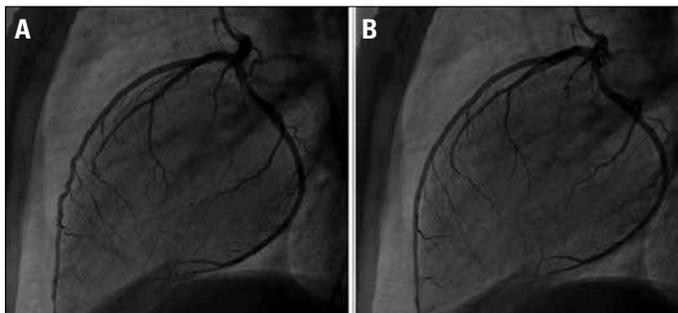


**Figure 4. Cardiac computerized tomography recons. Images-cyst located interventricular septum just behind distal LAD coronary artery**



**Figure 5. Angiographic imaging of the muscle bridge in distal part of the left anterior descending artery possibly compressing and causing myocardial ischemia**

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**Video 1.** Angiographic view of the muscle bridge in distal part of the left anterior descending artery possibly compressing and causing myocardial ischemia

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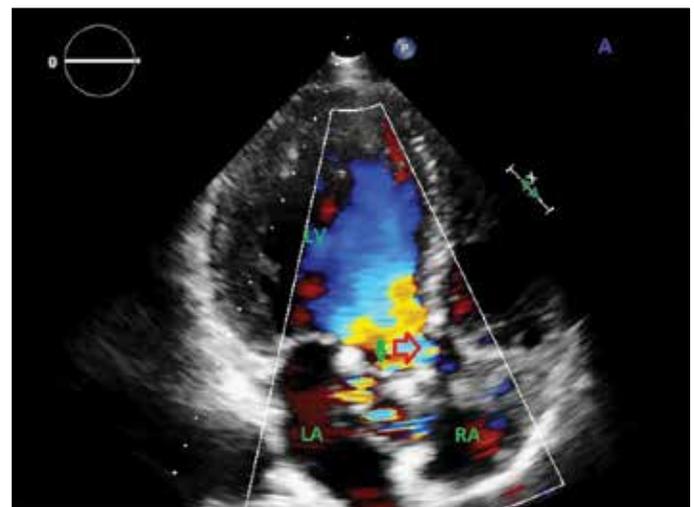
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## A multilobuled cystic communication between aorta and left ventricle after aortic valve replacement: a second way to aorta 🎬

A 50-year-old man who had undergone to aort valve replacement 10 years ago was admitted to our clinic with exertional dyspnea.

Physical examination revealed an afebrile patient with a blood pressure of 138/84 mm Hg, regular pulse of 84/minute. An ejection systolic murmur (3/6 in intensity) was heard all over the precordium likely from the flow across his prosthesis. Electrocardiography showed non-specific T wave changes in lead V1-V4. No evidence for clinical heart failure, anemia, jaundice or infection was noted. Laboratory tests revealed no leukocytosis and blood cultures were negative. C-reactive protein was 0.5 mg/L. (Normal: <0.8 mg/L) Erythrocyte sedimentation rate was normal with a 15 mm/hr. Transthoracic echocardiogram (TTE) in apical 5 chamber view revealed a cystic mass adjacent to the aortic valve in the left atrium that had a flow inside it (Fig. 1). Therefore transesophageal echocardiography (TEE) was performed. Midesophageal short-axis view (40 degree) showed a cystic mass inside the left atrium that had a communication with aorta (Fig. 2, Video 1). Midesophageal long-axis view (130 degree) demonstrated a multilobuled cystic structure (3.2 x 2.7 cm) with the communication between aorta and left ventricle (Fig. 3, Video 2, 3). This appearance was considered as an aorto-left ventricle fistula resulted from pseudoaneurysm after aort valve replacement. The patient was referred to surgery and the operation was successful.



**Figure 1. Apical 5 view on transthoracic echocardiography. Red arrow showed aortic flow through the aortic valve. Green arrow showed the flow through the pseudoaneurysm**

LA - left atrium; LV - left ventricle; RA - right atrium



**Figure 2. Short-axis view on transesophageal echocardiography (40 degree). White arrow showed the orifices of the pseudoaneurysm. Asterisks showed multilobuled cyst**

Asterisks - showed multilobuled cystic structure; LA - left atrium; RA - right atrium



**Figure 3.** Long-axis view on transesophageal echocardiography (130 degree). Asteriks showed a cystic mass adjacent to the aortic valve in the left atrium

Asteriks - showed multilobuled cystic structure; LA - left atrium; LV - left ventricle

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**Video 1.** Apical 5 view on two-dimensional (2-D) transthoracic echocardiography and midesophageal short axis view on transesophageal echocardiography (40 degree)

**Video 2.** Midesophageal long-axis view (130 degree) on 2-D transesophageal echocardiography demonstrated a multilobuled cystic structure with the communication between aorta and left ventricle

**Video 3.** Midesophageal long-axis view (126 degree) color Doppler on 2-D transesophageal echocardiography demonstrated clear systolic jet directed from left ventricle to aorta

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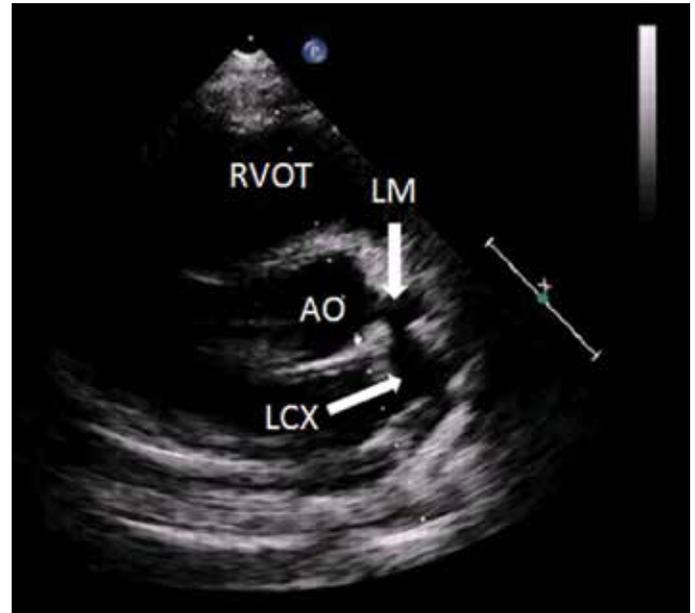
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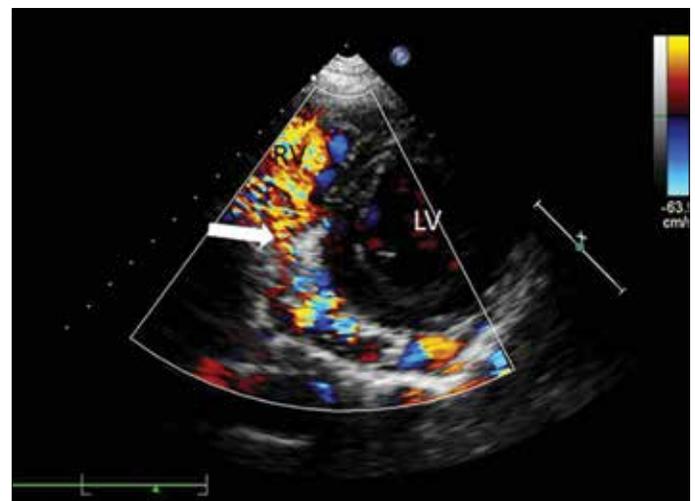
## Demonstration of coronary artery fistula between the left circumflex coronary artery and right ventricle using echocardiography and multidetector CT

Coronary artery fistula (CAF) consists of a communication between a coronary artery and a cardiac chamber or pulmonary vessel. The incidence of CAF from the left circumflex coronary artery (LCX) is extremely rare.

A 24-year-old female patient admitted to our institution for evaluation of heart murmur etiology. She reported no chest pain or other symptoms. In the parasternal short-axis view at great arteries level, the left main coronary artery and the left circumflex artery was showed dilated by Transthoracic echocardiography (Fig. 1). In the parasternal short-axis view at ventricular level, Doppler echocardiography



**Figure 1.** In the parasternal short-axis view at great arteries level transthoracic two-dimensional echocardiography shows the left main coronary artery (LM) and left circumflex artery (LCX) dilated



**Figure 2.** In the parasternal short-axis view at ventricular level Doppler echocardiography shows abnormal mosaic vascular structure flowing via the left atrioventricular groove toward inflow of right ventricle (RV) near tricuspid valve (white arrow)

raphy showed abnormal mosaic vascular structure flowing via the left atrioventricular groove toward inflow of RV near tricuspid valve (Fig. 2). Continuous-wave Doppler echocardiography revealed a high-speed continuous jet with a peak velocity of 476 cm/s at the drainage site, equivalent to a peak pressure gradient of 91 mm Hg (Fig. 3). The abnormal mosaic vascular structure was considered as the tortuous dilated circumflex artery located in the left atrioventricular groove between the left atrium and left ventricle. Coronary computed tomograph angiography showed that segments of the left main coronary artery and LCX was dilated, and LCX was very large and tortuous, traveling in the left atrioventricular groove between the left atrium and left ventricle by three-dimensional computed tomographic vol-