

A Rare Complication of Temporary Pacemaker Lead Dislodgement: Iatrogenic Twitching of the Left Lower Extremity

Geçici Kalp Pili Elektrodunun Yerinden Çıkmasının Nadir Bir Komplikasyonu: Sol Alt Ekstremitenin İyatrojenik Kasılmaları

A 92-year-old female patient was admitted with syncope and diagnosed with a complete heart block. An emergency bedside temporary transvenous right ventricular pacing electrode was inserted via the right femoral vein (Figure 1). The following day, the patient's heart rate spontaneously improved to 87 beats per minute. During follow-up, involuntary regular twitching was observed in the patient's left lower extremity (Video 1), occurring simultaneously with pacemaker activity. The contractions ceased when the pacemaker was turned off (Video 2). No other neurological disorders were evident upon physical examination, and the twitching depended on pacemaker activity, suggesting possible lead dislodgement stimulating nerves in the left lower extremity. An abdominal X-ray demonstrated that the lead had been displaced to the abdominal area (Figure 2), suggesting migration into the inferior vena cava

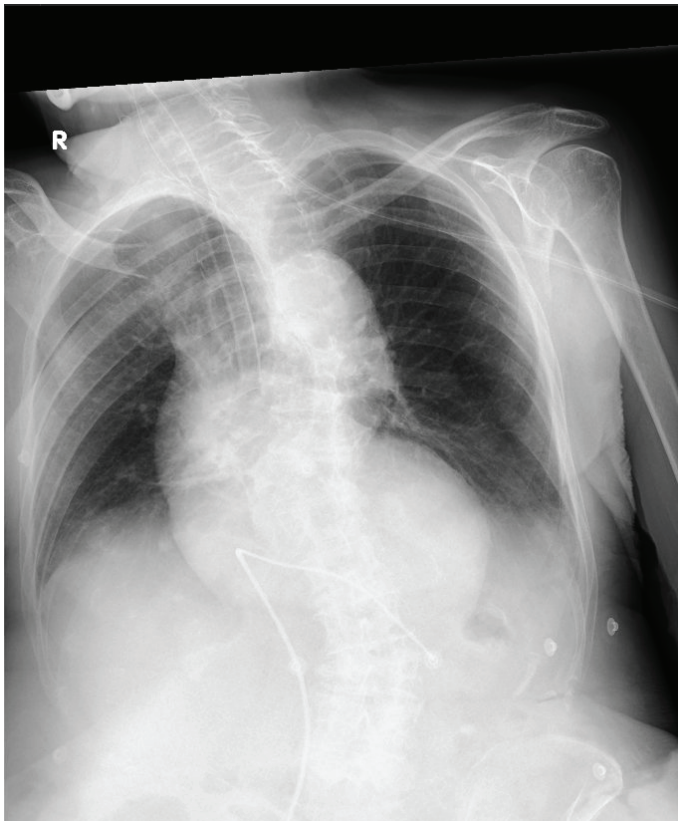


Figure 1. Temporary pacemaker tip (arrow) positioned at the apex of the right ventricle.

CASE IMAGE OLGU GÖRÜNTÜSÜ

Abdulrahman Naser¹

Yücel Uzun²

Oya Güven³

¹Department of Cardiology, Kırklareli Training and Research Hospital, Kırklareli, Türkiye

²Department of Cardiology, Kırklareli University, Faculty of Medicine, Kırklareli Training and Research Hospital, Kırklareli, Türkiye

³Department of Emergency Medicine, Kırklareli University, Faculty of Medicine, Kırklareli Training and Research Hospital, Kırklareli, Türkiye

Corresponding author:

Oya Güven

✉ ersinoya@yahoo.com

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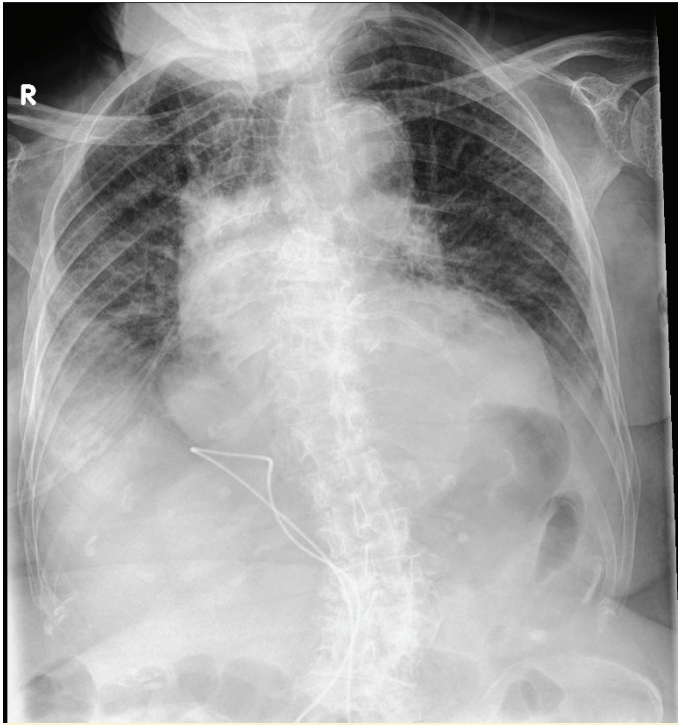


Figure 2. Dislodged and folded pacemaker lead with its tip located in the lower part of the inferior vena cava (IVC).

(IVC) and stimulation of nerves in the left lower extremity. Echocardiography revealed no evidence of pericardial effusion, and the abdominal examination was also normal. However, the patient rapidly developed complete heart block and ventricular tachycardia again, leading to cardiac arrest.

Temporary pacemakers are associated with several complications, with incidence rates ranging from 3.9% to 22%. These include lead dislocation, lead-induced perforation of cardiac chambers, pneumothorax, pericardial tamponade, arrhythmia, femoral

hematoma, deep venous thrombosis, pulmonary embolism, sepsis, and muscle twitching. Cardiac rupture, pericardial tamponade, and pulmonary embolism are linked with in-hospital mortality.

A temporary pacemaker implanted at the bedside may not be correctly directed to the right ventricle or may become dislodged, leading to the rupture of cardiac chambers and venous structures. Therefore, the use of fluoroscopy to guide transvenous pacemaker implantation is technically advisable, especially in older, uncooperative patients.

Alternative technologies, such as temporary pacing with active-fixation leads using a reusable permanent pacemaker generator, have emerged. This novel method has been demonstrated to be safer and more effective than traditional lead systems without fixation in patients requiring temporary pacemakers.

In conclusion, muscle twitching due to temporary pacemaker lead dislodgement is a benign condition that can be easily managed with fluoroscopy guidance. However, ruling out the rupture of the vena cava and other vasculature is essential.

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Video 1. Involuntary regular twitching in the left lower extremity.

Video 2. Cessation of leg contractions upon deactivating the pacemaker.