The Journal of Emergency Medicine, Vol. 57, No. 3, pp. 395–396, 2019

0736-4679/$ - see front matter

https://doi.org/10.1016/j.jemermed.2019.06.041

Visual Diagnosis in Emergency Medicine

ELDERLY MAN WITH POST MYOCARDIAL INFARCTION FATIGUE

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INTRODUCTION

An 83-year-old man with a history of hypertension presents to the emergency department with fatigue 2 weeks after an international hospitalization where he was medically managed for a myocardial infarction (MI). His vitals and physical examination were within normal limits; however, 12-lead electrocardiogram demonstrated evidence of anterolateral MI (Figure 1). Laboratory results were notable for a N-terminal prohormone of brain natriuretic peptide of 3020 pg/mL and high-sensitivity troponins 2 h apart of 558 ng/L and 541 ng/L. A bedside point-of-care ultrasound was performed (Figure 2) and the patient was admitted to cardiology.

DISCUSSION

Inferior Left Ventricular Aneurysm

Echocardiography revealed asymmetric left ventricular hypertrophy, severe left ventricular systolic function impairment, and an akinetic apex with distal septal and inferior aneurysm. Left ventricular ejection fraction was estimated at 25–30%, with no evidence of left ventricular thrombus. A viability study demonstrated fully infarcted tissue without hibernation, and the patient was treated medically. After 9 days, the patient was discharged home on apixaban, aspirin, metoprolol succinate, rosuvastatin, and furosemide, with plans for close cardiology follow-up.

True left ventricular aneurysms (LVAs) are the result of transmural MI. The incidence of post-infarction LVA is between 8% and 35%, with lower values being attributed to improvements in the overall management of MI (1,2). Unlike false aneurysms, true aneurysms contain walls with dense fibrosis and rarely rupture (3). Still, there are a number of important sequalae of LVAs—including ventricular dysrhythmias, angina, heart failure, and systemic

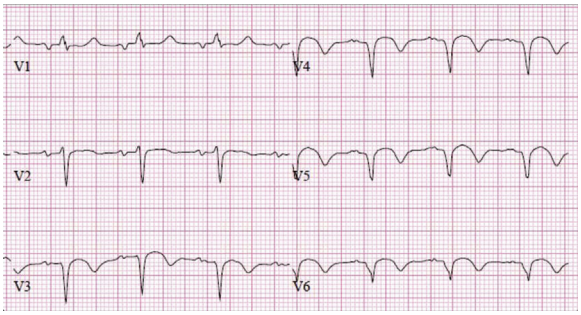

Figure 1. 12-Lead electrocardiogram demonstrating evidence of myocardial infarction (ST segment elevation and T wave inversion) in the anterior and lateral leads (V3–V6).

RECEIVED: 6 June 2019;
ACCEPTED: 22 June 2019

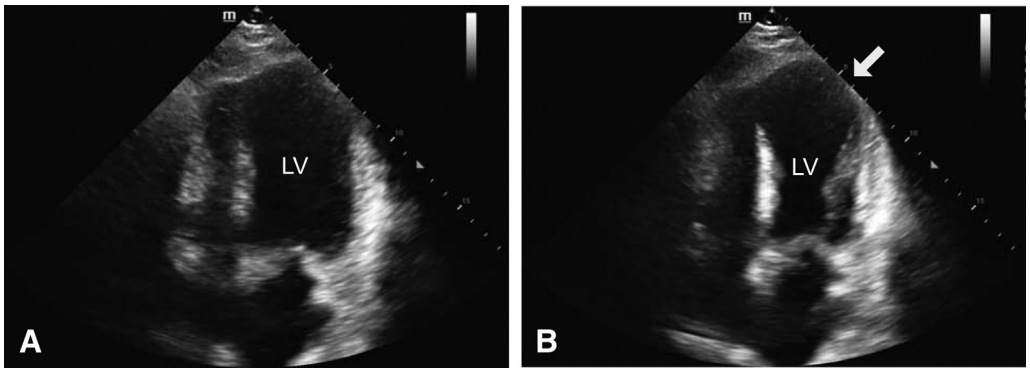

Figure 2. Bedside point-of-care cardiac ultrasound in apical four chamber view showing aneurysm (arrow) of the distal septum and inferior left ventricle (LV). Apical four view of the heart during ventricular diastole (A) and ventricular systole (B).

thromboembolization—for which patients must be medically managed. In refractory cases, surgical repair with aneurysmectomy can be considered (4).

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