

A giant tumor thrombi filling right ventricle in a thrombocytopenic patient with renal cell carcinoma



Renal hücreli kansere eşlik eden trombositopenili bir olguda sağ ventrikülü dolduran dev trombüs

Renal cell carcinoma (RCC) is known to be a cause of pulmonary embolism. While the involvement of renal veins and the inferior vena cava by tumor thrombus is a relatively common finding (21-35% and 4-10% respectively), the frequency of tumor thrombus extension into the right side of the heart is rare (0.5-2%). We report a case of giant tumor thrombi filling right ventricle in RCC patient with a history of thrombocytopenia. Sixty four year old male with a known history of thrombocytopenia and RCC was admitted to emergency department with acute onset of dyspnea and retrosternal chest pain. The physical examination revealed a blood pressure of 130/75 mmHg, respiratory rate of 40/min and heart rate of 120 bpm respectively. Heart and respiratory auscultation findings were normal. ECG at admission showed sinus tachycardia without any ischemic finding. Laboratory findings were normal except thrombocytopenia (platelet count: 27000 mm³). Cardiac biomarkers including troponin I and creatine kinase-MB fraction revealed no pathologic elevations. Transthoracic echocardiography revealed giant thrombus filling all right ventricle limiting blood flow (Fig. 1, 2, Video 1, 2). Thorax computed tomography showed giant thrombus filling all right ventricle without any pulmonary artery involvement, and pericardial effusion of 1.98 cm size (Fig. 3).



Figure 1, 2. Transthoracic echocardiography view of a giant thrombus filling all right ventricle limiting blood flow

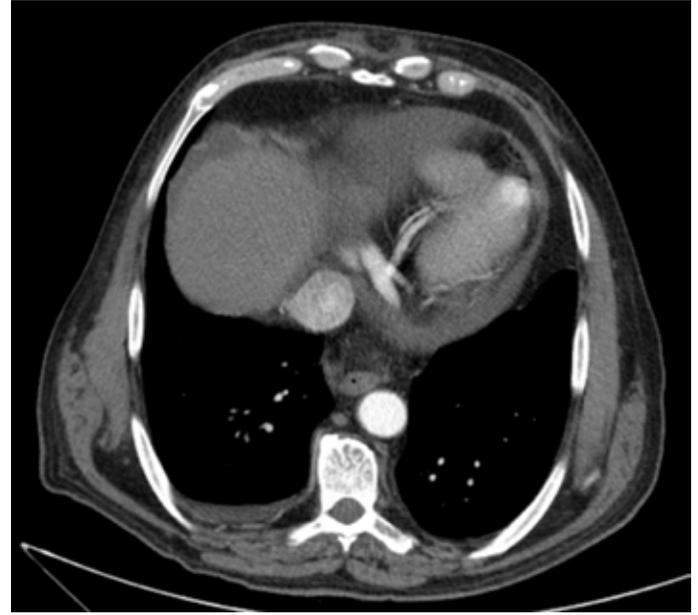


Figure 3. Thorax computed tomography showed giant thrombus filling all right ventricle without any pulmonary artery involvement, and pericardial effusion of 1.98 cm size

Supplement oxygen 3lt/min and enoxaparine 60 mg were administered to patient. Since the patient did not have findings of cardiac tamponade and he had thrombocytopenia, pericardiocentesis was not performed. The early diagnosis and specific surgical approaches including cardiopulmonary bypass are the most effective treatment modalities in RCC patients with thrombus above the level of hepatic veins.

Video 1-2: Transthoracic echocardiography movie images of a giant thrombus filling entire right ventricle limiting blood flow

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Two-and three-dimensional echocardiographic views of a prominent Chiari network prolapsing into right ventricle



Sağ ventriküle prolabe olan belirgin Chiari ağının iki ve üç boyutlu ekokardiyografik görünümü

A 20-year-old male patient with no medical history was admitted to our cardiology clinic for atypical chest pain. Physical examination was

normal. Heart rate and blood pressure were 90bpm and 120/85 mmHg respectively. Electrocardiography (ECG) showed sinus rhythm with a normal axis. The chest X-ray was unremarkable. Two-dimensional (2D) and real-time 3-dimensional (3D) transthoracic echocardiography (TTE) revealed a very mobile (characterized by whip-like motion), thin, filamentous structure in the right atrium (Chiari network) prolapsing into right ventricle through the tricuspid orifice during diastole (Fig.1, 2, Video 1-5. See corresponding video/movie images at www.anakarder.com). Other echocardiographic findings were normal. After injection of agitated saline into an upper extremity vein was not detected right-to-left shunt by transthoracic contrast echocardiography. Therefore, we recommended echocardiographic follow-up to the patient.

Chiari network is a congenital remnant of the right valve of the sinus venosus, which was first described by Dr. Hans Chiari in 1897 in an autopsy series. Chiari network is often diagnosed incidentally and estimate prevalence is 2% in TEE and 1.5% in TTE studies. Generally this congenital remnant considered clinically insignificant but it may be associated with patent foramen ovale (in about 80% of patients), intra-atrial thrombus, thromboembolic events, formation of inter-atrial septal aneurysm, infective endocarditis, supraventricular arrhythmias and catheter entrapment.

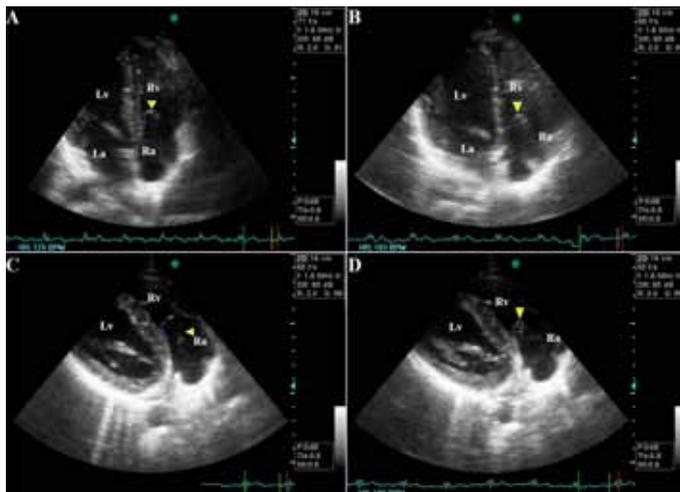


Figure 1. A-B. Apical four-chamber views of the prominent Chiari network prolapsing into right ventricle through tricuspid orifice during diastole (arrows). C-D. Modified parasternal long-axis views of the prominent Chiari network prolapsing into right ventricle through tricuspid orifice during diastole (arrows)

LA - left atrium, LV - left ventricle, RA - right atrium, RV - right ventricle



Figure 2. Real-time 3-dimensional (3D) transthoracic echocardiographic views of a prominent Chiari network A. Apical four-chamber view during systole B. Apical four-chamber view of the prominent Chiari network prolapsing into right ventricle during diastole (arrows)

LA - left atrium, LV - left ventricle, RA - right atrium, RV - right ventricle

Video 1: Two-dimensional (2D) transthoracic echocardiographic view of prominent Chiari network from apical four-chamber view

Video 2: Two-dimensional (2D) transthoracic echocardiographic view of prominent Chiari network from modified parasternal long-axis view

Video 3-5: Real-time 3-dimensional (3D) transthoracic echocardiographic views of prominent Chiari network

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Lipomatous hypertrophy of the interatrial septum demonstrated by three-dimensional transesophageal echocardiography



İnteratriyal septumun lipomatöz hipertrofinin üç boyutlu transözefageal ekokardiyografi ile gösterilmesi

Lipomatous hypertrophy of the interatrial septum (LHAS), characterized with lipid deposition in the interatrial septum, is thought to be benign and rarely associated with clinical manifestations. It is most often found incidentally in the elderly patients during echocardiography done for another reason. This tumor must be differentiated from other types of lesions including myxomas, true cardiac lipomas, liposarcomas, parietal thrombi, metastatic tumors and amyloidosis that appear as septal tumor mass.

A 78-year-old man was referred for the evaluation of intracardiac mass detected on transthoracic echocardiography. We performed transesophageal echocardiography for the detection of the nature of this mass and it showed lipomatous hypertrophy of the interatrial septum (Fig. 1). For better visualization of this pathology, we applied three-dimensional transesophageal echocardiography (3D TEE) full volume data set, which revealed morphological features of this pathology in detail (Fig. 2, all panels). Interatrial septum was 20 mm in thickness and dumb bell-shaped morphology. There was no obstruction in inferior and superior vena cava (Fig. 2A, Video 1. See corresponding video/movie images at www.anakarder.com) and no involvement of the fossa ovalis



Figure 1. Two-dimensional transthoracic echocardiography (2D TTE) in bicaval view (1A) and short-axis (1B) views of lipomatous hypertrophy of the interatrial septum