



## CASE REPORT

# Metastatic tumor of the right ventricle: An unusual location of a tumor originating from laryngeal carcinoma<sup>☆</sup>

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### KEYWORDS

Laryngeal carcinoma;  
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**Abstract** Secondary tumors are much more frequent than primary tumors, but cardiac metastasis of laryngeal carcinoma is uncommon.

The authors report the case of a 71-year-old man, with a history of laryngeal carcinoma, admitted to the emergency room with symptoms of two weeks' evolution suggestive of respiratory infection. Due to lack of therapeutic response and progressive clinical deterioration, a transthoracic echocardiogram was performed which revealed a large infiltrating mass within the right ventricle, involving the apex, interventricular septum and free wall, not causing significant right ventricular outflow tract obstruction. Evaluation by computed tomography showed signs of widespread metastasis from the previously diagnosed laryngeal cancer.

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### PALAVRAS-CHAVE

Carcinoma laríngeo;  
Tumores cardíacos  
secundários;  
Ecocardiografia  
transtorácica

**Tumor metastático do ventrículo direito: um local incomum de envolvimento tumoral de carcinoma laríngeo**

**Resumo** Os tumores secundários são muito mais frequentes que os tumores primários; contudo, a metastização cardíaca do carcinoma laríngeo é incomum.

Apresentamos o caso de um homem de 71 anos, com antecedentes de carcinoma laríngeo, admitido no Serviço de Urgência por clínica sugestiva de infecção respiratória, com 2 semanas de evolução. Face à ausência de resposta terapêutica e deterioração clínica progressiva, realizou um ecocardiograma transtorácico, que revelou uma volumosa massa infiltrativa no ventrículo direito, envolvendo o ápex, septo interventricular e parede livre, não condicionando obstrução significativa do fluxo na câmara de saída. A avaliação imagiológica com tomografia axial computadorizada mostrou sinais sugestivos de metastização difusa da neoplasia laríngea, previamente diagnosticada.

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## Introduction

Secondary cardiac tumors have a higher incidence than primary tumors, occurring in 18% of patients with metastatic disease,<sup>1</sup> but cardiac metastasis of laryngeal carcinoma is uncommon, with few cases reported in the literature.<sup>2,3</sup>

The authors report the case of a 71-year-old man with a history of laryngeal carcinoma, in whom a large infiltrating mass was detected in the right ventricle, compatible with a secondary lesion from laryngeal cancer.

## Case report

A 71-year-old man, hypertensive and an ex-smoker, with a history of epidermoid carcinoma of the larynx diagnosed a year previously, had undergone total laryngectomy and lymph node drainage, together with adjuvant radiotherapy. He was admitted to our hospital with symptoms of two weeks' evolution suggestive of respiratory infection. He also had atypical chest pain and worsening fatigue.

He had a history of treated pulmonary tuberculosis, chronic obstructive pulmonary disease, cerebrovascular disease and end-stage renal failure, but no previous history of cardiovascular disease.

A chest X-ray in the emergency room revealed bilateral pulmonary infiltrate, with several nodular lesions and left pleural effusion. The electrocardiogram showed sinus tachycardia, poor R-wave progression and slight ST-segment elevation (<2 mm) in leads V1–V3 (Figure 1). Laboratory tests showed no elevation of myocardial necrosis markers, but revealed anemia and significantly elevated inflammatory markers.

The patient was admitted with a diagnosis of community-acquired pneumonia. However, there was no therapeutic response to a series of different antibiotic regimens, and his general condition progressively deteriorated. Transthoracic echocardiography was accordingly performed (Siemens Acuson SC2000; 8V3c transducer), which showed a large infiltrating mass (45 mm × 40 mm) in the apex of the right ventricle (RV), extending over the interventricular septum and the whole of the RV free wall up to the outflow tract (Figure 2). The mass was echogenic, with clearly defined edges and heterogeneous texture, but no sign of vascularization on color Doppler flow study. Despite slightly accelerated flow in the RV outflow tract, it did not cause significant obstruction (Figure 2D). Biventricular systolic function was preserved.

In view of the patient's clinical history, the cardiac mass was interpreted as a metastatic lesion secondary to laryngeal carcinoma.

Cervical-thoracic-abdominal computed tomography (CT) was performed for disease characterization and staging, which showed signs of widespread metastasis involving the cervical region, lung, liver and adrenal tissue and bone, as well as confirming the presence of the RV mass (Figure 3A and B). Another mass was detected attached to the pericardium adjacent to the left ventricular lateral wall (Figure 3C).

In the light of these findings, a diagnosis of widespread metastasis from laryngeal cancer was established and palliative treatment was proposed.

## Discussion

Secondary cardiac tumors are considerably more common than primary tumors but are one of the least

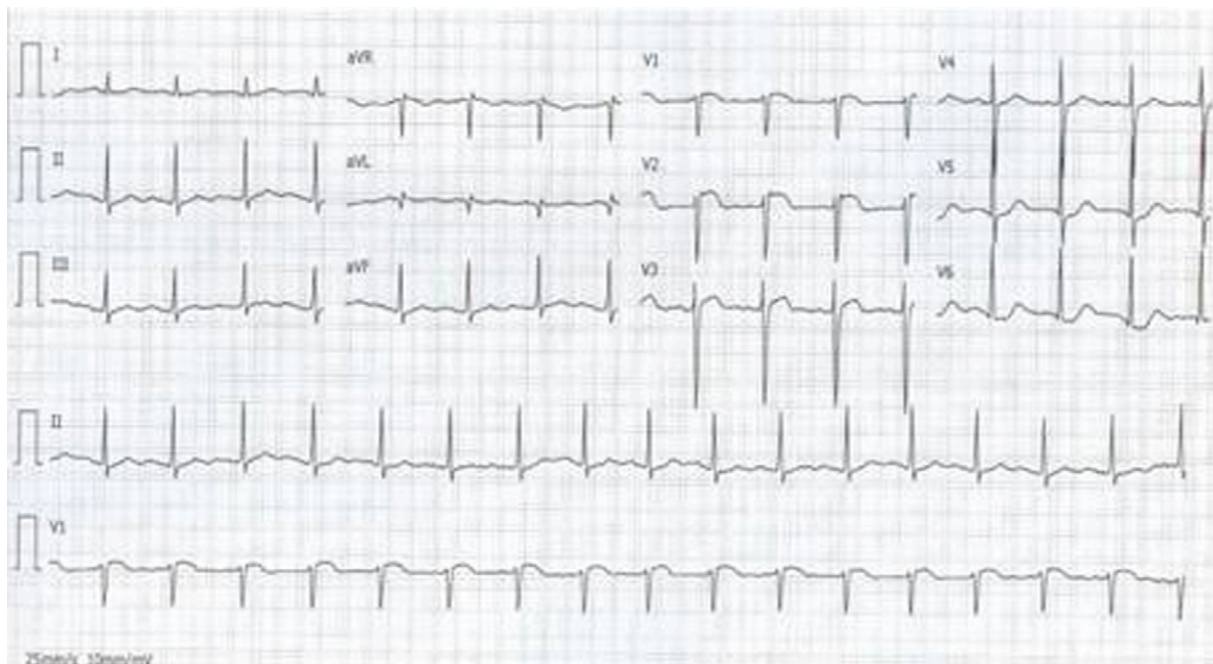


Figure 1 Electrocardiogram showing slight ST-segment elevation in leads V1–V3.

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