

# Relationship between Breast Cancer and Cardiac Myxoma

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## To the Editor

Cancer treatment approaches are greatly improved in recent years<sup>1</sup>. Cancer patients are typically referred to the department of cardiology on the oncology unit for the assessment of the potential cardiotoxic effects of the prescribed medications. Echocardiography is the primary modality for the assessment of these effects. It is also the primary imaging technique for intracardiac lesion detection because of generating high-resolution, real-time images.

Myxomas are the most frequent intracardiac neoplasm, accounting for nearly 50% of all benign tumors. Left atrium with 75% of cases and the right atrium with 20% of cases are the most common locations of myxomas. Atrial myxomas are benign, slow-growing neoplasms that arise from the interatrial septum and extend into the left or right atrium<sup>2</sup>. Right atrial myxomas may present as right-sided heart failure and pulmonary embolism.

The most common tumors that metastasize to the heart by hematogenous extension have bronchial and breast origin. Melanoma, lymphoma, and leukemia are also among its major causes.

No article about performing open heart surgery on cardiac tumors as a second primary tumor was found in the literature.

Breast cancer is the second most common cause of death among women worldwide. Eight percent of patients are presented with distant metastases<sup>3</sup>. A large number of breast tumors are not random events, and some of them are due to the human genome alteration. Mammary carcinoma is a common familial cancer, which is transmitted in an autosomal dominant manner.

Carney complex is a rare hereditary genetic condition, which may be inherited in an autosomal dominant manner or occur sporadically. It is associated with spotty skin pigmentation, myxomas (as benign connective tissue tumors), and several other endocrine gland tumors. Tumors can be benign or cancerous.

Although there are several studies on the Carney complex, the relationship between breast cancer and cardiac myxoma in patients without the Carney complex is rarely studied. We have noticed that patients with breast cancer visiting our cardio-oncology department are occasionally presented with cardiac myxoma.

In articles written about performing cardiac surgery with complications involving malignant neoplasms, breast cancer is the most common malignancy<sup>4,5</sup>.

To our knowledge, there is not any comprehensive study on the relationship between breast cancer and cardiac myxoma in adult patients without the Carney complex. We have noticed that patients with breast cancer visiting our cardio-oncology department are sometimes presented with cardiac myxoma. No article about performing open heart surgery on cardiac tumors as a second primary tumor was found in the literature. We hypothesized that cardiac myxoma may occur in asymptomatic patients with breast cancer and thus these patients may benefit from screening echocardiography.

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