CHEST Postgraduate Education Corner

PULMONARY AND CRITICAL CARE PEARLS

Multiple Pulmonary Nodules in a 70-Year-Old Female With a History of Breast Cancer

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A 70-year-old woman was referred to the pulmonary clinic for the evaluation of multiple pulmonary nodules that had been noted on a routine surveillance CT scan performed after a diagnosis of breast cancer. On presentation to the pulmonary clinic, she denied symptoms, including dyspnea, hemoptysis, weight loss, fevers, chills, or night sweats. She did report a dry, nonproductive cough of several months duration. The patient's medical history was significant for stage 1 (T1bN0M0) infiltrating breast carcinoma that had been diagnosed approximately 1 year prior to the current presentation. Treatment had consisted of a lumpectomy, and negative surgical margins were achieved. The patient declined radiation therapy and was given therapy with anastrazole. The patient also reported a history of hypertension, hyperlipidemia, peripheral vascular disease, and collagenous colitis. Prior surgeries included the recent lumpectomy, an appendectomy, carotid endarterectomy, and a total abdominal hysterectomy. Her medications included mesalamine, simvastatin, lisinopril, atenolol, clopidogrel, and anastrazole. The patient had no notable travel history. She had a 15-pack-year smoking history, but had quit 13 years prior.

Physical Examination

The patient's vitals signs were within normal limits. The patient was a thin, elderly woman in no acute distress. Cardiac, abdominal, and lung examinations revealed no abnormalities. She had no clubbing or edema. No skin rash was noted. There was no evidence of synovitis.

Laboratory, Radiographic, and Bronchoscopy Findings

A CT scan was performed for routine cancer screening 1 year after the initial diagnosis. It revealed numerous, noncalcified, lower lobe-predominant nodules bilaterally, which were increased in size and number when compared with a CT scan from 2 years earlier (Fig 1). No lymphadenopathy was noted. The patient had known pulmonary nodules at the time of diagnosis of her breast cancer, which were stable radiographically for 2 years. During her initial pulmonary evaluation, the CT scan results were discussed and the patient declined further evaluation or intervention. However, the patient did agree to repeat imaging for surveillance. The results of the initial laboratory tests at

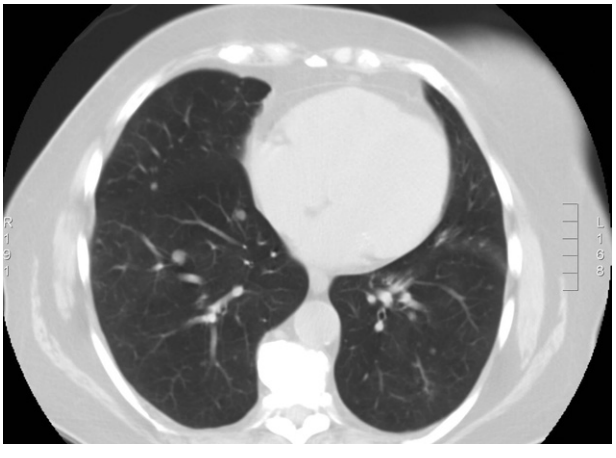

FIGURE 1. Chest CT scan showing multiple, small parenchymal nodules predominantly located in the lower lobes.

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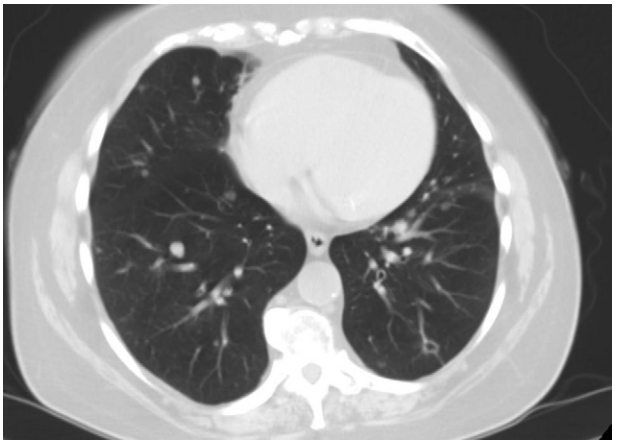

FIGURE 2. Chest CT scan obtained 6 months after that in Figure 1, showing a further increase in the size and number of the pulmonary nodules.

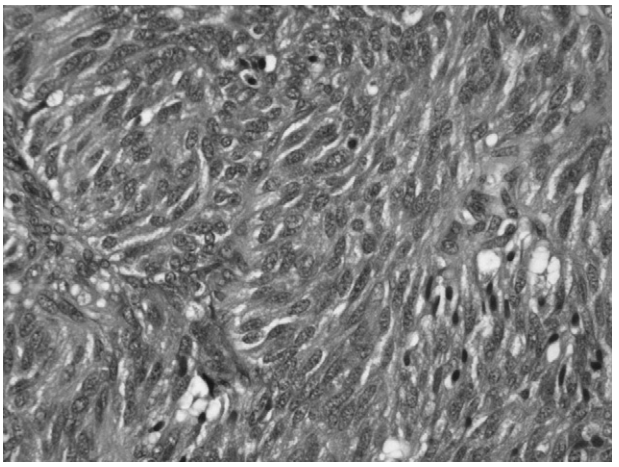

FIGURE 3. Open lung biopsy specimen (hematoxylin-eosin, original ×40).

this time, which included CBC count, chemistry panel, and liver function, were normal.

Clinical Course

A repeat CT scan was performed 6 months later (Fig 2). This CT scan revealed a further increase in the size and number of multiple, bilateral, lower lobe-predominant nodules without lymphadenopathy. A routine laboratory evaluation was repeated, and the results remained normal.

A bronchoscopy was performed for further evaluation, including BAL and transbronchial biopsies. No endobronchial lesions were noted. The findings of BAL fluid acid-fast bacilli testing and fungal smears and cultures were negative. Transbronchial biopsy specimens revealed only chronic inflammation. The patient was then referred for surgical lung biopsy. The lung biopsy specimen is shown in Figure 3.

What is the likely diagnosis?