Quiz: Imaging

A patient with heart failure symptoms and continuous murmur

A 65-year-old man was admitted to hospital having dyspnea, fatigue, edema of both legs. Heart failure symptoms worsened during the last couple of weeks. He had long-standing arterial hypertension with poor control of arterial pressure without symptoms of coronary artery disease. Electrocardiogram showed sinus rhythm and left bundle branch block. Precordial auscultation revealed a loud continuous murmur. Laboratory findings were unremarkable. Images (Fig. 1 – 4) were recorded during transthoracic echocardiography. Echocardiography showed left ventricular walls hypertrophy, normal systolic ventricular function, and moderate right ventricular dilatation.
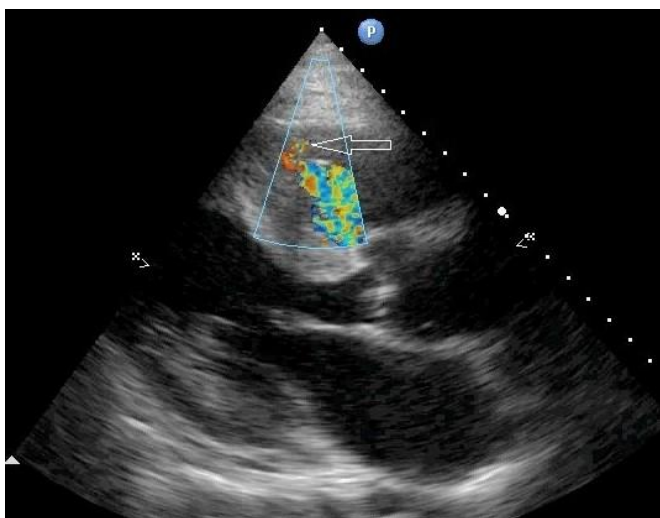

Figure 1. Echocardiography. Parasternal long-axis view. Colour Doppler echocardiography of turbulent flow in the right ventricle
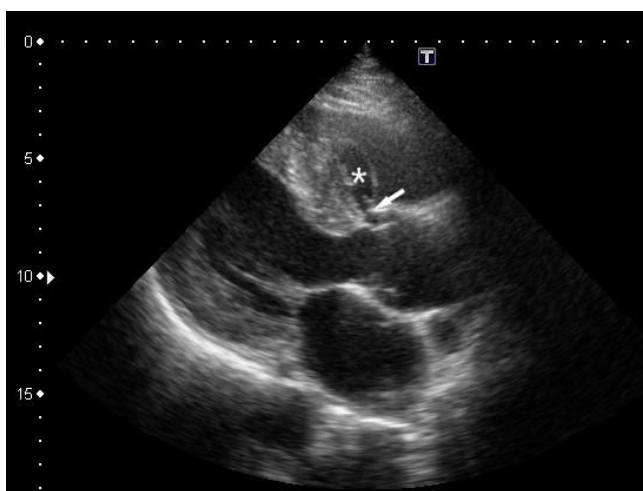

Figure 2. Echocardiography. Parasternal long-axis view. Echo-lucent cavity close to the right side of the interventricular septum

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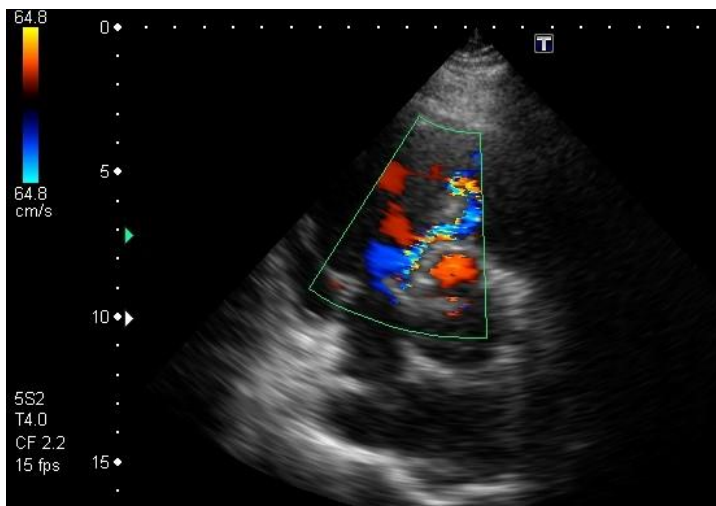
Figure 3. Echocardiography. Parasternal short-axis view. Color Doppler echocardiography of the turbulent flow
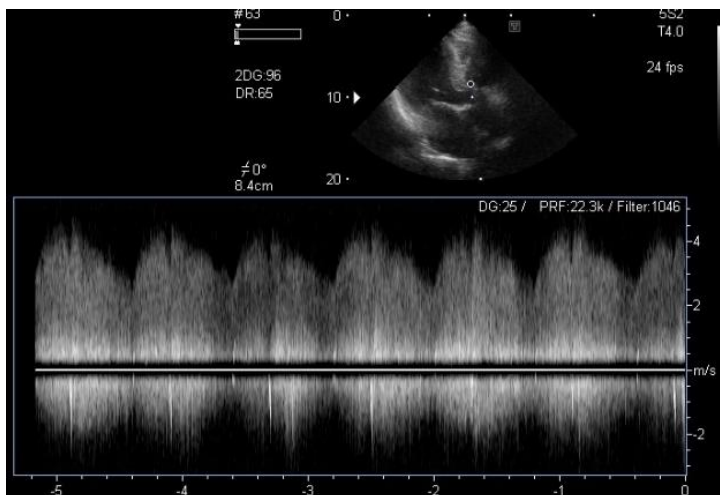

Figure 4. Continuous-wave Doppler of the turbulent flow in the right ventricle

The differential diagnosis and which of the following is the correct answer:

1. Congenital ventricular septal defect with interventricular septum aneurysm
2. Postinfarction ventricular septal rupture
3. Ruptured sinus of Valsalva aneurysm,
4. Right coronary artery aneurysm
5. Coronary artery-right ventricular fistula

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