Answer

Locally Advanced Breast Cancer

The diagnosis was locally advanced breast carcinoma with direct extension to the upper extremity and a malignant right pleural effusion. On initial inspection, some areas of the lesion had the appearance of deep partial and full thickness skin loss that may have resulted from a caustic burn or acute severe radiation injury. Because the patient did not give a history of caustic burn or radiation exposure, the diagnoses of caustic burn injury and high-dose radiation injury were excluded. The malodor suggested an infection that may be seen in a necrotizing skin and soft tissue infection. It is not infrequent that locoregionally advanced breast cancer presents with necrosis and infection with malodorous drainage. On inspection, it may be indistinguishable from necrotizing skin and soft tissue infection. Oftentimes, necrotizing fasciitis will have the appearance of skin blistering prior to ulceration and sloughing. This patient had skin and soft tissue breakdown with areas of firm nodularity of in-transit disease. It is critically important to perform an incisional biopsy from an area that appears viable next to the necrotic tissue for histological confirmation of invasive cancer.

The patient was admitted, and a biopsy of the chest wall was performed. Thoracentesis was also performed with the removal of 1.5 L of fluid. Her shortness of breath significantly diminished. Her histologic, cytologic, and cell block results were consistent with breast carcinoma that was negative for estrogen receptors, progesterone receptors, and HER-2/neu. Computed tomographic scans of the chest, abdomen, and pelvis and positron emission tomography–computed tomography confirmed primary breast cancer extending to the upper extremity with distant metastasis. The results of venous Doppler ultrasonography of the right upper extremity were negative for deep venous thrombosis. She received 2 cycles of doxorubicin hydrochloride and docetaxel[1] with some improvement of her ulceration and the accompanying malodor. Local wound care included the use of metronidazole gel to also aid in controlling the odor. She died 6 months later.

This patient had locoregionally advanced breast cancer with metastasis at initial presentation. Approximately 4.6% of all cases of breast cancer in female patients are cases of locally advanced breast carcinoma.[2] This type of breast cancer represents a condition that has progressed owing to a delay in diagnosis and neglect. The fact that she had metastasis at presentation dictates an inability to cure the disease. Being African American with a triple-negative tumor, she has an even poorer prognosis[2] owing to a lack of targeted therapy. Metastatic breast cancer to the pleura frequently presents with shortness of breath[3] as a result of malignant pleural effusion. Breast cancer is the most frequent cause of malignant pleural effusion in women, accounting for approximately 40% of these effusions. For this patient, there was direct extension of the neoplastic process from the breast to the chest wall, down to the pleural space, and to the entire upper extremity. A multidisciplinary approach is necessary in treating locally advanced breast carcinoma, and it usually begins with a consideration for neoadjuvant systemic therapy followed by some combination of surgery and/or radiation therapy.[4] If the cancer had been hormonally sensitive, it is unlikely that neoadjuvant therapy would have changed owing to the extensive nature of the disease and the need for more rapid control. However, hormonal therapy would have been used after neoadjuvant cytotoxic and locoregional therapy. This patient had a tumor that was inoperable and too extensive for effective radiation therapy. There was significant soft tissue involvement, and local control may have been achieved with systemic therapy to improve her quality of life.[5,6]

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Submissions

Due to the overwhelmingly positive response to the Image of the Month, the *JAMA Surgery* has temporarily discontinued accepting submissions for this feature. Requests for submissions will resume in April 2013. Thank you.