Radical surgical resection of a giant pleural metastasis of a malignant phyllodes tumor of the breast

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Phyllodes tumors (PTs) are rare fibroepithelial neoplasms that account for 0.3% to 0.9% of all breast tumors in women.¹

Between 1.9% and 50% of reported PTs are considered histologically malignant,² and in these forms the risk of distant metastases is high (30%-40%).

We describe the case of a giant pleural metastasis of a PT successfully resected 9 years after mastectomy for PT.

Clinical Summary

A 67-year-old woman underwent a right mastectomy for a high-grade malignant cystosarcoma phyllodes of the breast in October 1996. Adjuvant therapy was not administered. The patient was followed up by clinical outpatient visits and radiography of only the breast.

In 2004 a chest x-ray film, performed because of an increasing dyspnea, showed a large opacity on the right side. Thoracic computed tomographic scan confirmed the presence of a giant mass on the right side compressing the superior vena cava and shifting the mediastinum and heart to the left side (Figure 1).

Diagnosis of PT metastasis was achieved by fine-needle aspiration biopsy.

The patient underwent a right posterolateral thoracotomy. The tumor originated from the visceral pleura, without chest wall invasion. The upper vena cava and heart were displaced, but not invaded.

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Received for publication April 8, 2005; accepted for publication May 9, 2005.

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J Thorac Cardiovasc Surg 2005;130:1707-8
0022-5223/\$30.00

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doi:10.1016/j.jtcvs.2005.05.037

Figure 1. Giant (23 × 22 cm) right mass, displacing the mediastinum to the left side, is evident at the thoracic computed tomography scan.

Figure 2. Surgical specimen of the polylobulated giant pleural metastasis of PT of the breast.

A 23 × 22 cm polylobulated yellow-gray lesion was radically resected (Figure 2); a limited wedge resection of the upper lobe was necessary because of dense tumor adhesions.

Histologically, necrotic areas were present within the tumor; stromal overgrowth and neoplastic cell atypia were also evident. Immunohistochemically, neoplastic cells were anti-actin and anti-calponin positive and anti-desmin negative; Ki67 rate was 30%. The final diagnosis was pleural metastasis of malignant PT.

The postoperative course was complicated by atrial fibrillation, which was successfully treated with intravenous administration of amiodarone.

The patient received adjuvant radiation treatment, and she is alive 11 months after the intervention.

Discussion

A giant (>20 cm) thoracic mass is a rare presentation for a breast cancer pleural metastasis. A radical resection is infrequent, too.

PTs account for 0.3% to 0.9% of all breast cancers. Pathologically, PTs represent a spectrum of neoplasms ranging from benign, with a 21% risk of local recurrences, to high-grade malignant form, with a 25% incidence of distant metastases. Malignant forms account for 1.9% to 50% of all PTs reported,² and they are more frequent in older patients.

Complete tumor resection, by mastectomy when necessary, represents the treatment of choice of high-grade malignant PT of the breast. Lymph node dissection plays a very limited role in the surgical treatment: There is no indication for elective axillary dissection according to the recent literature.³

High-grade malignant PTs may develop local recurrences and distant metastases. Local recurrences are a strong predictor of systemic spread, as Kapisir and colleagues⁴ demonstrated. In their series, 11 of 13 patients with distant metastases had a previous local recurrence. Local recurrence or systemic spread is usually detected within 3 years of the primary intervention.

Bone, pleura, and lung are the most common distant metastases sites. To our knowledge there is only 1 report⁵ about a giant metastatic cystosarcoma phyllodes to the lung in the literature, and this is the second case to be successfully resected.

The case we describe has some unique features: a radically resected high-grade malignant PT metastasis to the pleura with a giant mass displacing the heart and mediastinum, discovered only because of dyspnea. Radicality was successfully achieved: No tumor residual was evident after surgery. Radiation therapy was proposed with adjuvant intent, and the patient is still alive.

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