

# A lady with cough and dyspnea

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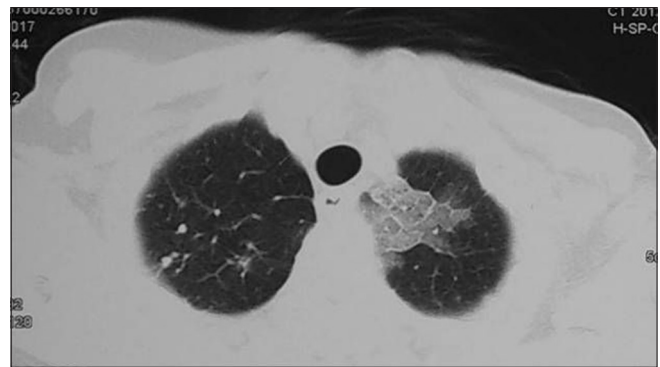
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A 57-year-old female presented to the pulmonary medicine outpatient services with dry cough for the last 4 months. It was associated with shortness of breath on exertion which had been stable over the last 4 months. There was no history of hemoptysis, fever, weight loss, and appetite loss. She was diagnosed as invasive ductal carcinoma of the left breast 1 year back and had undergone modified radical mastectomy for the same. She also received two cycles of chemotherapy preoperatively and four cycles after the surgery. She received hyperfractionated radiotherapy to the tumor bed as well around 6 months back. Her last positron emission tomography scan done 3 months back did not reveal any area of fluorodeoxyglucose avidity. She had been a lifelong nonsmoker and had no previous history of tuberculosis. On examination, her heart rate was 80/min, respiratory rate was 16/min, and pulse oxygen saturation was 97% while breathing room air. Rest of the general, physical, and respiratory system examinations were unremarkable. Complete blood count, liver and kidney function tests, electrocardiogram, and echocardiography were normal. A posteroanterior chest radiograph also did not reveal any significant abnormality. A high-resolution computed tomography (CT) of the thorax is shown in Figure 1. Flexible bronchoscopy was performed, and bronchoalveolar lavage was obtained from the left upper lobe. The lavage fluid was clear, and all microbiological investigations, including bacterial culture, fungal culture, and acid-fast bacilli stain and culture, were negative. Spirometry revealed a mild restrictive abnormality.

## QUESTION

What is the name of the CT appearance, and what is the likely diagnosis?



**Figure 1:** Computed tomography (lung window) demonstrating a lesion in the left upper lobe and post left mastectomy status

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## ANSWER

Crazy-paving appearance secondary to radiation pneumonitis.

## DISCUSSION

The CT image demonstrated classical focal crazy-paving appearance in the left upper lobe, which is characterized by ground-glass opacity with superimposed interlobular as well as intralobular septal thickening. This finding can be seen in a variety of conditions. The most well-known cause of crazy-paving appearance is pulmonary alveolar proteinosis; however, some other important causes include acute respiratory distress syndrome, organizing pneumonia, pulmonary edema, drug-induced pneumonitis, diffuse alveolar hemorrhage, alveolar sarcoidosis, coronavirus disease 2019, and *Pneumocystis jirovecii* pneumonia.<sup>[1]</sup> Most of these lead to diffuse disease, while the important causes of focal crazy-paving appearance include radiation pneumonitis, mucinous adenocarcinoma, eosinophilic pneumonia, lymphangitis carcinomatosa, and lipoid pneumonia.<sup>[2]</sup>

Radiation pneumonitis is a common finding in patients undergoing thoracic radiotherapy, usually for breast cancer and lymphoma. It usually develops 1–3 months following radiation therapy. It sometimes resolves on

its own; however, most often, some degree of fibrosis remains. For acute radiation pneumonitis, steroid therapy is commonly given with variable success. In patients with chronic postradiation fibrosis, no definite treatment is available.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

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