

## A 48-Year-Old Female Patient with a History of Progressive Dyspnea

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### Abstract

A 48-year-old female patient was admitted with a history of progressive dyspnea for approximately six months. The echocardiography exam showed enlargement of the four cardiac chambers and significant biventricular systolic dysfunction, as well as three cystic images in septal-apical, apical and lateral-apical regions of the left ventricle. Initially the images were interpreted as being compatible with hydatidosis. She was admitted to the ICU due to worsening of dyspnea, where dobutamine was administered and other measures for heart failure were employed and she was discharged after four days. The patient's clotting disorder was corrected in the ICU with intravenous vitamin K. The echocardiographic images were reviewed and the diagnosis of cystic thrombus was made; the patient continued to receive anticoagulation therapy and a repeat echocardiography performed on the following day showed thrombus organization and after a week of anticoagulation, further examination showed thrombus disappearance.

**Keywords:** *Progressive Dyspnea; Vitamin K; ICU*

### Case Report

A 48-year-old female patient was admitted with a history of progressive dyspnea for approximately six months, associated with paroxysmal nocturnal dyspnea, lower-limb edema, upper abdominal pain, dyspepsia, dizziness and two syncope episodes. She was admitted to the Department of Gastroenterology due to abdominal pain and laboratory alterations compatible with acute liver failure of probable ischemic etiology (Plat = 66,000/mm<sup>3</sup>, AST = 4,320 IU, ALT = 2620 IU, PT: 44.3 sec, INR = 3.57, aPTT = 114.8 sec p/c ratio = 3.86).

Physical examination showed blood pressure of 100 mmHg X 60, HR = 112 bpm, RR = 32 rpm, Glasgow = 15; patient was oriented, tachypneic, with lower-limb edema (2 +/4 +) and cardiac auscultation showed the presence of third heart sound (B3) and muffled heart sounds. The patient had decrease in breath sounds on the right hemithorax and pain on palpation of the right upper quadrant.

An ECG was performed and showed hypertrophy of the left heart chambers. Chest x-ray showed an enlarged cardiac area and small right pleural effusion; the echocardiography showed enlargement of the four cardiac chambers and significant biventricular systolic dysfunction, as well as three cystic images in septal-apical, apical and lateral-apical regions of the left ventricle. Initially the images were interpreted as being compatible with hydatidosis (**Figure and Video 1**). She was admitted to the ICU due to worsening of dyspnea, where dobutamine was administered and other measures for heart failure were employed and she was discharged after four days. The patient's clotting disorder was corrected in the ICU with intravenous vitamin K. The echocardiographic images were reviewed and the diagnosis of cystic thrombus was made; the patient continued to receive anticoagulation therapy and a repeat echocardiography performed on the following day showed thrombus organization (**Figure and Video 2**) and after a week of anticoagulation, further examination showed thrombus disappearance (**Figure and Video 3**). Viral hepatitis (A, B and C), autoimmune disorders, drug-induced hepatitis, hemochromatosis and NASH were ruled out. In the very early stages of clot formation, imbalance between thrombogenic and thrombolytic factors could result in an unusual cystic appearance. It has been proposed that thrombin-activatable fibrinolysis inhibitor stabilizes the exterior

of the clot while the inner core is lysed by plasmin, resulting in cystic clots. Thrombus in the form of highly mobile membranes, disappearing with anticoagulant therapy, has been reported as well. It appears that certain morphologic features of thrombus (cystic lesions and membranous lesions as opposed to protuberant masses) might suggest that the thrombus is in its early stage of formation and help in predicting complete resolution with anticoagulant therapy [1-2].

### Conclusion

What is unusual in this case, in addition to the image of the cystic thrombus, which is unusual in itself, is that normally when an organized thrombus is visualized, the patient is anticoagulated and an organized thrombus may become a cystic one. In this case, first the cystic thrombi were seen (undiagnosed at the time of echocardiography) and after the clotting disorder was corrected, the organized thrombi were visualized.

### Disclosures

None.

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No

**Figure and Video 1:** Transthoracic echocardiography. Cystic thrombi in septal-apical, apical and lateral-apical regions.

**Figure and Video 2:** Transthoracic echocardiography. Organized thrombi in septal-apical and lateral-apical regions.

**Figure and Video 3:** Transthoracic echocardiography. Absence of thrombi.

### Bibliography

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