

Coronary-pulmonary artery fistula: Heart-on-a-heart appearance

A 67-year-old man presented with left-sided chest discomfort to our department. His medical history was unremarkable. The physical examination revealed a continuous murmur at the left mid-sternal border. ECG imaging and cardiac enzymes were normal. The echocardiography revealed no wall motion abnormality. Coronary computed tomography (CT) angiography was performed to evaluate the coronary arteries. There was no significant stenosis in the coronary arteries. However, a serpiginous fistula from the left anterior descending (LAD) artery to the main pulmonary artery was detected (Fig. 1). Volume rendering images revealed a dilated proximal LAD associated with a plexus of vessels that communicated with the conal branch of the right coronary artery (RCA) and the main pulmonary artery. Surprisingly, a popular heart-shaped aneurysm adjacent to the pulmonary artery was realized (Fig. 2).

Coronary artery fistula (CAF) is defined as abnormal communication between the coronary artery and cardiac chambers or vessels around the heart. It is usually congenital, although it may be acquired due to cardiac intervention or trauma. All of the coronary arteries, including the left main coronary artery (LMCA), can be involved; however, the majority of them arises from the RCA. Coronary artery dilatation is a common finding. Dyspnea, fatigue, and angina are the most common symptoms. Approximately half of all patients with CAF remain asymptomatic according to the size and localization of the fistula. Surgical ligation of the fistula is the gold standard for treatment. Transcatheter coil occlusion is another choice in patients with CAF; however, recanalization of the fistula could rarely be seen.

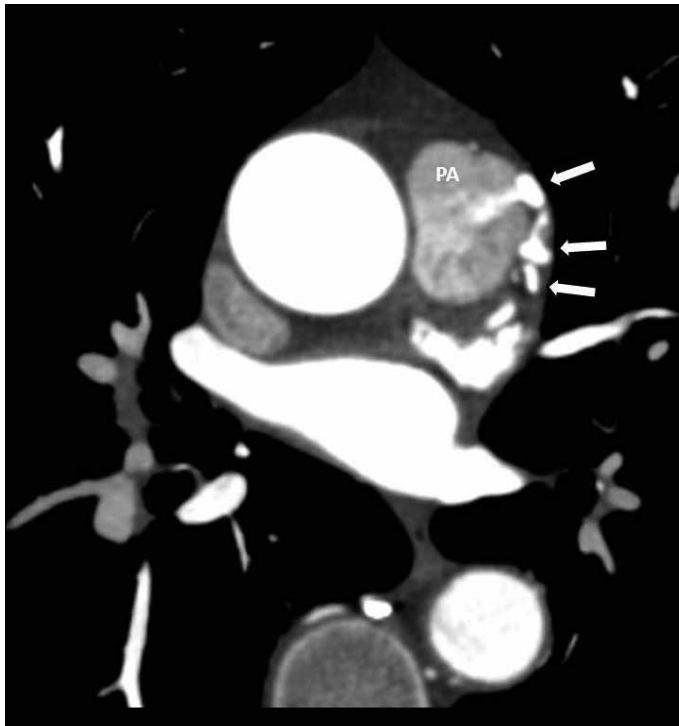


Figure 1. Coronary CT angiography image in the axial section shows serpiginous vessels (arrows) coursing from the left anterior descending artery to the main pulmonary artery

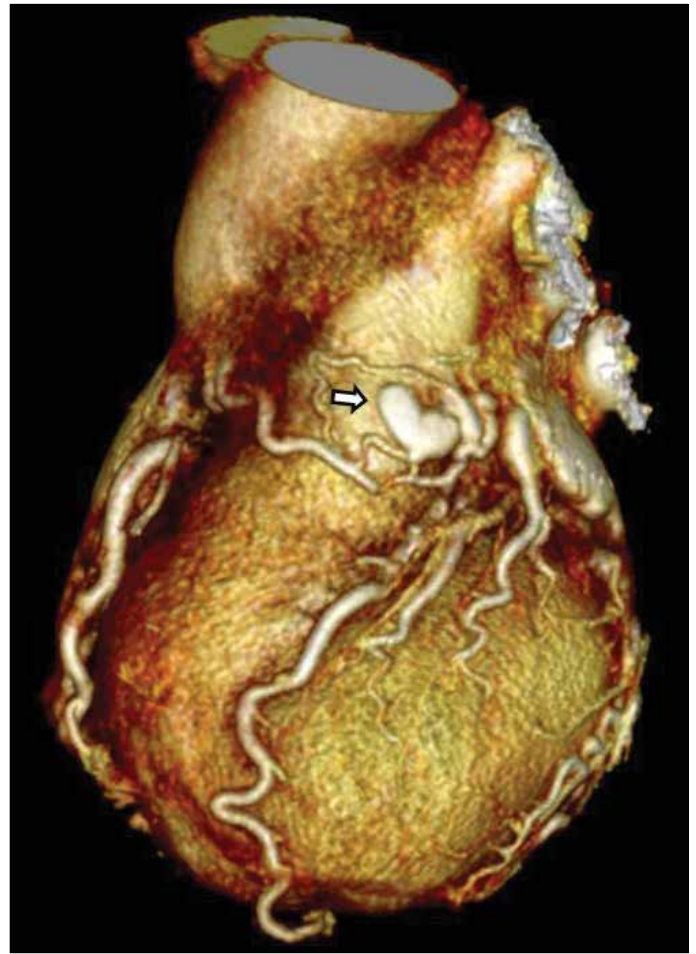


Figure 2. A popular heart-shaped aneurysm adjacent to the pulmonary artery in a volume rendering CT image (arrow)

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Available Online Date: 25.12.2014

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 DOI:10.5152/akd.2014.5901

Ventricular tachycardia and syncope: A complication of an echinococcal cyst caused by left ventricular outflow tract obstruction 🎬

Echinococcosis is a human parasitic infestation that is caused by the larval stage of *Echinococcus granulosus*. A 55-year-old man was

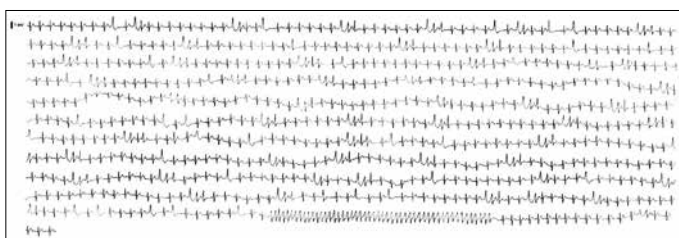


Figure 1. ECG-ventricular tachycardia with a heart rate of 170 bpm

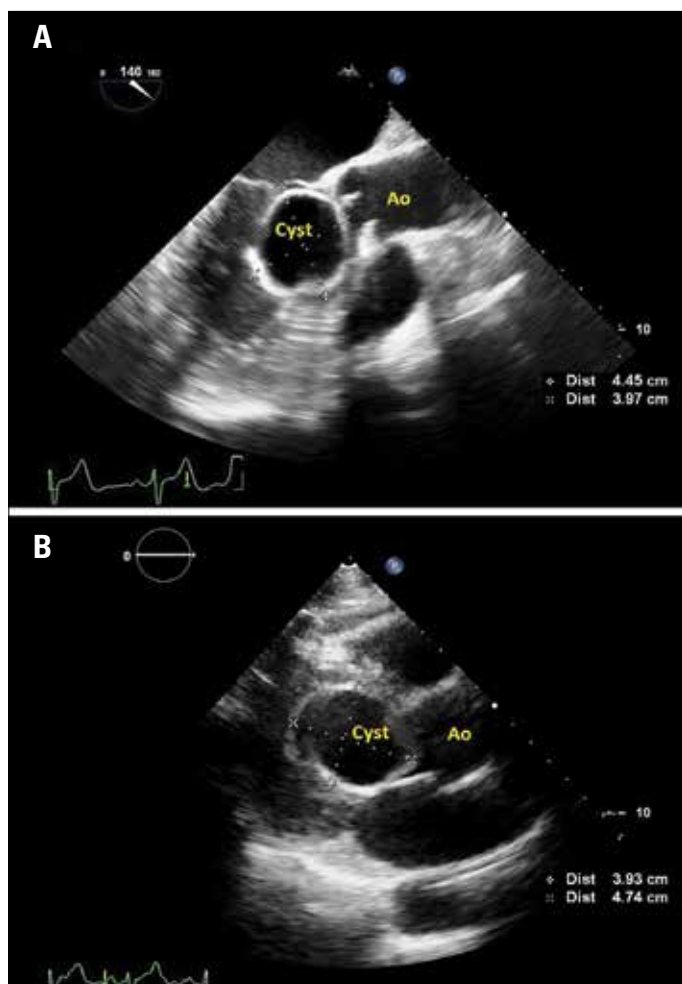


Figure 2. A, B. Transesophageal (A) and transthoracic echocardiography (B) showing an intraventricular cystic mass (3.9 x 4.7 cm) completely covering to the outflow tract

admitted to our department with palpitation, syncope, and dyspnea of exertion from 5 days ago. ECG and monitoring showed intermittent VT with a heart rate of 170 bpm (Fig. 1). On the transthoracic echocardiography (TTE), a cystic mass was noted in the left ventricular cavity. The cystic mass was developing inside the left ventricle and mildly compressing the outflow tract. There was no subaortic gradient and regurgitation or stenosis for the mitral and aortic leaflets. Transesophageal echocardiography (TEE) confirmed TTE and hydatid cyst, and the localization was determined (Fig. 2A and B, Video 1-2). Serial cardiac enzymes were positive for myocardial damage. A diagnostic coronary angiography was performed, which revealed no significant atherosclerotic stenosis of the coronary arteries. Abdominal ultrasonography showed an extracardiac cyst in the liver. The CT showed cystic lesions



Figure 3. CT scans show a large, intracardiac cystic mass developing inside the left ventricle (arrow)

in the left ventricular cavity protruding into the left ventricular outflow tract and in the liver (Fig. 3). Finally, he underwent cardiac surgery under general anesthesia, and the large hydatid cyst was evacuated. There was no evidence of residual cyst in the intraoperative TEE. Our patient, interestingly and originally, presented with exertion syncope and ventricular tachycardia, with positive cardiac enzymes for myocardial damage, which, in this particular context, was mimicking acute coronary syndrome. However, the exercise-induced syncope and ventricular tachycardia was probably explained by obstruction of the left ventricular outflow tract, such as in obstructive cardiomyopathies. We could not determine the subaortic gradient by continuous wave Doppler, but the reason couldn't be measured perpendicular to flow.

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Video 1-2. Transesophageal and transthoracic echocardiography showing an intraventricular cystic mass completely covering to the outflow tract

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Available Online Date: 25.12.2014

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 DOI:10.5152/akd.2014.5918

Asymptomatic giant pseudoaneurysm in the ascending aorta after Bentall procedure

A 31-year-old female patient underwent Bentall procedure due to an aortic aneurysm and aortic regurgitation, with an uneventful postop-