CASE REPORT

Pulmonary Resection for Metastatic Breast Cancer

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Summary

The management of pulmonary metastasis from breast carcinoma is challenging and often consists of palliation of symptoms. Surgical resection of pulmonary metastasis is considered inappropriate in view of the disseminated nature of the disease and limited life expectancy. It can however be a worthwhile option if imaging, including bone scans rule out metastatic disease in other part of the body. We report a patient with pulmonary metastasis from breast carcinoma who was successfully treated with pulmonary wedge resection of the metastatic lesion.

Key Words: Breast carcinoma, Pulmonary metastasis, Recurrence, Resection

Background

A large proportion of breast cancer patients still present with advanced disease. However, the management aspects of such metastatic breast cancer are seldom addressed appropriately and are often palliated as advanced disease. The commonest site of metastasis from the breast carcinoma is the lung. However, solitary pulmonary metastasis from breast carcinoma is uncommon, occurring at a rate of 0.4%[1]. The colorectal experience of pulmonary resection for solitary metastatic lesion has been well documented and shown significant improvement in survival following pulmonary resection of the metastatic lesion[2]. Therefore the application of this form of treatment to solitary metastatic disease from primary breast carcinoma warrants consideration.

A patient with solitary lung metastasis and localized chest wall recurrence who had breast cancer in 1992 had successfully undergone pulmonary resection with resection of chest wall recurrence and was disease free on follow up after four and half years.

Case Report

A 43 years old Malay lady was diagnosed to have Carcinoma Left Breast at age of 37 (1992) with disease stage $T_4N_0M_x$. Total left mastectomy with axillary clearance was done followed by chemotherapy and radiotherapy to the chest wall. She was asymptomatic till 6 years later (1998) when she presented with a nodular lesion at left chest wall for one year which progressively increasing in size. Clinically there was a 5 x 4cm hard nodule located at left chest wall just below the previous mastectomy scar. Fine Needle Aspiration Cytology (FNAC) revealed malignant cells consistent with recurrent breast carcinoma. Chest radiograph showed a solitary radio-opaque lesion at right upper lobe suggestive of lung metastasis. Computed Tomography (CT) scans of thorax did not show other lung lesion besides a nodular radio-opaque lesion measuring 4X3cm at right upper lobe. The left chest wall nodule did not involve the underlying ribs. CT scans of abdomen, brain and bone scans were essentially normal.

In view of her age and good physical state, surgical resection was considered viable. Local wide excision of

This article was accepted: 11 July 2003
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chest wall nodule with right thoracotomy and right upper lobectomy were carried out. The postoperative period was uneventful. Histopathological examination report of the resected lung and chest wall nodules confirmed metastatic carcinoma from a mucinous breast carcinoma.

The patient was subsequently given 6 courses of second line chemotherapy FEC (5-Fluorouracil, Epirubicin, Cyclophosphamide) regime and is presently on Tamoxifen. She tolerated the chemotherapy well and was asymptomatic on subsequent follow up. Regular liver ultrasound and chest x-rays were normal. In December 2002, four and a half years after the resection of secondaries, surveillance investigations including bone scans, CT scans of brain, thorax and abdomen showed no evidence of metastatic disease.

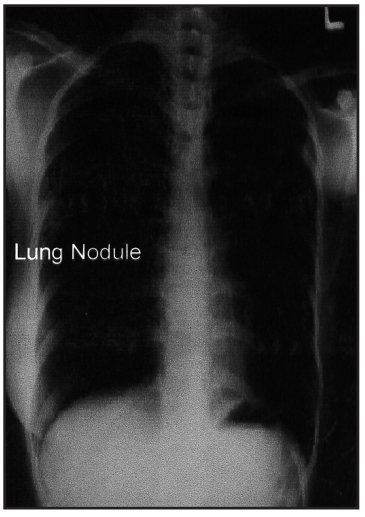

Fig. I: Chest Radiograph showing a solitary radio-opaque lesion at right lung field.

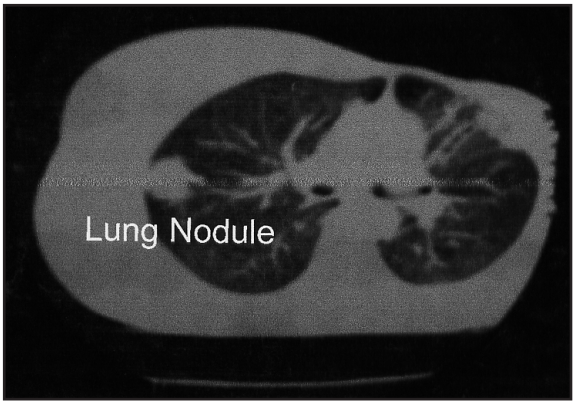

Fig. II: CT Thorax showing a nodular radio-opaque lesion measuring 4 x 3cm at upper lobe of right lung.

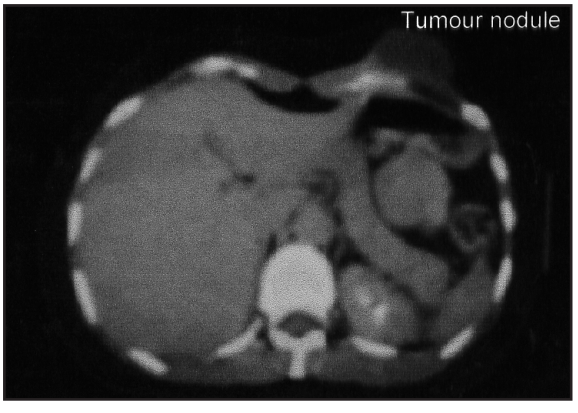

Fig. III: CT Scan showing a hypodense soft tissue lesion measuring 5 x 4cm at lower left chest wall.

Discussion

Metastatic disease of breast cancer is frequently widespread but can occasionally be localized to an area such as the lung. Solitary pulmonary metastasis from breast carcinoma is rare and the role of pulmonary resection for metastatic breast cancer is not well established.

Staren et al in his study comparing the treatment in 33 patients treated primarily with surgical excision of pulmonary metastases from breast cancer with 30 patients treated primarily with systemic chemo-hormonal therapy, has shown that overall 5-year survival rate after treatment of lung metastasis was significantly greater for the surgical group than for the medical group (36% vs 11%)[3]. Other similar reports which favour surgical resection include the study by S. Richard et al (5 year survival rate of 62%)[4], and the study by Kelm et al (35%)[1]. However, Mc Donald et al concluded in their study that although pulmonary resection of metastasis is safe, they could not demonstrate any improved survival after complete pulmonary resection of metastatic breast carcinoma[5].

One of the important factors to be considered between the choices of surgical or medical treatment is the concomitant morbidity. It must be realized that the morbidity of surgical treatment is less than the toxicity of chemotherapy which is often significant in term of both severity and duration.

Most authors have agreed that there is no requirement for a formal pulmonary resection that encompasses resection of draining lymph nodes, as would be performed for a primary lung cancer[5]. If no evidence of disease is found elsewhere, then the metastasis may be treated with limited resection such as a wedge resection or lobectomy as the situation dictates.

It is crucial when metastatic lesions are being considered for resection, that a thorough search for other metastasis is performed. This includes clinical examination, CXR and CT scans of thorax, abdomen, brain and bone scans. This will exclude unnecessary radical operation for patients with diffuse metastasis.

Conclusion

It is suggested that surgical resection could be considered as a viable surgical option in patients with breast cancer who develop operable localized metastases. In selected patients, such therapy may result in significant survival benefit.

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