

Case Report

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Tumor thrombosis in transit

Azin Alizadehasl, MD, FACC, FASE^{1,2}; Leila Aliabadi, MD²; Mahsa Akbarian, MD²; Somaye Mohebi, MD^{2*}; Maryam-Sadat Alavi, MD²; Alia Bahramnejad, MD¹; Amir Dousti, MD³; Kamran Roudini, MD⁴; Mina Mohseni, MD¹; Masoud Sayyad, MD¹; Parisa ahmadi, MD²

¹Cardio-Oncology Research Center, Rajaie Cardiovascular Medical & Research Center, Iran University of Medical Sciences, Tehran, Iran.

²Echocardiography Research Center, Rajaie Cardiovascular Medical & Research Center, Iran University of Medical Sciences, Tehran, Iran.

³Interventional Cardiology Research Center, Rajaie Cardiovascular Medical and Research Center, Iran University of Medical Sciences, Tehran, Iran.

⁴Cancer institute, Imam Khomeini hospital, Tehran University of Medical Sciences, Tehran, Iran.

*Corresponding Author: Somaye Mohebi

Echocardiography Research Center, Rajaie Cardiovascular Medical & Research Center, Iran University of Medical Sciences, Tehran, Iran.

Email: somayemohebbi57@gmail.com

Abstract

Hepatocellular Carcinoma (HCC) is a poor prognosis cancer of liver which could be associated with venous thrombo-emboli but cardiovascular metastasis is rare; Here we present a case of HCC with tumor thrombosis and clot in transit who managed conservatively with anti-coagulation.

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Introduction

Hepatocellular carcinoma is most common primary liver malignancy. Advanced hepatocellular carcinomas represent a disease with poor prognosis [1]. Sixth most prevalent cancer and fourth most common cause of cancer mortality worldwide and a median survival time of four to seven months [2]. Intra cardiac involvement and invasion of the hepatic vein, inferior vena cava, pulmonary artery, and right atrium is rather rare with poor Prognosis [3]. The major risk factors include chronic liver disease leading to cirrhosis, and most common etiologies are viral hepatitis (HBV and HCV), heavy alcohol consumption, and fatty liver disease [4]. Increased alpha fetoprotein with 60% sensitivity and 90% specificity and also elevated liver enzymes are commonly used for hepatocellular carcinoma detection [5]. For staging the tumor and defining the best therapeutic, Barcelona Clinic Liver cancer (BCLC) algorithm is the most widely applied Hepatocellular carcinoma management system. Criteria of advance stage (c) are portal invasion, extra hepatic spread and preserved liver function [6]. A review of 14 cases of HCC

patients with pulmonary thrombo-emboli showed the one-year survival was higher for those who had surgery (40%) and lower for whom didn't (0%). So, hepatic resection and removal of tumor thrombi should be considered to prolong the patient's life span [7]. HCC patients with pulmonary thrombo-emboli and IVC invasion have been reported to survive less than two months without surgery [7]. Pulmonary thromboembolism and right atrium mass as the first manifestation of HCC is rare (2%) [3]. Here we report a 56 -year- old man with right atrial mass and pulmonary thromboembolism as a first manifestation of HCC.

Case presentation

A 56 -year-old man with lower extremities edema that was started from three weeks ago.

In his medical history he had a history of diabetes mellitus, hypertension, dyslipidemia. He was current smoker. There is no Hepatitis or any other liver dysfunction in his history.

Physical examination on admission was unremarkable except

for pitting lower extremities edema. A 12 - lead ECG revealed normal sinus rhythm with no specific change. The results of the laboratory test were as follows: Hemoglobin: 12.1 mg/dl, leukocytes count: 7900, Platelet count: 135000, Prothrombin time: seconds, Prothrombin International normalized ratio, Activated partial thromboplastin time: Aspartate aminotransferase: 130, Total bilirubin: 1.2. Albumin: 3, Alanine aminotransferase: 117, creatinine: 7.2, BUN:72.

Two-dimensional transthoracic echocardiography was performed in first day of admission and revealed normal left ventricular size with mild systolic dysfunction left ventricular ejection fraction: 50%. Normal right ventricular size and systolic function. Normal bilateral sizes. Valvular had no significant stenosis. Nor regurgitation, no Pericardial effusion. Large mass (4.3 cm x 1.6 cm) in inferior vena cava that extended to right atrium and protrude to right ventricle (Figure 1). Color Doppler echocardiography was repeated in the second day of admission due to patient change symptom and he developed with dyspnea, that the result was different, a mass in right atrium was disappeared (Figure 2), so perfusion ventilation lung scan was performed. Perfusion lung scan by TC99m revealed multiple lung segmental perfusion defect. Abdominopelvic sonography was done for him, heterogeneous mass like lesion is noted in the segment sixth of liver and measures about 40 millimeters diameter. Both kidneys show increased parenchymal echogenicity. Spleen showed normal size and parenchyma echo pattern. Inferior vena cava showed dilated and contains filling defect and without flow. Hepatic veins show hypoechoic material and

without obvious flow. Bilateral common iliac veins showed filling defect, mostly suggestive of thrombosis.

According to color Doppler echocardiography, that was highly suspicious to thrombosed tumor and sonography that revealed IVC and common iliac vein thrombosis, and also ventilation perfusion scan that was suggestive for pulmonary thromboembolism, so anticoagulant therapy was started for him. Due to increase in creatinine and the following nephrologist consult, two times hemodialysis was done. Creatinine level was decreased to 2.1 and due to adequate diuresis, dialysis was stopped. Edema was resolved. Oncologist consult was requested. In concordance with abdominal sonography that revealed mass in liver and positive PCR for hepatitis B, alpha fetoprotein was checked that was higher than normal range (47.9). The patient was discharged with amlodipine 5 mg, two times a day, Valsartan 80 mg two times a day. Atorvastatin 40 mg daily and enoxaparin 80 mg two times a day, also he had oncologist and cardiologist follow up.

The patient was admitted one month later with abdominal pain, abdominal protrusion and lower extremities edema. 2D echo color Doppler was performed and revealed RA, IVC mass. Alpha fetoprotein that was 60.6. Liver biopsy was done and HCC was confirmed. After intensive anticoagulant therapy and starting Sorafenib 200 mg 2 times a day, the patient was discharged with warfarin 5 mg daily, ASA 80 mg daily, carvedilol 3.125 mg 2 times a day, furosemide 40 mg 2 times a day, atorvastatin 20 mg daily, gliclazide 30 mg daily.

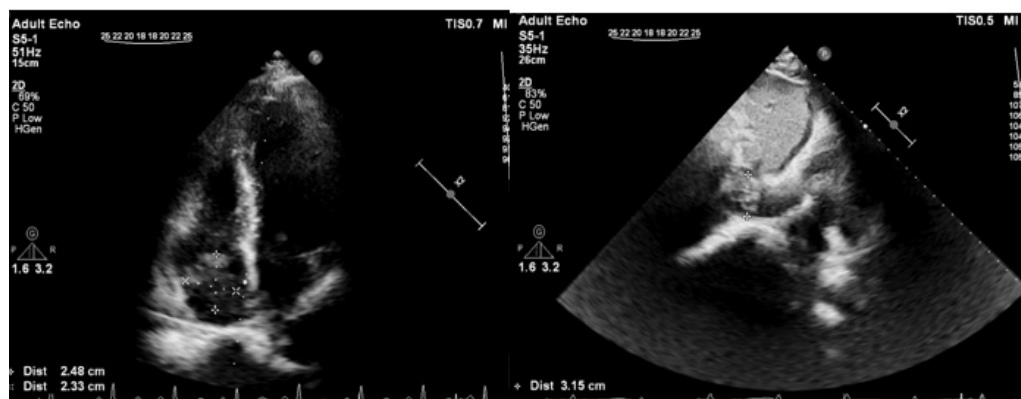


Figure 1: Transthoracic echocardiography, the right image shows the mass in the IVC in sub-xiphoid view and the left image shows the mass in RA in four chamber view.

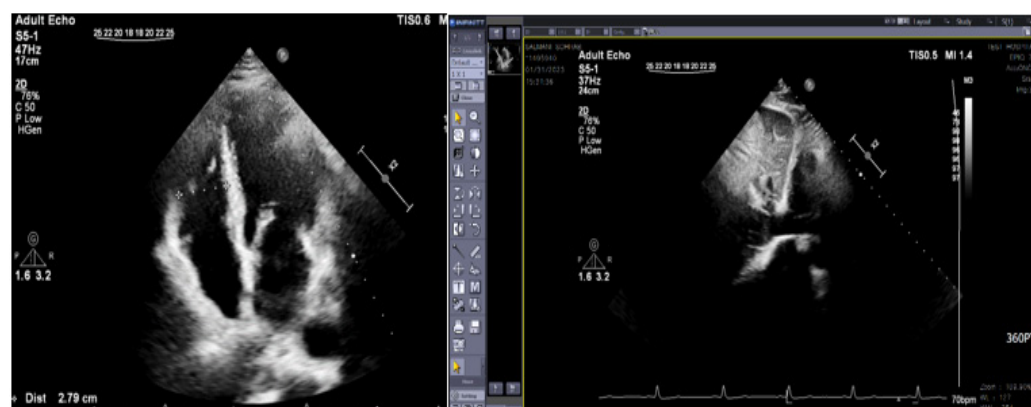


Figure 2: The second day transthoracic echocardiography which showed the cardiac mass was disappeared, the right image shows IVC in sub-xiphoid view and the left image shows four chamber view.

Discussion

Compared with older series, there was a significant increase in the incidence of cardiac metastasis in cancer patients after 1970, probably related to improvements in technique and availability of cardiac imaging modalities [8]. Acute pulmonary thrombo-emboli as the primary manifestation of HCC with tumor associated thrombosis in the IVC and the right atrium is rare [3]. However, metastatic spread of malignancies to lung is common, pulmonary tumor embolism is not frequent.

In this case, creatinine was increased transiently. Normal hematocrit, and high alpha fetoprotein level was detected. Serological examinations disclosed hepatitis B infection. Brain CT scan was performed for him that had no pathologic finding. Sonography of the abdomen showed, heterogenous mass like lesion about 40 millimeter diameter. Spiral CT scan of the thorax without contrast reveals a solid parenchymal nodule measured 4.5 mm in left upper lobe of lung, sub segmental wedge-shaped consolidation in left lower lobe highly compatible with infarction. The diagnosis of HCC is typically determined by radiological liver imaging in combination with Alpha Fetoprotein without the need for biopsy. As there is a consensus that biopsy proof of HCC is not required in patients with chronic hepatitis B infection or cirrhosis [8,9]. Cancer associated thrombosis is a well-known condition, and hepatic carcinoma is highly associated with venous thromboembolism [10]. Intra atrial manifestation of the HCC is a life -threatening condition. In such situation, cause of death mostly is due to pulmonary embolism or obstruction of the tricuspid valve. In these conditions hepatic tumor resection can provide relatively good long- term survival (not more than two years) [11]. Optimal decision making in rare cases is a complicated task. In our case, right atrial mass was resolved by anticoagulation therapy, temporary. For HCC management, the patient referred to oncologist.

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