

Left ventricular wall invaded by thyroid cancer metastasis

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Thyroid cancer constitutes 1% to 5% of all malignancies worldwide and its incidence is expected to increase. Follicular thyroid cancer is the second most common type of thyroid cancer, representing approximately 10% of all malignant thyroid tumors in iodine-sufficient areas.¹ Metastasis of epithelial thyroid cancer cells to the myocardium is an extremely rare but potentially severe complication.²

We describe a case of a 57-year-old woman with poorly differentiated metastatic follicular thyroid cancer, who was admitted to our department in June 2020 for surgical removal of a mass infiltrating the left ventricular wall. She was diagnosed with cancer (morphological code 8020/3 according to the World Health Organization histological classification; with a follicular appearance) 12 years earlier. Treatment included

total thyroidectomy with removal of surrounding lymph nodes, followed by radioactive iodine ablation and external beam radiotherapy to the neck. After 10 years, the patient underwent a resection of the apical segment of the right lung due to metastasis. Positron emission tomography-computed tomography performed at the beginning of 2020 showed high concentrations of fluorodeoxyglucose in the left ventricular wall and right gluteal muscles. Magnetic resonance imaging (MRI) confirmed the presence of a tumor (40 × 36 × 19 mm) invading the left ventricle (FIGURE 1A and 1B). The woman remained oligosymptomatic. Upon excision via sternotomy, a 60 g mass spreading in the lateral and apical walls of the left ventricle, approximately 30 mm laterally to the anterior descending artery, was removed (FIGURE 1C and 1D). Hemostasis of the surrounding

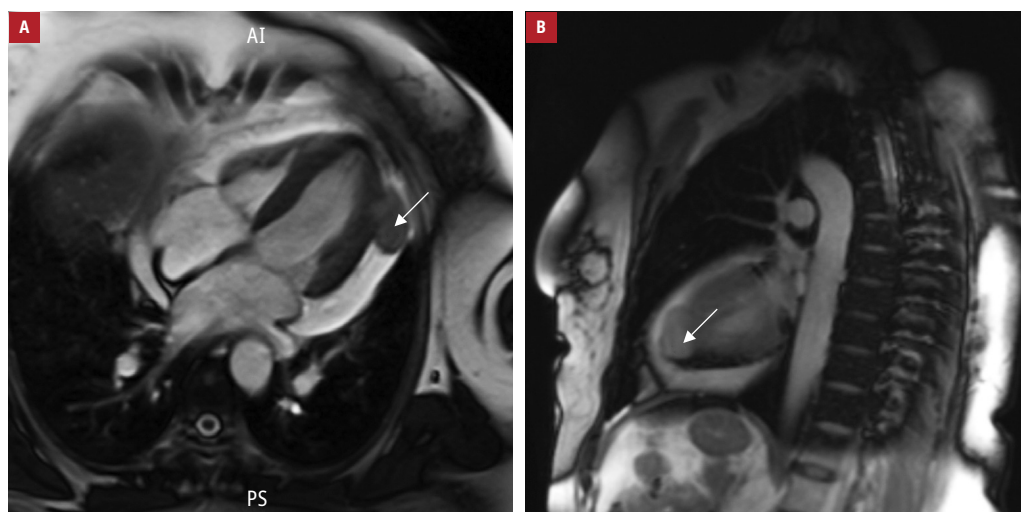


FIGURE 1 A – magnetic resonance imaging, transverse view (tumor indicated by the arrow); B – magnetic resonance imaging, longitudinal view (tumor indicated by the arrow)

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FIGURE 1 C – left ventricular tumor after sternotomy; D – removal of the tumor, periprocedural view; E – lack of tissue covered by a Dacron patch

tissues was ensured by argon plasma coagulation and the use of a Dacron patch (FIGURE 1E). Histological examination of the tumor revealed thyroid carcinoma. After recovery, the patient was transferred to the orthopedic department for further treatment.

The prognosis of cardiac metastases from malignant tumors is unclear. However, sudden death from cardiac complications or a need for a surgical intervention was observed in many patients.³ Cardiac MRI has become an established tool for detection and characterization of a suspected cardiac mass.⁴ Undoubtedly, transthoracic echocardiography remains the diagnostic modality of choice, but in the present case, MRI allowed full visualization of the tumor topography, thereby excluding pericardial involvement and infiltration of the ventricular chamber. Magnetic resonance imaging can be helpful in establishing an accurate diagnosis and monitoring of treatment, therefore, it should be performed in similar cases.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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