Turkish Journal of Emergency Medicine 18 (2018) 88–89

Contents lists available at ScienceDirect

Turkish Journal of Emergency Medicine

journal homepage: http://www.elsevier.com/locate/TJEM

Visual Diagnosis

Giant left ventricular pseudoaneurysm presenting with ventricular tachycardia

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ARTICLE INFO

Article history:
Received 28 June 2017
Received in revised form
16 October 2017
Accepted 24 October 2017
Available online 28 October 2017

A 76-year-old woman presented to emergency department with symptoms of shortness of breath, palpitation and recurrent episodes of syncope. Her medical history revealed hypertension and diabetes mellitus. On physical examination, her blood pressure was 91/59 mmHg and heart rate was 153 bpm. 12-lead electrocardiography showed a sustained monomorphic ventricular tachycardia with a rate of 155 bpm (Fig. 1). After initial dose of amiodarone, the rhythm converted back to normal sinus rhythm. Transthoracic echocardiography, cardiac computed tomography and cardiac ventriculography are shown in Fig. 2.

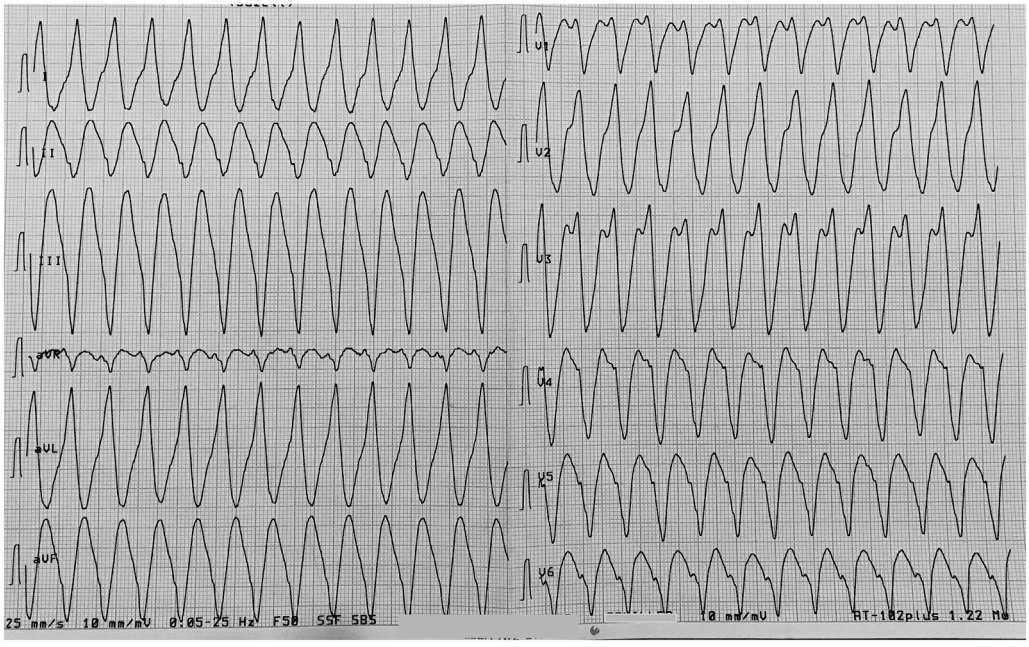

Fig. 1. Twelve-lead electrocardiography reveals a sustained monomorphic ventricular tachycardia with a rate of 155 bpm.

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Peer review under responsibility of The Emergency Medicine Association of Turkey.

https://doi.org/10.1016/j.tjem.2017.10.005

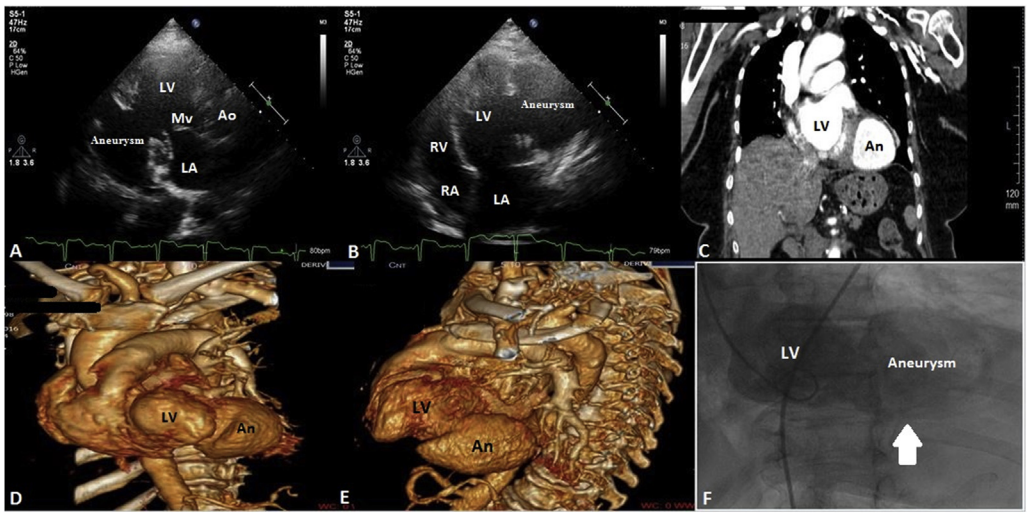

Fig. 2. Transthoracic echocardiography parasternal long-axis view (Panel A) and apical-4-chamber view (Panel B) shows a giant aneurysm originating from posterolateral wall of left ventricle with a narrow neck. Cardiac computed tomography and its three-dimensional reconstruction images reveals a large aneurysm originating from posterolateral wall of left ventricle consistent with left ventricular pseudoaneurysm (Panel C–E), cardiac ventriculography shows left ventricular aneurysm (Panel F) (*LV: left ventricle, LA: left atrium, RV: right ventricle, RA: right atrium, Mv: mitral valve, Ao: aort, An: aneurysm*).

1. Diagnosis: ventricular tachycardia due to left ventricular pseudoaneurysm

Transthoracic echocardiography demonstrated a giant pseudoaneurysm (measuring 44 × 87 mm) originating from posterolateral wall of left ventricle with a narrow neck and severe left ventricular systolic dysfunction with an ejection fraction of 33% (Fig. 2, Panel A–B). Cardiac computed tomography and its three-dimensional reconstruction images revealed a large aneurysm (measuring 78 × 48 × 60 mm) originating from posterolateral wall of left ventricle consistent with left ventricular pseudoaneurysm (Fig. 2, Panel C–E). Coronary angiography revealed multi-vessel coronary artery disease and cardiac ventriculography showed left ventricular pseudoaneurysm (Fig. 2, Panel F). After coronary angiography, cardiac surgery was planned for coronary artery bypass grafting and left ventricular pseudoaneurysm repair. However, the patient refused surgical treatment and also implantable cardioverter defibrillator implantation, was discharged and subsequently was lost to follow-up.

The main complications of a left ventricular pseudoaneurysm are congestive heart failure, ventricular arrhythmias, ventricular rupture and systemic embolization.[1] This case demonstrates the importance of left ventricular pseudoaneurysm due to multi-vessel coronary artery disease and its rare, life-threatening complications such as ventricular tachycardia.

Funding statement

None declared.

Conflict of interest

None declared.

Reference

1. Lucas LA, Somerville C. Images in clinical medicine. Left ventricular aneurysm. *N Engl J Med*. 2014;370(3):e5.