A vanishing right ventricular mass

Ozgul Ucar Elalmis*, Funda Basyigit*, Abdullah Dolu*, Ahmet Karagoz**

* Department of Cardiology, Faculty of Medicine, Ankara Numune Education and Research Hospital, Ankara, Turkey
** Department of Cardiology, Faculty of Medicine, Giresun University, Giresun, Turkey

ARTICLE INFO

ABSTRACT

Vanishing intracardiac masses can emerge as a diagnostic and therapeutic dilemma. The most common causes of intracardiac masses are thrombi, vegetations and primary or metastatic tumors. A 73-year-old male patient was admitted to internal medicine clinic with the diagnosis of acute postrenal failure superimposed on chronic renal failure. He also had fever and urinary tract infection. Eosinophil count was 1975/mm³ (22.7%). Transthoracic echocardiography (TTE) revealed a 12x10 mm mobile mass attached to right ventricular (RV) lateral wall. The patient was on bicarbonate, sulbactam+cefoperazone 2x1 g, enoxaparine 1x4000 IU and silodosin 1x8 mg, when the patient discharged. One month after discharge, the patient came back for control examination. Surprisingly, control TTE revealed complete disappearance of the RV mass. Eosinophil count was 500/mm³ (4.9%). Intracardiac masses may emerge as a feature of hypereosinophilic state and may resolve in due course by recovery of hypereosinophilia and adjunct anticoagulation.

1. Introduction
An intracardiac mass is a rare clinical finding. The most common cause for an intracardiac mass is a thrombus or vegetation. Metastatic cardiac tumors can also present as cardiac masses and are far more common than primary tumors. Primary cardiac tumors are extremely rare and usually benign (Butany et al., 2005). Echocardiography provides a favorable first-line diagnostic technique for detection of intracardiac masses (Peters and Reinhardt, 2006). However differential diagnosis may be challenging and may require more sophisticated imaging modalities such as computed tomography (CT) or magnetic resonance imaging (MRI) particularly in the absence of an evident malign process, infective endocarditis and a thrombotic state (Vijay et al., 2013). Furthermore vanishing intracardiac masses can emerge as a diagnostic and therapeutic dilemma. Herein we report a case of a 73 years old male with a vanishing right ventricular mass and discuss the possible pathophysiological mechanisms.

2. Case presentation
A 73-year-old male patient was admitted to internal medicine clinic with the diagnosis of postrenal acute renal failure superimposed on chronic renal failure. He
had a history of benign prostatic hyperplasia. Urinary tract infection was manifest with fever. Blood pressure was 130/80 mmHg and pulse rate was 90/min. His blood tests were as follows: Urea 263 mg/dl, creatinine 7.23 mg/dl, WBC 8700/mm³, Hb 7.9 g/dl, eosinophils 22.7% (1975/mm³). Blood gas analysis revealed pH: 7.28, pO₂: 40, pCO₂: 38, sO₂: 66, HCO₃⁻: 17.2. On chest X-ray, there were bilateral pleural effusions. There was grade III hydronephrosis on urinary ultrasound. Urinary cultures grew “*Myroides odoratimimus*” (a gram-negative rod belonging to *Flavobacteriaceae*). There were no parasytes or ova in stool exams. Tumor markers were negative. Total IgE was increased to 497 IU/ml (N=0-100 IU/ml).

A transthoracic echocardiogram (TTE) was ordered to evaluate leg swelling and fever. TTE revealed normal left ventricular ejection fraction, grade II diastolic dysfunction, mild mitral regurgitation and mild pulmonary hypertension of 39 mmHg. In addition, there was a 12x10 mm mobile mass attached to right ventricular (RV) lateral wall (Fig. 1).

The mass had cystic components. The pericardium adjacent to RV seemed thickened. Cardiology consultant suggested a thorax CT for further evaluation of the mass. However, the internists hesitated contrast agent use, because renal functions were impaired. Non-contrast MRI was considered however it was not available in our institution. The unwillingness of the patient about application of MRI in a different center and the clear appearance of the mass in echocardiography lead us to continue our management with the results obtained. Blood cultures were negative for bacteria.

The patient was on bicarbonate, sulbactam+cefoperazone 2x1 g, enoxaparine 1x4000 IU and silodosin 1x8 mg, when he declared that he wanted to be discharged. One month after the discharge, the patient came back for a control examination. Surprisingly, a control TTE revealed complete disappearance of the RV mass (Fig. 2).

Thorax CT revealed:
- Pericardium nearby RV is thickened with calcifications.
- Right hemidiaphragm elevated.
- No pleural effusions.
- Bilateral emphysematous lungs.
- Bilateral apical fibrosis in lungs.

Abdominal CT revealed:
- Bilateral collective system dilatation in kidneys.
- Thickening and trabeculation in wall of the urine bladder.
- Prostate gland was extremely enlarged.
- There was no thrombus in lower extremity veins.

On follow-up the patient was free of right ventricular mass and had recurrent urinary tract infections with *Escherichia coli*, *citrobacter freundii* and *morganella morganii*. He finally underwent total prostatectomy.

3. Discussion
This case is an interesting case of a vanishing mass in the heart. The differential diagnosis include: A cardiac tumor, mural endocarditis, hydatid cyst or a thrombus. A tumor is not expected to disappear in a month. In addition, there was no extra-cardiac focus, suggesting a metastasis. Similarly, a mural endocarditis is a serious disease, which cannot be treated only by cefoperazone (Walter et al., 1995). The patient received five days of intravenous cefoperazone in the hospital and the cooperation to antibiotic therapy after discharge is uncertain. Another possible clinical condition is echinococcosis (Kutay et al., 2003). Blood tests, immune hemagglutination test, abdominal ultrasound and thorax CT were negative for hydatid cyst. In the heart, RV is the second common localization for hydatid cysts after the left ventricle. However, an intracavitary rupture of a hydatid cyst would result in pulmonary embolism and anaphylactic reaction. Additionally, ectopic thyroid
REFERENCES


