Utility of cardiac magnetic resonance in recurrent myocarditis

Abdullah M. Alotaibi [a], Ahmed Aljizeeri [b], Mouaz Al-mallah [b], Ahmed Alsaileek [b,*]

[a] Department of Medicine, Ministry of National Guard—Health Affairs, Riyadh
[b] Advanced Cardiac Imaging, King Abdulaziz Cardiac Center, Ministry of National Guard—Health Affairs, Riyadh

[a,b]Saudi Arabia

We report a 26-year-old man who presented to the emergency department four times within a 4-year period with recurrent myocarditis. His presentations were characterized by chest pain, elevated troponin I, and normal coronary angiography. Endomyocardial biopsy showed nonspecific inflammatory process. Laboratory workup including viral screening and autoimmune markers were negative. Cardiac magnetic resonance imaging showed evidence of recurrent myocarditis with progressive appearance of new areas of myocardial delayed enhancement seen in each admission.

Keywords: Myocardial delayed enhancement, Myocarditis, Recurrent myocarditis

Introduction

Myocarditis is inflammation of the heart muscle that may be due to infectious or noninfectious causes [1]. The diagnosis of myocarditis can be challenging but often requires endomyocardial biopsy (EMB), which is highly encouraged to be performed in all cases suspected to have myocarditis by the European Society of Cardiology Working Group on Myocardial and Pericardial Diseases [1]. Cardiac magnetic resonance (CMR) has an important role in the diagnosis by providing noninvasive myocardial tissue characterization. In the following case report, we present clinical features, cardiac enzymes level, and CMR findings in a patient with recurrent myocarditis.

Case report

A 26-year-old man, a known patient of diabetes mellitus type-1, presented to the emergency department in March 2009 with sudden onset of retrosternal chest pain of 3 hours' duration. The pain was partially relieved by sublingual nitrate. Other than being a heavy smoker, he had no significant past medical history. On examination, he was conscious, afebrile, and not in distress. His blood pressure was 120/60 mmHg and heart rate was 106 beats/min. Physical examination including cardiovascular examination was unremarkable. Urgent electrocardiogram in the emergency room showed sinus tachycardia without ST segment changes (Fig. 1). Blood investigations showed elevated cardiac markers. Other investigations were normal including complete blood cell

Disclosure: Authors have nothing to disclose with regard to commercial support.

Received 16 June 2016; revised 4 August 2016; accepted 12 August 2016.

* Corresponding author at: Ministry of National Guard King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences, P.O. Box 22490, Riyadh 11426, Saudi Arabia.
E-mail address: saileek@hotmail.com (A. Alsaileek).

P.O. Box 2925 Riyadh – 11461KSA
Tel: +966 1 2520088 ext 40151
Fax: +966 1 2520718
Email: sha@sha.org.sa
URL: www.sha.org.sa

Peer review under responsibility of King Saud University.
URL: www.ksu.edu.sa
http://dx.doi.org/10.1016/j.jsha.2016.08.002

Production and hosting by Elsevier

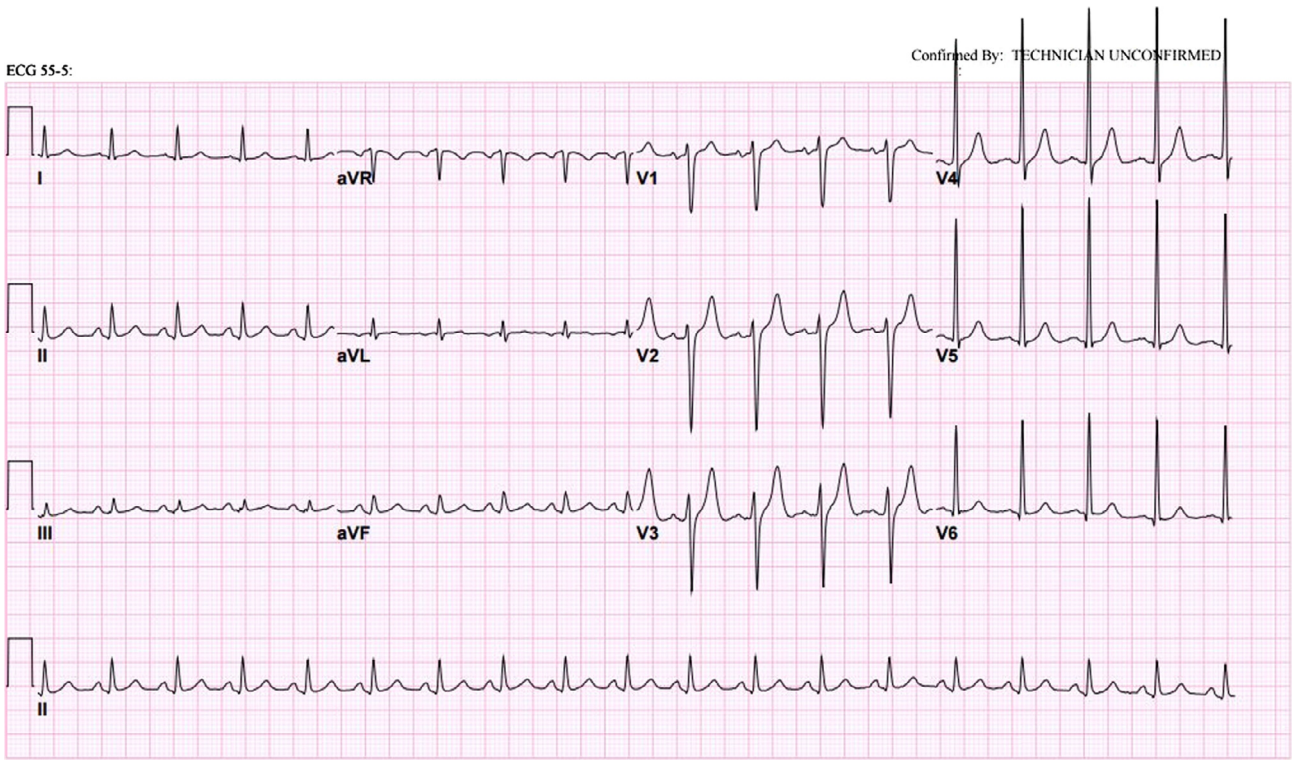

Figure 1. Initial electrocardiogram of the patient at first presentation.

Table 1. Screening for connective tissue disease and viruses were done. Some were repeated more than once.

Virology	
Coxsackie virus antibodies (A9, B1, B2, B3, B4, B5, B6)	Negative
HAV IgM	Negative
HAV IgG	Positive
AntiHbc	Negative
AntiHbs	1.9
HBsAg	Negative
EBV-IgG	390.00
EBV-IgM	10.00
EBNA-IGG	60.70
EBV-EA	5.40
CMV IgM	Negative
CMV-IgG	147.30
VZV-IgG	1168.00
VZV-IgM	0.10
HSV1/2 IgM	Negative
HSV 2-IgG	0.92
HSV 1-IgG	45.30
Hepatitis C Antibody	Negative
ASOT	<200
Connective tissue disease	
ANA	0.50
Anti-dsDNA	6.05
CRP	<3.5
Toxicology/others	
Amphetamine screen	Negative
Barbiturates screen	Negative
Benzodiazipine screen	Negative
Cocaine screen	Negative
Opiate screen	Negative

Please cite this article in press as: Alotaibi A.M. et al., Utility of cardiac magnetic resonance in recurrent myocarditis, J Saudi Heart Assoc (2016), http://dx.doi.org/10.1016/j.jsha.2016.08.002