

Increasing Pulmonary Infiltrates in a 72-Year-Old Woman With Metastatic Breast Cancer

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A 71-year-old woman, nonsmoker, with a history of metastatic breast cancer was referred for evaluation of worsening pulmonary infiltrates. She described slowly increasing exertional dyspnea and cough in the preceding 3 months. Twenty-two years before, she had been diagnosed with invasive ductal carcinoma of the left breast, for which she underwent a left modified radical mastectomy and prophylactic right simple mastectomy and bilateral breast reconstruction using silicone implants. She subsequently underwent combination chemotherapy. She did well during the following 7 years until an enlarging liver lesion was noted that proved to be metastatic breast cancer, for which she underwent a right hepatectomy. Five years later, she developed intrathoracic and supraclavicular lymphadenopathy, a left pleural effusion, and cervical spine lesions. A biopsy specimen from a supraclavicular lymph node showed metastatic breast cancer, for which she started letrozole therapy with resolution of intrathoracic findings. Twelve months before presentation she underwent bilateral capsulectomy with silicone implant exchange because of pain from implant contracture. Her medications included letrozole, 2.5 mg once a day, and vitamin and Chinese herbal supplements. Her family history was positive for breast cancer in her maternal grandmother. CHEST 2014; 146(6):e208-e211

Physical Examination Findings

The patient was alert and had normal vital signs. Pulse oximetry showed 94% saturation at rest while breathing ambient air. Chest auscultation revealed few inspiratory crackles over the lung bases. The rest of the examination was unremarkable other than breast implants and the surgical scars on her abdomen.

Diagnostic Studies

The CBC count and basic chemistry panel were within normal limits. The serum antinuclear antibody titer and anticyclic citrullinated peptide antibody level were

within the normal range, as were screening serologies for hypersensitivity pneumonitis.

Chest radiography showed interstitial infiltrates in the lower lungs. A chest CT scan demonstrated ground-glass and reticular opacities bilaterally, as well as interlobular septal thickening with a lower lung predominance (Fig 1). These abnormalities had increased when compared with a chest CT scan obtained 5 weeks earlier. Mild intrathoracic lymphadenopathy was present. A PET/CT scan showed mild ¹⁸fluorodeoxy-glucose uptake in the lower lungs and intrathoracic lymph nodes. There was no extrathoracic ¹⁸fluorodeoxy-glucose

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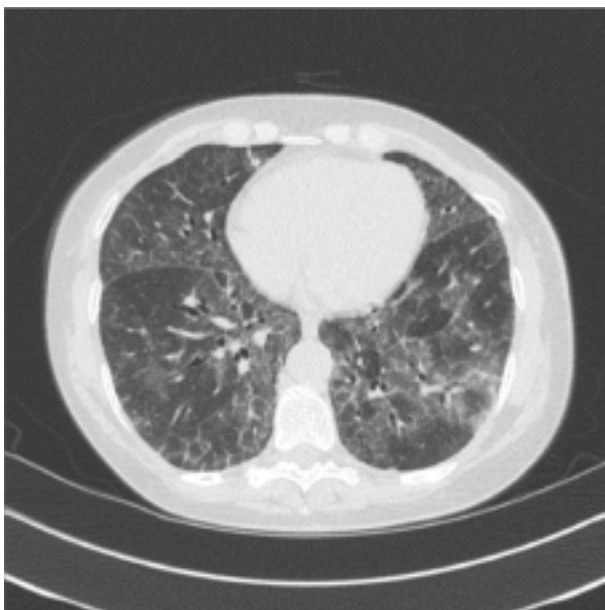


Figure 1 – Chest CT scan reveals bilateral ground-glass and reticular opacities in the lingula and lung bases. Interlobular septal thickening is present predominantly in the lower lung fields.

uptake. Pulmonary function testing revealed a reduced diffusing capacity for carbon monoxide (43% predicted) with a normal spirometry.

Bronchoscopy was performed with BAL of the lingula, transbronchoscopic lung biopsy from the left lower lobe, and an endobronchial ultrasound-guided needle aspiration of 2R lymph node. The BAL was unrevealing. The transbronchial biopsy specimen of the left lower lobe demonstrated a foreign-body giant cell reaction and reactive-appearing pulmonary parenchyma (Fig 2). Spheroid structures of various sizes with a refractile rim were associated with multinucleated giant cells. Grocott methenamine silver stain was negative. Similarly, a transbronchial needle aspiration biopsy specimen of the 2R lymph node demonstrated noncaseating granulomatous inflammation with negative Grocott methenamine silver and acid-fast bacillus stain. Microbiologic studies on the surgical specimens were all negative. Additional studies were performed to confirm the diagnosis.

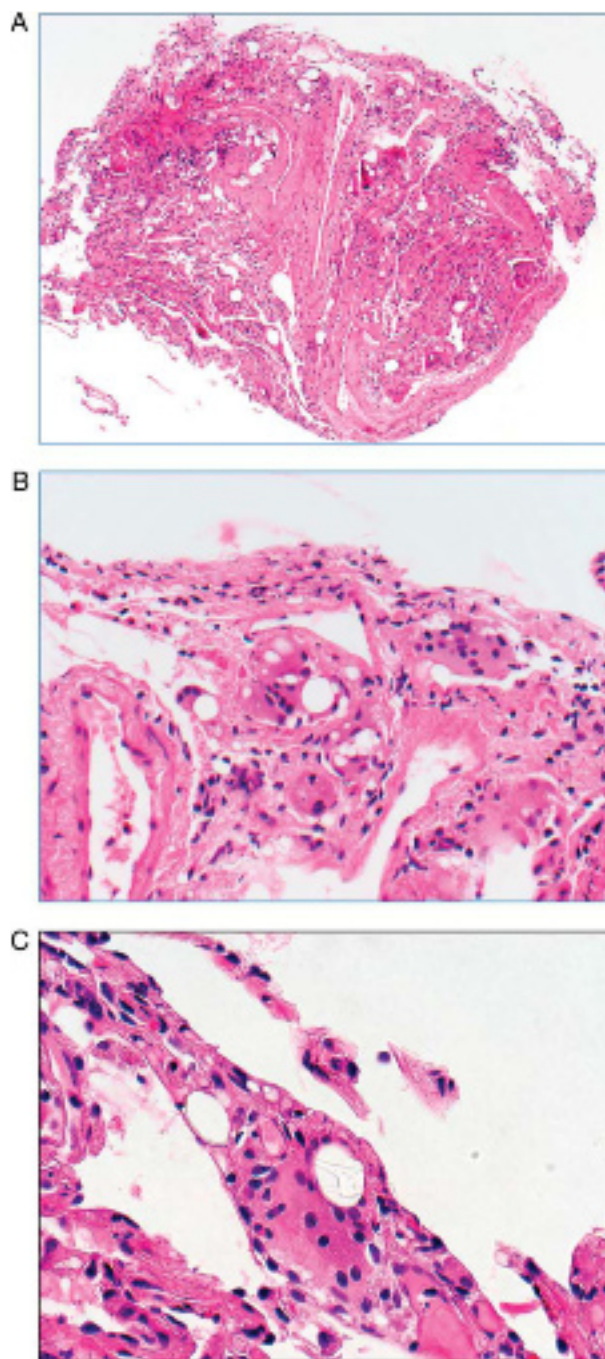


Figure 2 – A, Low-power micrograph of a transbronchial biopsy specimen demonstrates interstitial and intraalveolar cellular infiltrates (hematoxylin and eosin [H&E], original magnification $\times 100$). B, High-power view reveals that these infiltrates are predominantly composed of macrophages and clusters of foreign-body giant cells forming nonnecrotizing granulomas. Many of these granulomas harbor spheroidal structures (lipoid vacuoles) (H&E, original magnification $\times 400$). C, Foreign-body material within the giant cells demonstrates a refractile quality with a colorless rim (H&E, original magnification $\times 600$).

What is the diagnosis?

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