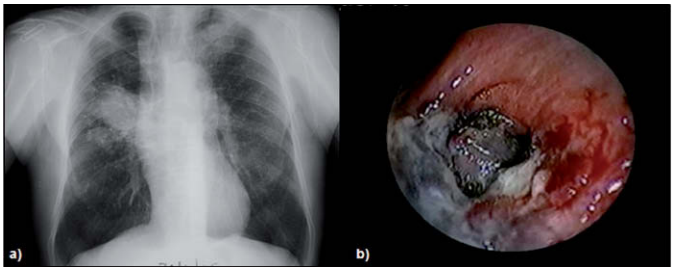

Figure 1. a) Chest radiograph; b) chest computed tomography scan.

massive fibrosis, and is attributed to the rupture of the contents of a lesion into the airway.[1] It has also sometimes been observed in other entitites[5] and, on only 1 occasion, as a complication in fiberoptic bronchoscopy,[3] a procedure often used in the differential diagnosis of bronchogenic carcinoma or tuberculosis in such patients. These conglomerate masses, containing coal particles that stain the bronchial walls the characteristic jet black color,[6] can cavitate due to ischemic necrosis, collagen disease (Caplan syndrome), infections (anaerobes, mycobacteria), or neoplastic disease. Exceptionally, cavitation may occur following transbronchial biopsy, as in the present case.[3] Two radiologic signs are characteristic of melanoptysis: the emptying of an apical cavity (with an alveolar pattern resulting from the bronchogenic dissemination of anthracotic material to the ipsilateral base due to inadequate clearance mechanisms) and the alternating filling and emptying of the fibrotic apical masses.[6] The aspiration of anthracotic material may sometimes lead to severe acute respiratory failure and death due to the flooding of the bronchial tree.[2,6] For this reason, it is essential that patients with melanoptysis be monitored carefully and that measures to facilitate clearance (the use of bronchodilators, humidification, directed physical therapy) be adopted.[1] Fiberoptic bronchoscopy allows the visualization of the bronchial content characteristic of melanoptysis, thereby making it possible to confirm or rule out the diagnosis. It can also be used to aspirate any accumulation of anthracotic material or endobronchial obstruction when, despite a decrease in the volume of sputum expectorated, there is no radiologic evidence of the complete emptying of the conglomerate mass.[1] If transbronchial biopsy is to be performed in the vicinity of the mass, it is important to be extremely careful to avoid producing melanoptysis, as occurred in the present case.[3]

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Cristina Senent, Eusebi Chiner,* and Jaime Signes-Costa

Sección de Neumología, Hospital Universitario, San Juan de Alicante, Alicante, Spain

E-mail address: chiner_eus@gva.es (E. Chiner-Vives).

Spontaneous Pneumomediastinum and Subcutaneous Emphysema: An Uncommon Complication of Lung Cancer

Neumomediastino espontáneo y enfisema subcutáneo: una complicación infrecuente del cáncer de pulmón

To the Editor:

A diagnosis of spontaneous pneumomediastinum in patients with lung cancer is rare. Only 7 such cases have been reported in MEDLINE in the last 20 years (search strategy: "Mediastinal emphysema" [MeSH] AND "Lung neoplasms" [MeSH]).

We report a case of spontaneous pneumomediastinum in an 80-year-old man with large cell carcinoma. The stage IV cancer, with multiple vertebral metastases, had been diagnosed 18 months earlier and the patient, by his own decision, had received neither chemotherapy nor radiation therapy. He had a smoking history of more than 60 pack-years and had no other relevant history. He had not been diagnosed with chronic obstructive pulmonary disease (COPD). His functional status had been maintained during the progression of the cancer until he was hospitalized with severe dyspnea, chest pain, and general deterioration in health. The physical examination revealed rapid breathing (36 breaths/min) and swelling in the upper chest and right side of the neck, with crepitation on palpation. Heart auscultation was normal and the Hamman sign was not detected. Lung auscultation was normal as well. The chest radiograph showed pneumomediastinum and subcutaneous emphysema. Symptomatic treatment was given and the patient died 72 hours after admission.

Spontaneous pneumomediastinum represents approximately 1% of all cases of pneumomediastinum and is generally a benign process that mainly affects young people, especially men.[1] Possible triggering factors include cough and the presence of underlying lung disease, such as COPD or asthma.[1] While the prevalence of lung cancer is extremely high and many lung cancer patients present these triggering factors , only 7 cases in such patients are to be found in MEDLINE.[2,3] Spontaneous pneumothorax and spontaneous pneumomediastinum associated with lung cancer have pathophysiological mechanisms in common, such as bronchial occlusion or tumor ischemia. Nevertheless, while such cases of pneumothorax are uncommon, they are diagnosed much more frequently, most probably because spontaneous pneumomediastinum is less often suspected and is more difficult to diagnose, as it is less apparent on radiographs: in cancer patients with pneumomediastinum, only 50% of posteroanterior chest radiographs (the most usual type) show a line of radiolucency separating the structures of the mediastinum, which is the diagnostic finding.[1]

The Table shows the characteristics of the 7 patients with lung cancer and spontaneous pneumomediastinum indexed in MEDLINE in the last 20 years. In view of these cases, we believe that it is important to include pneumomediastinum in the differential diagnosis of patients with lung cancer when they present signs and symptoms suggestive of the disease, especially if they have been treated with chemotherapy or radiation therapy.

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Table
Main Characteristics of Patients With Lung Cancer and Spontaneous Pneumomediastinum

	History	Histology	Symptoms	Diagnosis	Pneumothorax	SE	PCT	Outcome	Other Factors
Craig et al, 1995	49-year-old man Asthma, nonsmoker	Undifferentiated carcinoma of the carina	Yes	Chest radiograph	No	Yes	No	Not available	Coughing episode
Síkdar et al, 1998	50-year-old man	Metastasis of malignant teratoma	Yes	Chest radiograph	No	Yes	Yes	Deceased (4 weeks)	Bleomycin pulmonary toxicity
Dixit et al, 2002	54-year-old man Smoker	Cavitating large cell carcinoma	Yes	Chest radiograph	Yes	Yes	Yes	Deceased (48 hours)	Bronchopleural fistula
Park et al, 2003	75-year-old man	Cystic metastases of angiosarcoma	No	Chest radiograph and CT	Yes	Yes	No	Did not accept treatment and was discharged	Ruptured interstitial cyst
Radvan et al, 2005	82-year-old woman	Adenocarcinoma	No	Chest radiograph and CT	No	Yes	Yes	Living at 1 year	Ablation of pulmonary nodule 7 days earlier
Libeer et al,[2] 2005	59-year-old man Ex-smoker of 10 pack-years	Non-small cell carcinoma	Yes	CT of the chest	Yes	Yes	Yes	Deceased (9 days)	Previous treatment with drainage tube
Khan,[3] 2006	88-year-old man COPD. 20 pack-years	Non-small cell carcinoma	No	CT of the chest	No	No	Yes	Recovered	Radiation pneumonitis
Barquero and Redondo	80-year-old man Ex-smoker of 60 pack-years	Large cell carcinoma	Yes	Chest radiograph	No	Yes	No	Deceased (72 h)	–

Abbreviations: COPD, chronic obstructive pulmonary disease; CT, computed tomography; PCT, previous cancer therapy; SE, subcutaneous emphysema.

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José Barquero-Romero[a,*] and María José Redondo-Moralo[b]

[a]*Servicio de Medicina Interna, Hospital Perpetuo Socorro, Complejo Hospitalario Universitario de Badajoz, Servicio Extremeño de Salud, Badajoz, Spain*
[b]*Unidad de Cuidados Paliativos, Complejo Hospitalario Universitario de Badajoz, Servicio Extremeño de Salud, Badajoz, Spain*

[*] Corresponding author.
E-mail address: pepebarquero@yahoo.es (J. Barquero-Romero).