

Coronary Artery Fistula with a Giant Saccular Aneurysm Misdiagnosed as a Mediastinal Mass

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To the Editor: An 85-year-old female with a history of chest blunt trauma three years ago was referred for the left mediastinal mass detected incidentally by chest radiography. The patient did not have any symptoms.

Chest radiography showed well-margined mass with mediastinal wide base on the left cardiac border [Figure 1a]. Cardiac multidetector computed tomography showed coronary artery

fistula (CAF) arising from the proximal left anterior descending artery with about 5-cm distal aneurysmal dilatation partially filled with thrombus. Another CAF arising from the proximal right coronary artery (RCA) with distal aneurysmal dilatation draining into the main pulmonary artery (MPA) trunk was also detected [Figure 1b and 1c]. Echocardiography showed a 5-cm large CAF filled with thrombus at the left lateral side of MPA. This CAF had about 3-mm defect at the posterior portion with systolic shunt

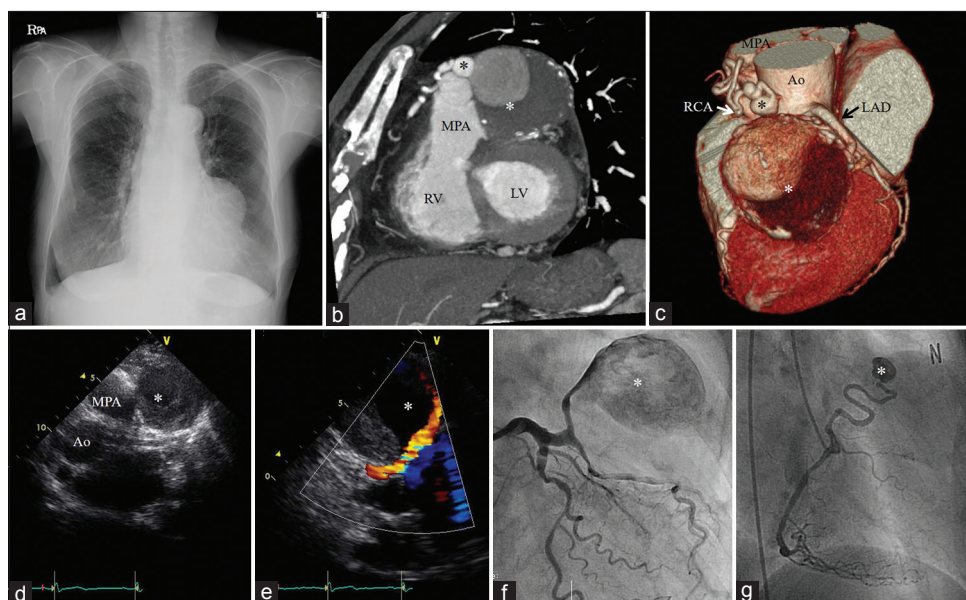


Figure 1: CAF with a giant saccular aneurysm. (a) Chest radiography showed mediastinal mass on the left cardiac border. (b and c) The cardiac computed tomography showed CAFs from proximal LAD artery with huge aneurysmal dilatation and from the proximal RCA. (d and e) Echocardiography showed huge CAF had systolic shunt flow, suggesting a connection with MPA. (f and g) Coronary angiography confirmed the CAFs originated from the first diagonal branch and the proximal RCA. *Aneurysm; LV: Left ventricle; RV: Right ventricle; Ao: Aorta; CAFs: Coronary artery fistulas; LAD: Left anterior descending; RCA: Right coronary artery; MPA: Main pulmonary artery.

flow and its peak velocity was 2.5 m/s, suggesting a connection with MPA trunk [Figure 1d and 1e]. Coronary angiography confirmed the CAF originated from the first diagonal branch with the saccular aneurysmal dilatation. In the left saccular aneurysm, turbulent flow was noted. The right saccular aneurysm of the CAF originated from the proximal RCA [Figure 1f and 1g]. Considering the potential risk

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of aneurysm rupture due to its huge size, we decided percutaneous coil-embolization and CAF was successfully closed without any postprocedural complication.

The acquired form of CAF can be found in thoracic trauma and iatrogenic factors such as coronary angioplasty and endomyocardial biopsies.^[1] Shear stress due to increased flow velocity and turbulence may predispose a vessel to accelerated atherosclerosis and thrombosis, resulting in increased intraluminal pressure and formation of aneurysmal dilatation.^[2] Although acquired CAFs are often accompanied with aneurysmal dilatation, formation of a saccular aneurysm with diameter exceeding 50 mm is extremely rare.^[3]

We report a rare case of CAF with a giant saccular aneurysm misdiagnosed as a mediastinal mass due to its huge size. The present case implicated that CAF needs to be considered in patients with an abnormal mediastinal shadow on chest radiography, especially with a history of previous chest trauma.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for

her images and other clinical information to be reported in the journal. The patient understands that her name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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