

Metastatic Cardiac Lymphoma

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SUMMARY

Secondary or metastatic cardiac tumors are 20 to 40 times more common than primary benign or malignant neoplasms. Lung and breast carcinoma, malignant melanoma, and, to a lesser degree, leukemia and lymphoma, often metastasize to the heart.

We describe the case of a 36-year old female patient with arrhythmia and echocardiographic evidence of a rapidly growing heart tumor. Treatment with systemic corticosteroids was initiated due to symptoms aggravation and the patient improved within 72 hours. A metastatic tumor was then suspected. A gastric biopsy confirmed the presence of a non-Hodgkin's lymphoma. Specific cytostatic treatment was started; the patient remains in remission with complete regression of cardiovascular symptoms. Interestingly, our patient presented only cardiovascular symptoms despite the primary tumor was located in the digestive system.

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Key words

> Cardiac arrhythmia - Metastasis - Lymphoma

Abbreviations

RA	Right atrium	VR	Ventricular response
PDA	Patent ductus arteriosus	CT	Computed tomography
ECG	Electrocardiogram	SVC	Superior vena cava
TTE	Transthoracic echocardiography		

CLINICAL CASE

A 36-year old woman with no history of pathological conditions was hospitalized due to aggravation of frequent episodes of tachycardia and syncope that had started one month before.

Physical examination: tachypnea, jugular engorgement and persistent cough. The apex beat was shifted left; the arterial pulse was rapid, regular and small. Cardiac auscultation revealed tachycardia, normal heart sounds, absence of third sound and a systolic murmur with intensity II/VI at the upper left sternal border.

Electrocardiogram (ECG): atrial flutter with rapid ventricular response (VR), 150 bpm.

Chest X-ray: cardiac enlargement in inverted cup. There were no signs of congestion or mediastinal enlargement.

Transthoracic echocardiography (TTE) at admission showed moderate pericardial effusion; the right heart chambers did not exhibit diastolic collapse and there were no signs of systemic venous hypertension.

The patient was admitted and etiologic studies were indicated.

Laboratory tests: Hb 8.9 g/l, white blood cells 8,600/mm³, neutrophils 66%, lymphocytes 30%, normal platelets and coagulogram; ESR 12 mm; functional liver and kidney tests were normal.

The patient remained hemodinamically stable; treatment with diuretics was initiated due to moderate pericardial effusion and pericardiocentesis was postponed.

A week later the patient was reevaluated due to absence of clinical improvement despite medical therapy. She still presented dry cough, morning headache, skin redness, increased jugular engorgement, dilated veins on the neck and development of collateral circulation. Cardiac auscultation had no changes.

ECG: atrial flutter with 3:1 atrioventricular conduction and adequate ventricular response (90 bpm).

TTE: mild pericardial effusion and tumoral periarterial infiltration of the pulmonary artery. Color-Doppler echocardiography showed a new atrial septal defect and patent ductus arteriosus (PDA) (Figures 1 and 2).

Chest CT scan: mild pericardial effusion, absence of mediastinal mass.

Despite the pericardial effusion resolved, the patient's clinical condition aggravated, with important dyspnea, cough and Stokes collar neck edema. A single supraclavicular lymph node was palpated. There were no other relevant signs in the physical examination.

A new three-dimensional TTE performed 2 weeks after admission revealed the presence of tumoral infiltration of the right atrium (RA) and obstruction

of SVC due to RA distortion (Figure 3).

The lymph node was removed; the histopathological examination informed nonspecific lymphadenitis. Treatment with systemic corticosteroids was initiated due to symptoms aggravation and the patient improved within 72 hours.

A week later, the TTE showed complete resolution of the pericardial effusion, 90% resolution of RA and periarterial infiltrations, and absence of atrial septal defect. The ECG showed sinus rhythm.

The intracardiac biopsy was postponed as treatment with corticosteroids produced almost complete resolution of the tumoral infiltration, and a secondary cause was suspected; a computed tomography (CT) scan was ordered to determine the primary location of the tumor. The abdominal CT scan showed tumoral thickening of the posterior gastric wall affecting the distal vertical portion and the entire horizontal portion.

A gastric biopsy confirmed the presence of a non-Hodgkin's lymphoma.

DISCUSSION

Interestingly, our patient presented only cardiovascular symptoms despite the primary tumor was located in the digestive system; she never had gastric symptoms.

Secondary or metastatic cardiac tumors are 20



Fig. 1. Periarterial infiltration of the pulmonary artery and infiltration of the atrial septum and roof of the right atrium.

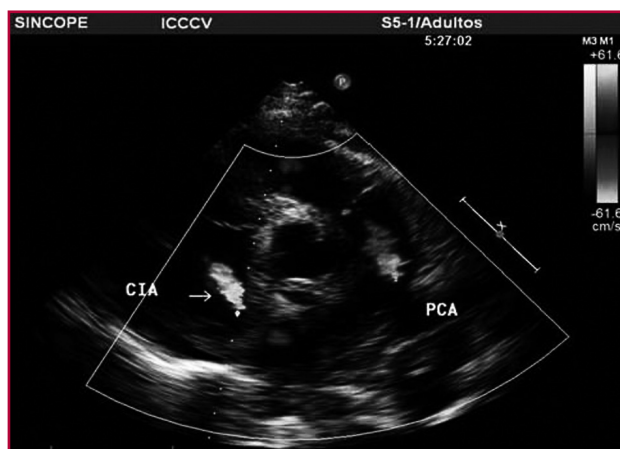


Fig. 2. Atrial septal defect, distortion of atrial septal architecture and small ductus arteriosus.



Fig. 3. Three-dimensional echocardiography showing infiltration of right structures.

to 40 times more common than primary benign or malignant neoplasms. Their incidence varies from 10% to 20% in autopsies of patients with widely disseminated neoplasms. (1, 2) Secondary tumors due to hematogenous spread to the heart are more common than those produced by direct extension to the pericardium. (3)

Lung and breast carcinoma, malignant melanoma, and, to a lesser degree leukemia and lymphoma, often metastasize to the heart. Any tumor may spread to the heart, except those of the central nervous system. (4, 5)

Secondary cardiac tumors usually produce symptoms in late stages of the disease, or may even remain unnoticed; however a cardiac metastasis may occasionally be the initial presentation of a tumor originated in other organ.

Cardiac compromise occurs in 20% of lymphomas and the diagnosis is usually post mortem. (6, 7) Long-term survival is high with cytostatic therapy if the diagnosis is made early and treatment is started soon.

Our patient presented a gastric extranodal non-Hodgkin's lymphoma with cardiac metastasis and underwent cytostatic treatment. At present, the patient remains in remission with complete regression of cardiovascular symptoms.

RESUMEN

Linfoma metastásico cardíaco

Los tumores cardíacos secundarios o metastásicos son unas 20-40 veces más comunes que los primitivos benignos y malignos. Las neoplasias que con más frecuencia producen metástasis en el corazón son los carcinomas pulmonares, los de mama, los melanomas malignos y, en una proporción menor, las leucosis y los linfomas.

En esta presentación se describe el caso de una paciente femenina, de 36 años, con síntomas cardiovasculares de arritmia y síncope y evidencia ecocardiográfica de tumor cardíaco de crecimiento acelerado. Debido al agravamiento de las manifestaciones clínicas, se inició tratamiento con esteroides sistémicos, con el que experimentó mejoría clínica en las primeras 72 horas. Esto llevó a enfocar el diagnóstico en una causa secundaria de invasión cardíaca. Los hallazgos histopatológicos de una biopsia gástrica evidenciaron la presencia de un linfoma no Hodgkin. Se inició el tratamiento

citostático específico; la paciente se encuentra en remisión y con regresión total de sus síntomas cardiovasculares.

En nuestra paciente llama la atención la forma de presentación de los síntomas, que estuvieron limitados a la esfera cardiovascular pese a la localización en el sistema digestivo del tumor primario.

Palabras clave > Arritmia cardíaca - Metástasis - Linfoma

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