

Cardiac metastasis mimicking myocardial ischemia

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CASE REPORT

A 74-year-old male, with a history of follicular thyroid carcinoma since 2004, already treated by surgery and serial radioiodine therapies, was referred to a cardiologic evaluation because of extra systolic beats and ischemic T waves in inferior leads showed in resting electrocardiogram (ECG), that was performed due to zoledronic acid assumption. The patient was asymptomatic showing normal values of troponin-I. A transthoracic echocardiography revealed a mass arising from the inter-ventricular septum and protruding into left ventricle.

In order to identify the nature of cardiac mass a whole-body ¹⁸F-fluorodeoxyglucose (FDG) positron emission tomography (PET)/computed tomography (CT) scan was performed. PET/CT images demonstrated an intense FDG-uptake in the septum and in left ventricular cavity. In Figure 1 shows all collected images from the patient. A biopsy obtained through mediastinoscopy, and subsequent histological analysis confirmed a cardiac metastasis from follicular thyroid cancer. Due to the rapid progression of disease, the patient died after six months. Therefore, none specific therapy was started for the cardiac metastasis.

DISCUSSION

In chronically stable cancer, patients without any cardiac symptoms suggestive of ischemia, an

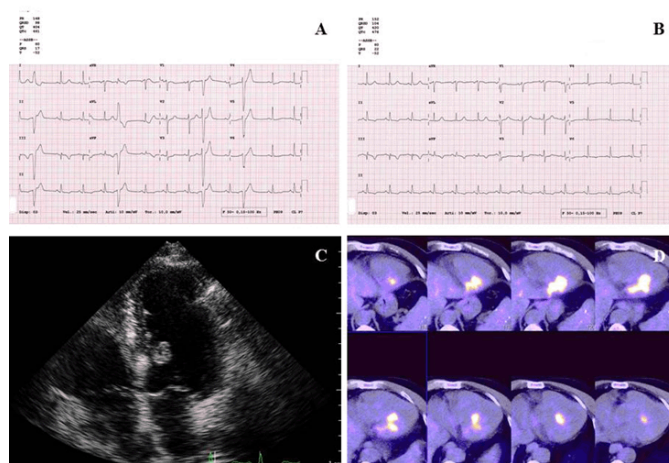


Figure 1: (A, B) ECG showing frequent extrasystolic beats (A), and inverted T waves in inferior leads II, III, and AVF and ST depression in anterior leads V2 and V3, (C) Intracavitary mass originating from the interventricular septum (IVS) and protruding into the left ventricle (LV) in patient with thyroid neoplasm. (D) FDG-PET/CT images showing irregular focal intense FDG-uptake in the septum protruding into the left ventricular cavity.

electrocardiogram pattern of myocardial ischemia should raise the suspicion of cardiac metastasis. Although cardiac metastasis are identified in less than 1% of patients who die of thyroid cancer [1], the appearance of symptomatic angina in such patients should be carefully evaluated. Cardiac magnetic resonance and non-ECG-gated multi-detector CT with intravenous contrast provide adequate information of the cardiac mass extension [2, 3]. FDG PET/CT can be alternatively used in case of a negative ¹³¹I-uptake on scintigraphy scan [4]. A lot of cardiac masses have been already described by FDG PET/CT [5–7], but in the majority of cases they arise in the atrium (such as angiosarcomas, atrial myxoma) or in the interatrial septum (such as massive fatty deposit, lipomatous hamartoma and similar). However in few cases, they can arise in the ventricular cavity and therefore should be considered for the differential diagnosis.

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CONCLUSION

The discovery of a cardiac metastasis in an oncological patient, may change both therapeutic management and prognosis.

Keywords: Cancer, Cardiac metastasis, Radioiodine, Thyroid

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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