

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/ihj

Images in Cardiology

Dystrophic myocardial calcification



Rajiv Ananthkrishna^{*}, Nagaraja Moorthy

Department of Cardiology, Sri Jayadeva Institute of Cardiovascular Sciences & Research, Bangalore, India

ARTICLE INFO

Article history:

Received 10 December 2015

Accepted 11 February 2016

Available online 28 February 2016

Keywords:

Calcification

Myocardium

Myocardial infarction

ABSTRACT

Myocardial calcification is rare and occurs in previous myocardial infarction, endomyocardial fibrosis, and infections such as tuberculosis, chronic renal failure, or hyperparathyroidism. We present an interesting case of massive myocardial calcification of the left ventricle following prior extensive myocardial infarction, presenting as progressive heart failure.

© 2016 Cardiological Society of India. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A 60-year-old male was referred for evaluation of exertional dyspnea of 6 months duration (NYHA class II). He had a history of myocardial infarction (MI) 5 years before. Physical examination was unremarkable. Electrocardiogram was consistent with an old anterior wall MI. Chest X-ray and fluoroscopy showed a large well demarcated calcific shadow within the cardiac silhouette, in the region of left ventricular apex (Fig. 1A and 1B, Video 1). Multislice computed tomography revealed left ventricular apical aneurysm with localized extensive intramyocardial calcification (Fig. 1C and 1D). Echocardiography and Cardiac MRI (Video-2) displayed dyskinetic scarred nonviable segments in the territory of left anterior descending artery and apical aneurysm (Video 2). The left ventricular ejection fraction was 32%. Medical therapy was optimized and he was advised for implantable cardioverter defibrillator for primary prevention of sudden cardiac death.

Cardiac calcification may be observed in the coronary arteries, myocardial tissue, valve leaflets, valve annulus, and

pericardium. The most common causes of myocardial calcification include previous myocardial infarction, endomyocardial fibrosis, infections such as tuberculosis, chronic renal failure, and cardiac tumors with calcification or hyperparathyroidism.¹ They are either dystrophic or metastatic calcium deposits. Dystrophic myocardial calcifications are a result of local tissue damage and cellular necrosis. It is mainly seen in previously infarcted areas, in which calcium accumulates in the infarcted tissue during myocardial healing process. Metastatic calcification results from impaired calcium-phosphorus metabolism, frequently seen in patients with chronic renal failure and hyperparathyroidism. The patient described in this report had post-infarct ventricular aneurysm, leading to significant dystrophic myocardial calcification. Myocardial calcifications may lead to focal wall motion abnormalities, arrhythmias, and myocardial dysfunction. The above case illustrates the radiographic findings of extensive myocardial calcification in a patient who had a prior MI.

^{*} Corresponding author.

E-mail address: rajiva.ms@gmail.com (R. Ananthkrishna).

<http://dx.doi.org/10.1016/j.ihj.2016.02.016>

0019-4832/© 2016 Cardiological Society of India. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

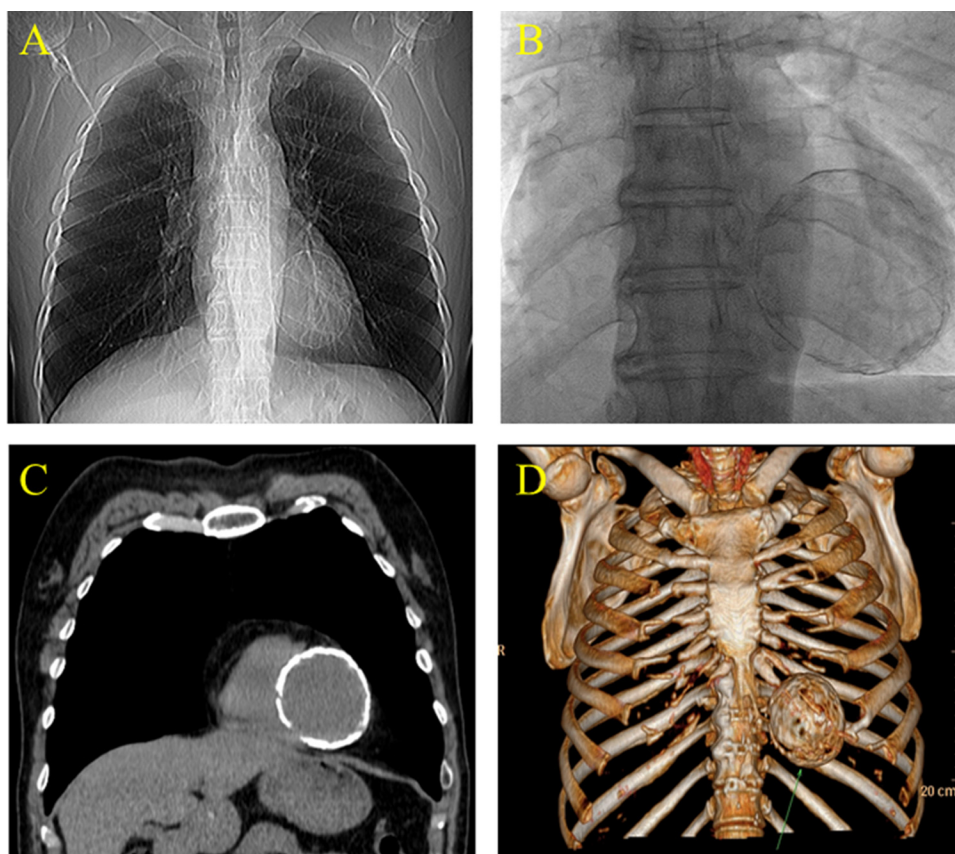


Fig. 1 – (A) Chest X-ray showing a well-demarcated spherical calcified shadow within cardiac silhouette, in the region of left ventricular apex. (B) Fluoroscopy highlighting marked egg-shell calcification of left ventricular apex. (C) Multislice computed tomography in coronal section revealing the extent of myocardial calcification. (D) Computed tomography reconstruction illustrating the spherical calcified mass.

Conflicts of interest

The authors have none to declare.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.ihj.2016.02.016](https://doi.org/10.1016/j.ihj.2016.02.016).

REFERENCE

1. Segura AM, Radovancevic R, Connelly JH, Loyalka P, Gregoric ID, Buja LM. Endomyocardial nodular calcification as a cause of heart failure. *Cardiovasc Pathol.* 2011;20:e185–e188.