

Case images

Olgu görüntüsü

Malposition of an atrial pacemaker lead crossing through patent foramen ovale in a patient with ischemic stroke

İskemik inme geçiren hastada tespit edilen patent foramen ovaleden geçen yanlış yerleştirilmiş atriyal kalp pili elektrodu

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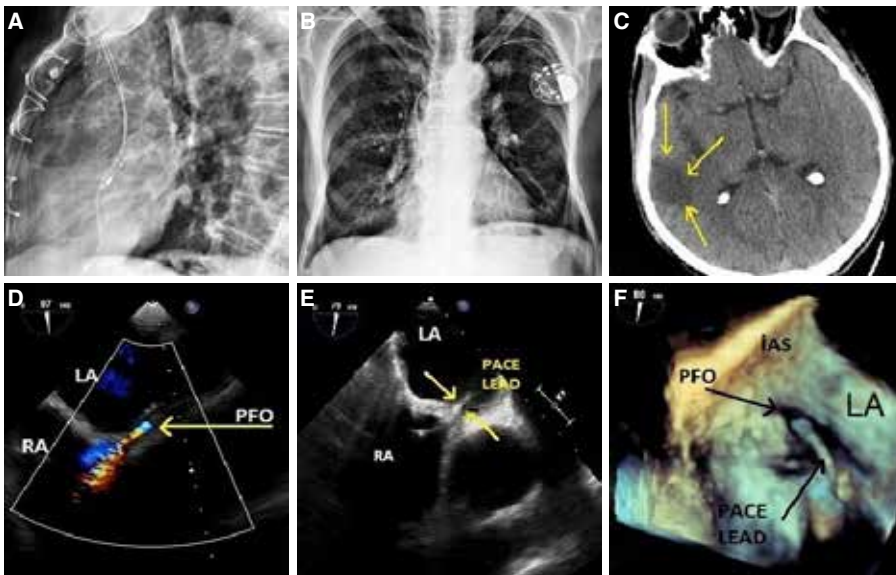
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A 73-year-old male patient was admitted to the emergency department with complaint of weakness in his left upper and lower extremities. He had undergone coronary artery bypass and mitral valve repair surgery 2 years prior due to coronary artery disease and chorda tendinea rupture. A DDDR pacemaker had been implanted 1 month after surgery because of symptomatic bradycardia and complete atrioventricular block. On admission, his blood pressure was 130/70 mmHg and heart rate 55 bpm. Electrocardiography showed regular atrial and ventricular pacing. Laboratory tests were unremarkable. Transthoracic echocardiography revealed normal left ventricular systolic functions with mild mitral regurgitation. Chest X-ray showed the right ventricle lead of the pacemaker was in normal position (Figure A), whereas the right atrial lead was oriented to the interatrial septum instead of right atrial appendix (Figure B). Cranial computed tomography revealed a hypodense region at the right parietal

lobe spreading to the cortex, which could be consistent with subacute infarct (Figure C). Doppler ultrasound revealed normal blood flow in carotid and vertebral arteries. Subsequently, transesophageal echocardiography (TEE) was performed, revealing thrombus-free left atrium and left atrial appendix. However, a patent foramen ovale causing blood shunt from left to right atrium was detected with the help of color Doppler ultrasound (Figure D). The atrial lead of the pacemaker was seen passing through the patent foramen ovale to the left atrium (Figure E). Real-time three-dimensional TEE confirmed the existence of the atrial pacemaker lead in the left atrium (Figure F). Although there were no signs of thrombus or vegetation formation on the malpositioned lead, it was sustained as a potential source of recurrent thromboembolic attacks. Pacemaker lead thrombus may be an important and underrecognized source of thromboembolic stroke, especially in patients with intracardiac shunts or malpositioned leads in the left heart. Lifetime anticoagulation therapy or surgical/percutaneous retraction with closure of the shunt may be considered as treatment options. This interesting case emphasized the importance of TEE examination to uncover an unusual possible cause of ischemic stroke in a patient with malpositioned pacemaker lead.



Figures– Chest X-ray revealed that right ventricle lead of pacemaker was in normal position (A); however, right atrial lead was oriented to the interatrial septum instead of right atrial appendix (B). Cranial computed tomography revealed a hypodense region at the right parietal lobe, consistent with subacute infarct (C). Transesophageal echocardiography revealed a patent foramen ovale (PFO) in the interatrial septum (D) and a malpositioned atrial pacemaker lead passing through the PFO to the left atrium (E). Real-time three-dimensional transesophageal echocardiography confirmed the existence of atrial pacemaker lead in the left atrium (F).