

The association of intracardiac hydatid cyst and muscle bridge cause electrocardiographic abnormality detected by multimodality imaging 🎬

Hydatid cyst (HC) arises from the *Echinococcus granulosus* tapeworm and is seen commonly in some developing countries. Cardiac involvement is uncommon, seen in 0.5% to 2% of patients with hydatid diseases. Furthermore, involvement of the interventricular septum is seen only 4% of cardiac cases. Clinical characteristics are unknown, and treatment

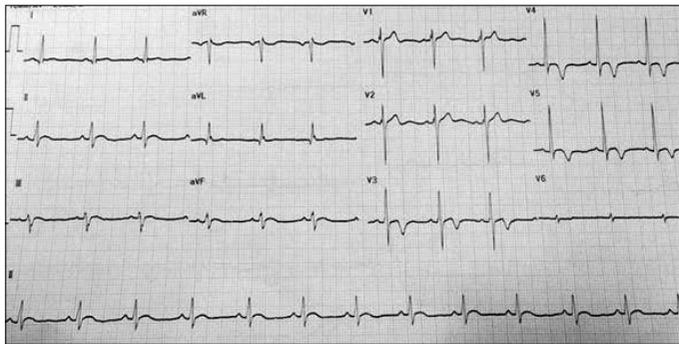


Figure 1. T wave inversion in distal left anterior descending artery area on electrocardiogram

modalities are unclear. Although frequently asymptomatic many cases are detected incidentally, cardiac hydatid cysts (CHC) can rupture and cause cardiac tamponade, fatal arrhythmias, or systemic infection. We herein demonstrated 2-D echocardiographic, cardiac magnetic resonance imaging (MRI), tomographic angiography and coronary angiographic features of the association of CHC and muscle bridge causes electrocardiographic ST, T wave abnormalities (possibly coronary ischemia).

A 21-year-old-male patient was admitted to our outpatient clinic because of palpitation and chest pain unrelated exercise in last two months. His medical and family history was unremarkable. Physical examination was normal. The 12-lead electrocardiogram showed a sinus rhythm and negative T wave in V3-5 derivations (Fig. 1). Myocardial perfusion scintigraphy showed suspicious ischemia on anterior region. Two dimensional transthoracic echocardiography showed a cystic mass located at the apex of interventricular septum (Fig. 2), other findings were normal. The cyst size was measured as 21 mm at the widest part. Coronary CT angiography and MRI were performed to further characterize the lesion, which showed interventricular cyst that compressed distal segment of left anterior descending artery (LAD) (Fig. 3, 4). We also incidentally detected muscle bridge in distal part of the left anterior descending artery possibly compressing and causing myocardial ischemia (Fig. 5, Video 1). But, it is not known whether a relationship between myocardial muscle bridge compression and cardiac cyst. The appearance of cyst seems to be hydatid cyst in cardiac MRI. The patient didn't accept surgical or medical treatment and therefore a histopathologic examination was not performed.

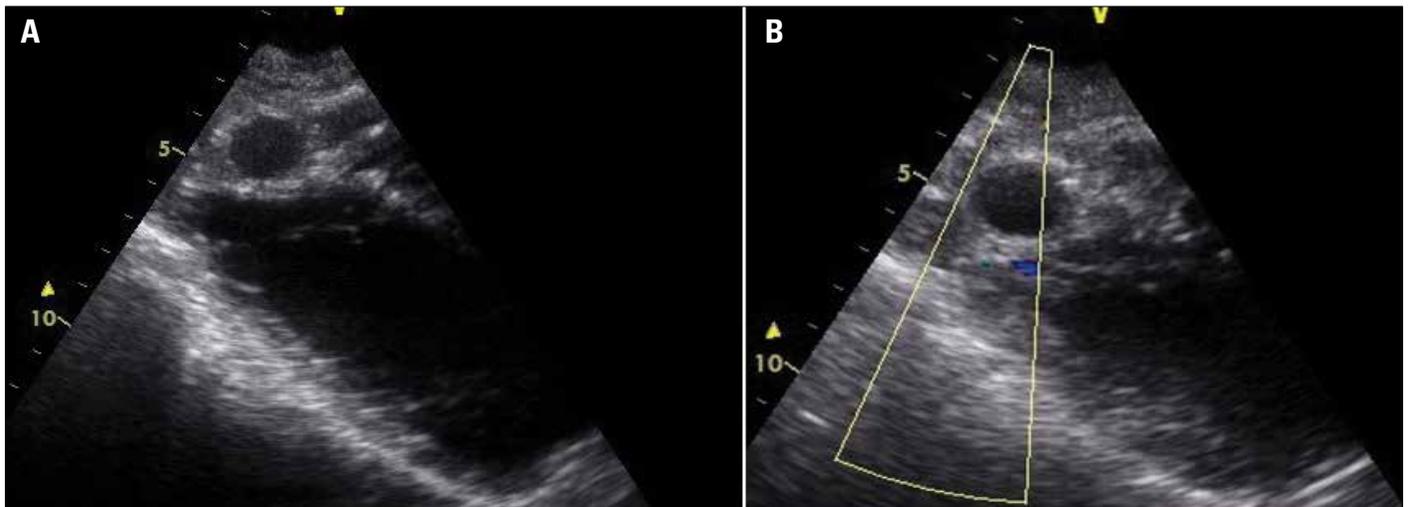


Figure 2. Cyst located in apical interventricular septum in subcostal view on transthoracic echocardiography

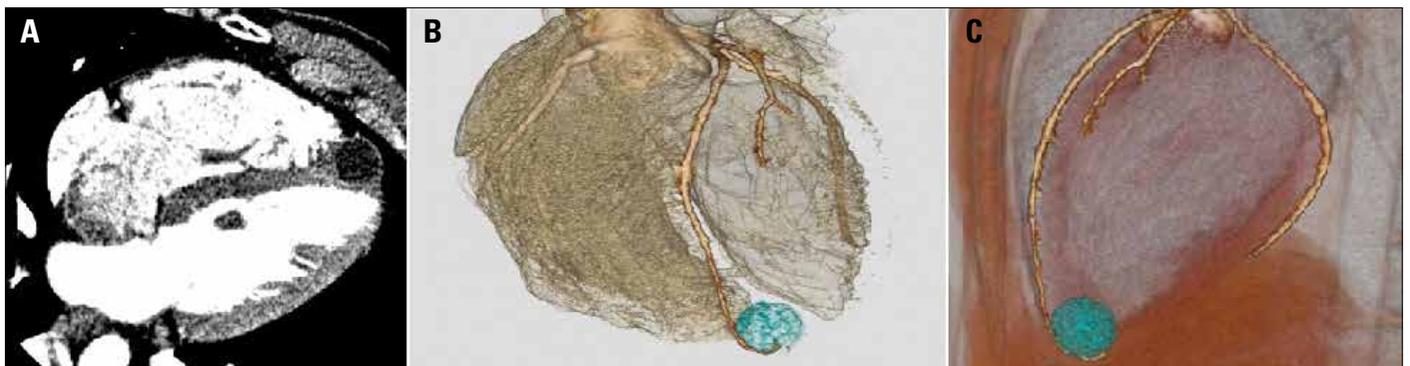


Figure 3. MRI cine four and two chamber view

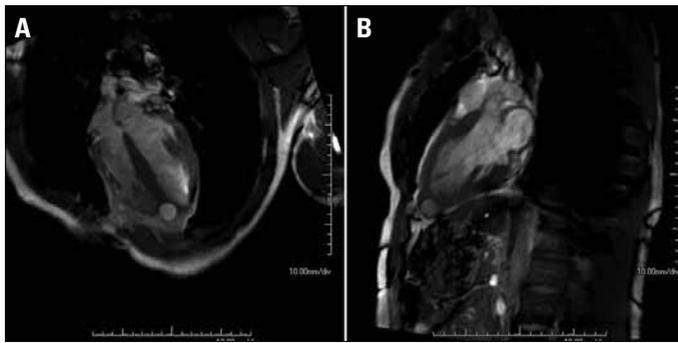


Figure 4. Cardiac computerized tomography recons. Images-cyst located interventricular septum just behind distal LAD coronary artery

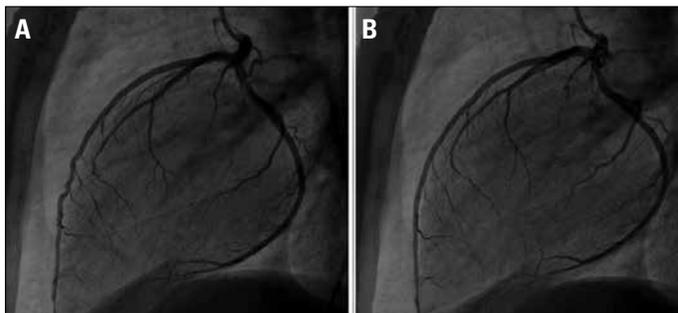


Figure 5. Angiographic imaging of the muscle bridge in distal part of the left anterior descending artery possibly compressing and causing myocardial ischemia

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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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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.

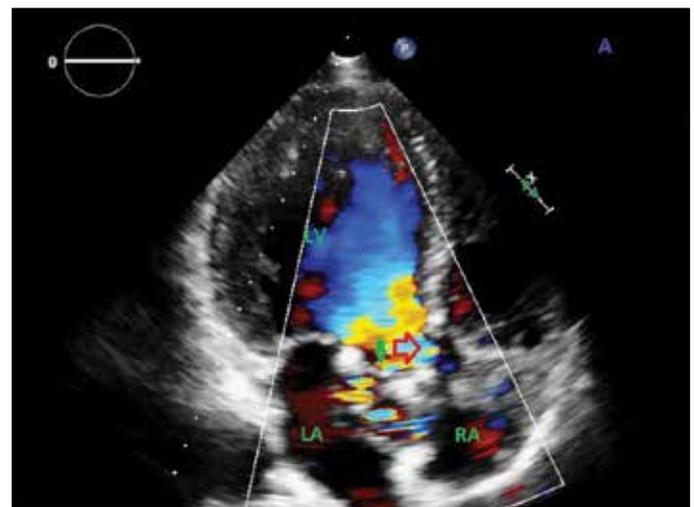


Figure 1. Apical 5 view on transthoracic echocardiography. Red arrow showed aortic flow through the aortic valve. Green arrow showed the flow through the pseudoaneurysm

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