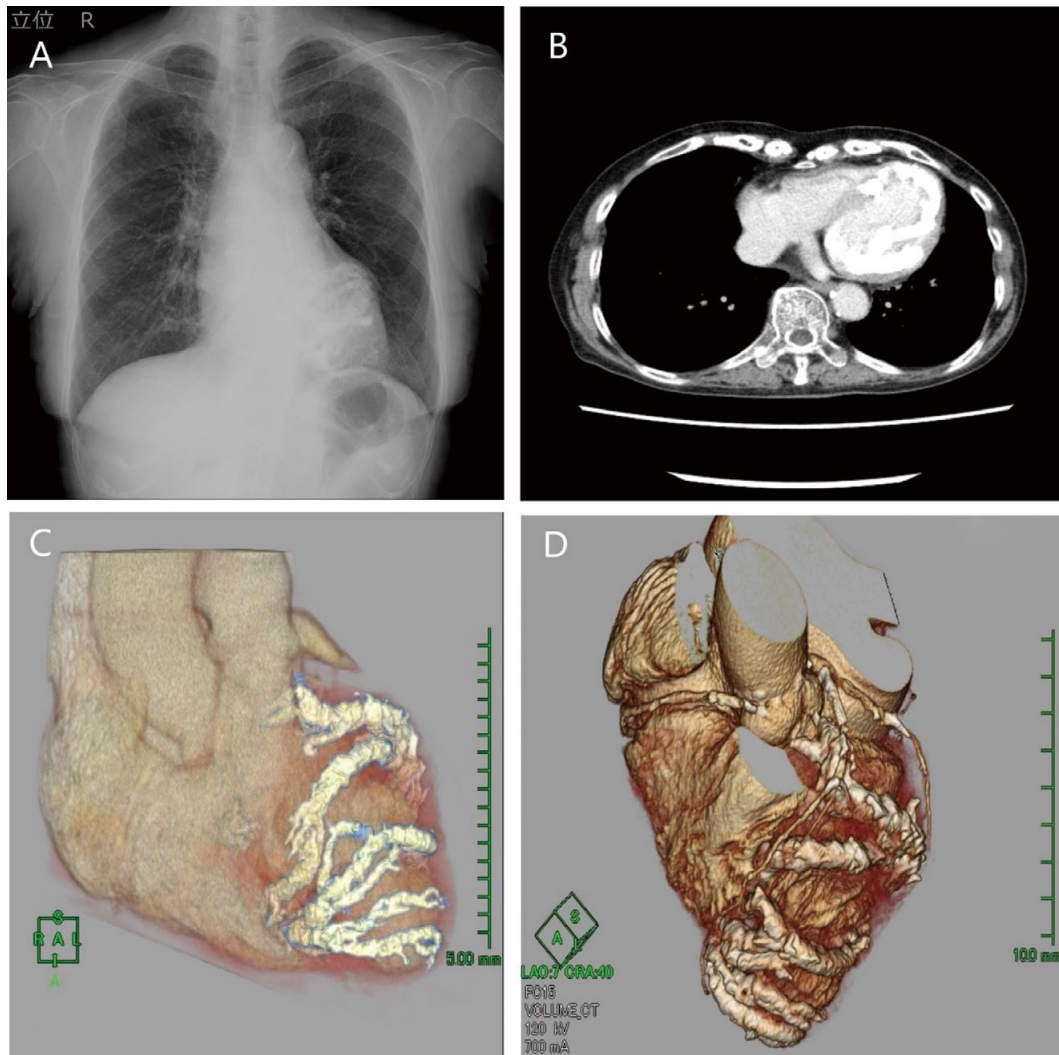


## Idiopathic Myocardial Helical Calcification

Osamu Tominaga, MD; Eiichi Teshima, MD;  
Atsuhiko Nakashima, MD; Ryuji Tominaga, MD



**Figure.** (A) Chest radiograph and (B) 320-detector row computed tomography showing diffuse calcification within the cardiac silhouette. (C,D) The calcification of the left ventricle was helical and moved like a coiled spring.

Received June 5, 2020; revised manuscript received July 6, 2020; accepted July 16, 2020; J-STAGE Advance Publication released online September 10, 2020 Time for primary review: 14 days

Department of Cardiovascular Surgery, Fukuoka Wajiro Hospital, Fukuoka, Japan

Mailing address: Osamu Tominaga, MD, Department of Cardiovascular Surgery, Fukuoka Wajiro Hospital, 1-1-1 Wajirogaoka, Fukuoka 811-0213, Japan. E-mail: cardiolog1@gmail.com

All rights are reserved to the Japanese Circulation Society. For permissions, please e-mail: cr@j-circ.or.jp

ISSN-2434-0790



**A** 71-year-old woman with a history of hypertension and hyperlipidemia was referred to Fukuoka Wajiro Hospital for investigation of echocardiographic abnormalities. Six months earlier, she had presented to another hospital with transient palpitations and been prescribed a phosphodiesterase (PDE) 5 inhibitor with no further examination.

Echocardiography showed a diffuse high echo area in the left ventricle (LV) and possible myocardial calcification. LV diastolic function was depressed, whereas systolic function was normal, with an ejection fraction of 65%. Despite the calcification, the patient had no valvular stenosis or regurgitation. A chest radiograph showed clear lung fields and diffuse calcification within the cardiac silhouette (**Figure A**). Diffuse calcific infiltration of the LV myocardium, which also involved the papillary muscles, mitral chordal apparatus, and mitral annulus, was revealed by 320-detector row computed tomography (CT). There was no calcification in the right heart. The LV calcification was helical and moved like a coiled spring (**Figure B–D; Supplementary Movie**). Coronary CT and angiography showed stenosis of the left anterior descending artery and total occlusion of the right coronary artery. Serum parathyroid hormone, calcium, and creatinine concentrations were within normal limits.

Our differential diagnosis was myocardial infarction, cardiomyopathy, malignant tumor, or calcified amorphous tumor.<sup>1</sup>

This a report of the rare entity of massive LV calcification

visualized on cardiac CT in a patient with no relevant history.

The calcification did not match the ischemic area, so the etiology of the calcification was unclear. However, the helical structure matches the myocardial band for contraction,<sup>2</sup> and it is likely that the structure was possibly a dystrophic or amorphous tumor. Myocardial calcification may damage LV structure, resulting in restrictive cardiomyopathy that requires management and can progress, so should be followed-up carefully.

#### Disclosures

The authors have no financial conflicts of interest to disclose concerning the study.

#### References

1. Ho HH, Min JK, Lin F, Wong SC, Bergman G. Calcified amorphous tumor of the heart. *Circulation* 2008; **117**: e171–e172.
2. MacIver DH, Stephenson RS, Jensen B, Agger P, Sánchez-Quintana D, Jarvis JC, et al. The end of the unique myocardial band: Part 1. Anatomical considerations. *Eur J Cardiothorac Surg* 2018; **53**: 112–119.

#### Supplementary Files

**Supplementary Movie.** The LV calcification was helical structure and moved like a coiled spring.

Please find supplementary file(s);  
<http://dx.doi.org/10.1253/circrep.CR-20-0059>