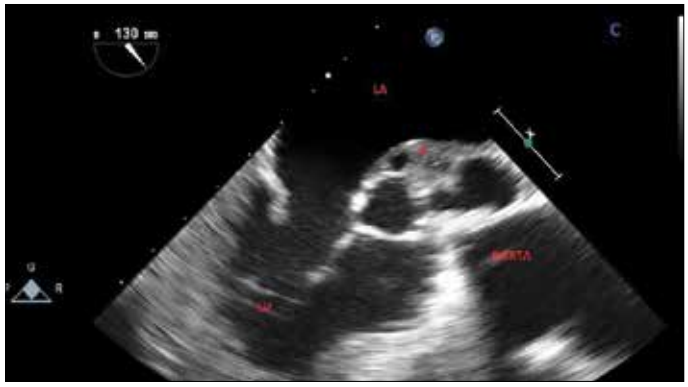

Figure 3. Long-axis view on transesophageal echocardiography (130 degree). Asteriks showed a cystic mass adjacent to the aortic valve in the left atrium

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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Demonstration of coronary artery fistula between the left circumflex coronary artery and right ventricule 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 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-

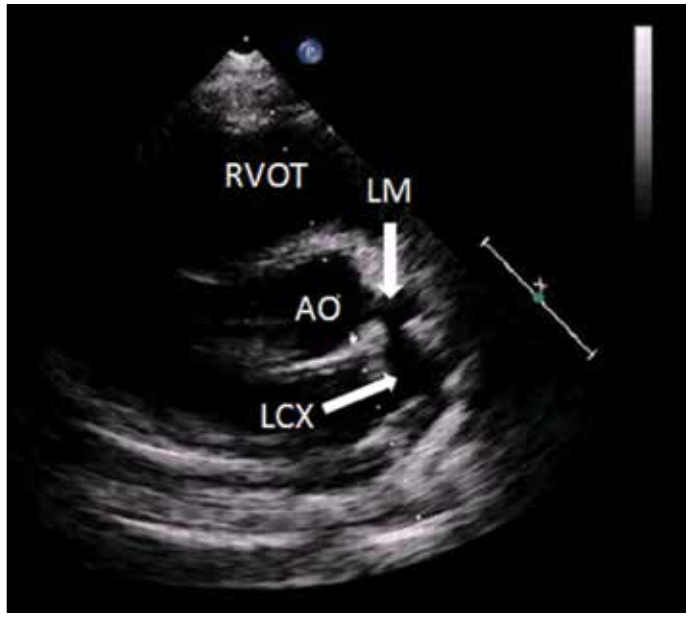

Figure 1. In the parasternal short-axis view at great arteries level transthoracic two-dimensional echocardiography shows the left main coronary artery (LM) and left circumflex artery (LCX) dilated

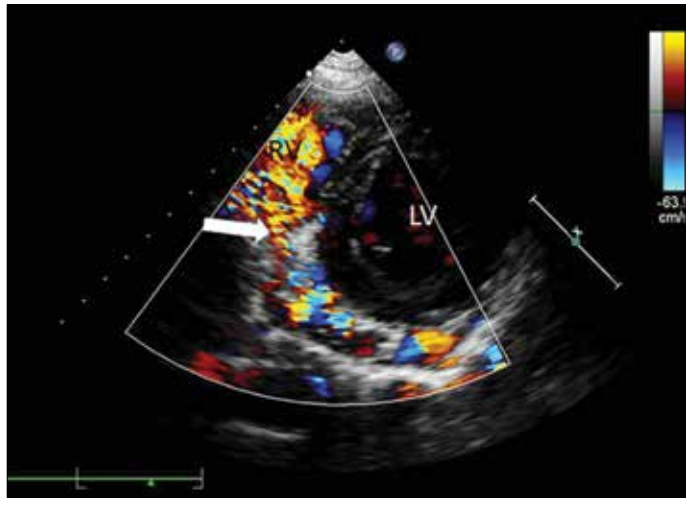

Figure 2. In the parasternal short-axis view at ventricular level Doppler echocardiography shows abnormal mosaic vascular structure flowing via the left atrioventricular groove toward inflow of right ventricle (RV) near tricuspid valve (white arrow)

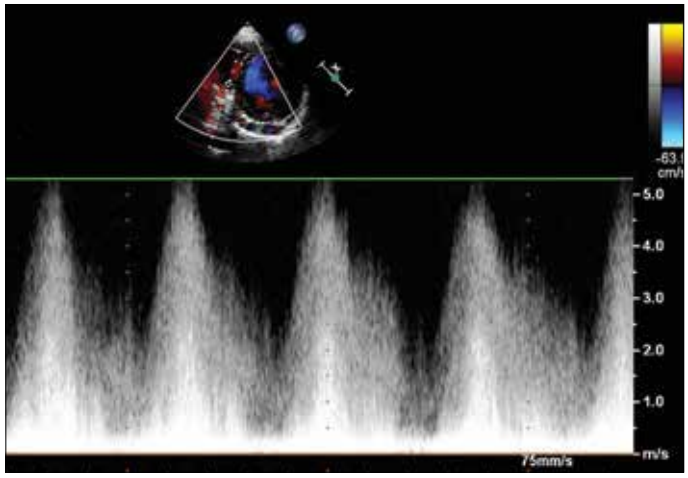

Figure 3. Continuous-wave Doppler echocardiography revealed blood flow spectrum of high-speed continuous at the drainage site

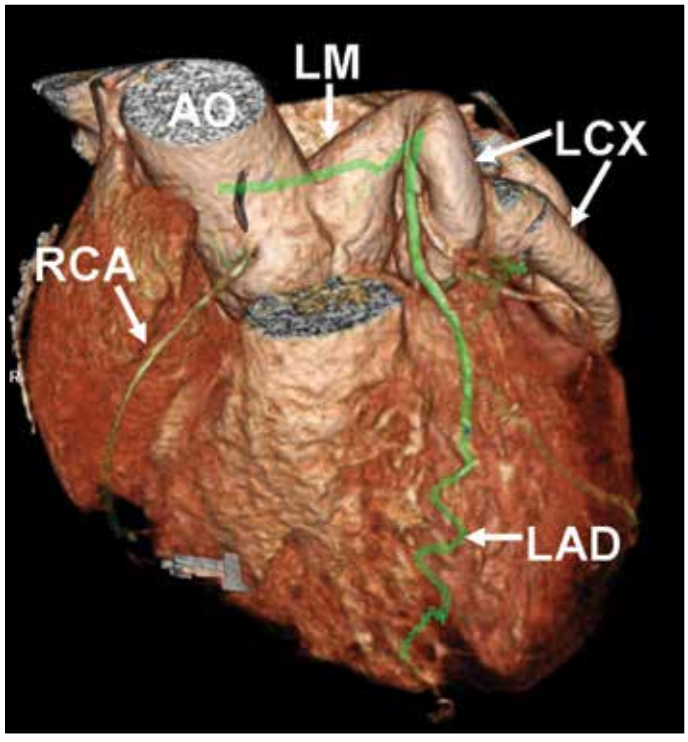

Figure 4. Three-dimensional computed tomographic volume-rendered reformation shows origin of the left main coronary artery (LM) and right coronary artery (RCA) from the aortic sinuses. And it shows a large and tortuous left circumflex coronary artery (LCX), dilated segments of the left main coronary artery (LM) in comparison with the left anterior descending artery (LAD)

ume-rendered reformation (Fig. 4, 5), and contrast material passed from LCX into the right ventricular cavity via a fistula (Fig. 6). The large, hemodynamically significant fistulas should be closed electively at the time of diagnosis. The patient received surgical repair successfully.

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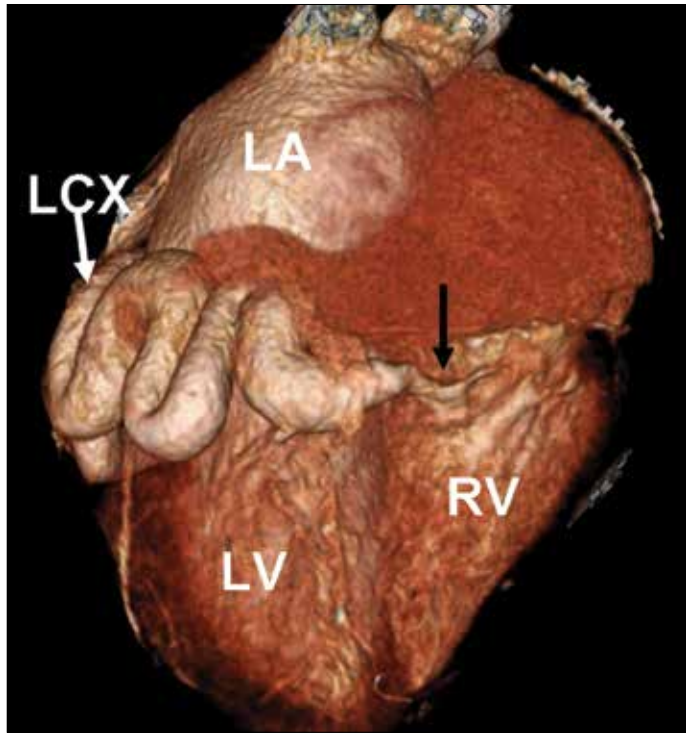

Figure 5. Three-dimensional computed tomographic volume-rendered reformation shows the markedly tortuous and dilated left circumflex coronary artery (LCX, white arrow) traveling in the left atrioventricular groove between the left atrium (LA) and left ventricle (LV). And the coronary artery fistula (CAF, black arrow) is draining into the right ventricle (RV)

Figure 6. Multi-detector computed tomography demonstrates coronary artery fistula (CAF, black arrow) originating from the dilated left circumflex coronary artery (LCX) to the right ventricle (RV)

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