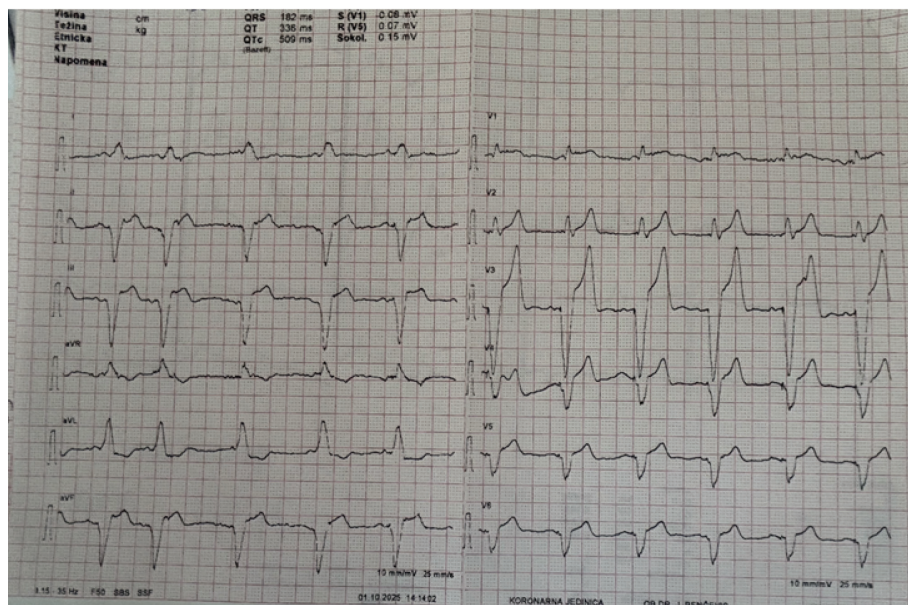


FIGURE 2. 12-lead electrocardiogram after pacemaker implantation.



FIGURE 3. Chest X-ray at initial implantation.

imaging revealed no displacement of the electrode, with identical positioning and normal electrode impedance. The ventricular electrode failed to transmit impulses even when connected to the programmer. Therefore, a new ventricular electrode was implanted via the left subclavian vein (**Figure 4**).

Conclusion: Dysfunction of the ventricular electrode may have been due to a microfracture of the electrode, which was not visible radiographically, or a microtear into fibrotic tissue².

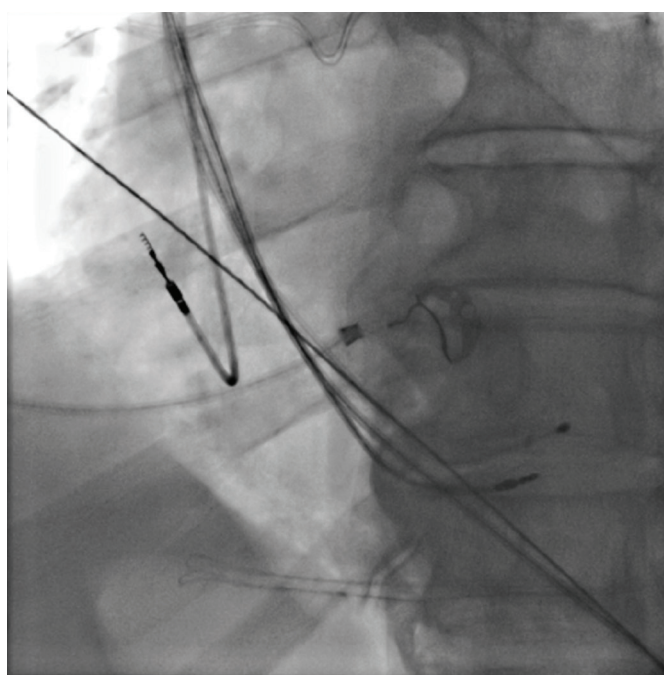


FIGURE 4. Chest X-ray after implantation of the new ventricular electrode.

LITERATURE

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