

# Apical Sphere Ventricular Aneurysm with Severe Endocardium Calcification after Old Anterior Myocardial Infarction

Li-Fei Pan<sup>1</sup>, De-Dong Ge<sup>1</sup>, Xiao-Wei Wang<sup>2</sup>, Zhen-Guo Zheng<sup>3</sup>, Xu-Chen Zhou<sup>3</sup>

<sup>1</sup>Clinical Medicine for Seven Year, Dalian Medical University, Dalian, Liaoning 116044, China

<sup>2</sup>Graduate School, Dalian Medical University, Dalian, Liaoning 116044, China

<sup>3</sup>First Department of Coronary Heart Disease, The First Affiliated Hospital, Dalian Medical University, Dalian, Liaoning 116011, China

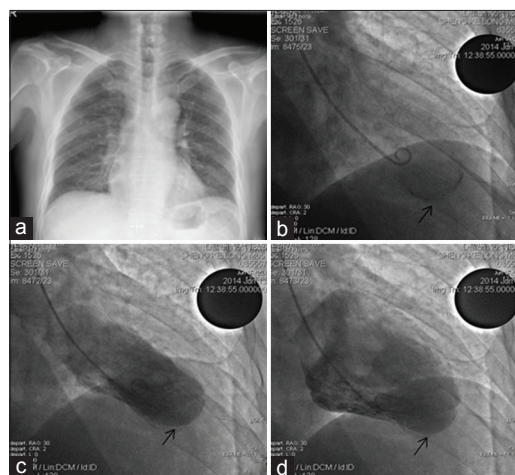
To the Editor: A 65-year-old patient was admitted into Department of Coronary Heart Disease of The First Affiliated Hospital on June 10, 2014 because of “paroxysmal chest pain for 13 years and relapsed and aggravated for 5 days.” Patient experienced squeezing pain in the precordium with chest congestion, palpitation, and excessive perspiration but without any spreading, nausea and vomiting under no any apparent incentives 13 years ago. Those symptoms might be eased after 20 min of rest. Patient was diagnosed and treated as acute anterior myocardial infarction (MI) in a local hospital, and discharged after improved by secondary prevention of drug treatment. Chest pain was relapsed and aggravated 5 d ago, and patient was admitted into the hospital for further treatment. Past history included 8-year history of Type II diabetes. Auxiliary examinations showed that electrocardiogram (ECG) was sinus rhythm and no deviated cardiac electric axis; the heart rate was 57 beats/min; lead II, III, aVF and V3–V6 had abnormal Q waves and no flat or invert T waves. The primary diagnoses after admission were: (1) coronary heart disease (CHD), unstable angina (UA), and old MI (inferior wall and anterior wall); (2) Type II diabetes. The results of blood biochemical tests were: fasting blood glucose 11.04 mmol/L; total cholesterol 1.5 g/L, triglycerides 1.65 g/L, high-density lipoprotein (LP)-cholesterol 0.35 g/L, low-density LP-cholesterol 0.88 g/L, and LP (a) 2.07 g/L; apolipoprotein: ApoA 0.99 g/L, ApoB 0.83 g/L; cardiac markers: creatine kinase (CK) - 37 U/L, high-sensitivity troponin I - 0.361 μg/L, CK-MB - 0.70 μg/L. Color ultrasonic cardiogram (June 11, 2014) showed that the size and proportion of atrioventricular cavity were normal. The ventricle wall was not thick. The motion of the anterior wall and middle segment of anterior dividing wall of the left ventricle and apex was reduced. The apical expansion was partially extruded out of the heart outline about 25 mm × 13 mm in size. The morphology and movement of each valve were normal and left ventricular ejection fraction (LVEF) was 35%. No endocardium calcification was indicated.

Coronary angiography (CAG) and left ventricle angiography (LVG) (June 13, 2014) showed that right coronary artery (RCA) middle segment (Fig. 2) was sub or totally blocked. The left main coronary artery was roughly normal. Whole left anterior descending artery presented the diffused stenosis of 50%–70% to provide the collateral circulation to RCA. Left circumflex artery (LCX) middle

segment (Fig. 2) presented the diffused stenosis of 50%–75% to provide the collateral circulation to RCA. Plain X-ray showed the apical endometrial calcified shadows in the left ventricle of the heart, presenting a spherical shape [Figure 1]. LVG showed a spherical ventricular aneurysm at apex and overlapped with a calcified image on plain X-ray, revealing an apparent eddy current after using the contrast agent partially. The movement was restricted, and the fixed geometry in the systole and diastole was not changed.

Intervention treatment: Each of EXCEL 3.0 mm × 33 mm and EXCEL 2.75 mm × 33 mm of rapamycin drug-eluting stent were implanted into the RCA lesion, respectively, and connected in series. One YINYI 2.5 mm × 18 mm of micropore paclitaxel-eluting stent was implanted into the LCX lesion.

This patient had a history of old anterior MI for 15 years. This patient was admitted to hospital due to UA, so we chose direct CAG, rather than drug treatment.<sup>[1-3]</sup> However, this patient’s color ultrasonic cardiogram presentation was different from ECG and CAG results, which were decreased anterior wall of apical cardiac muscle motion and only 35% of EF. The results of LVG well-revealed this inconsistent issue of ECG and CAG from the ultrasound



**Figure 1:** (a) Chest X-ray showed no calcification. (b-d) Left ventricle angiography showed an apical endometrial spherical calcified shadows in the left ventricle of the heart (b, arrow) and a spherical ventricular aneurysm at apex (c and d, arrows).

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**Address for correspondence:** Dr. Xu-Chen Zhou,  
First Department of Coronary Heart Disease, the First Affiliated  
Hospital, Dalian Medical University, Dalian, Liaoning 116011, China  
E-Mail: zhouxuchen@hotmail.com

cardiogram (UCG). From the plain X-ray results, we can see the apex of this patient had a spherical calcified shadow and the LVG indicated that the left apex had a clearly bulged spherical ventricular aneurysm, well-overlapped with spherical calcified shadow on the plain X-ray. The apical endocardium calcification fixed the motion of apex thereby making a lower LVEF and explaining why the results of ECG and CAG were inconsistent from the UCG.

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