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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2008, 25(3):401

Thoracic Surgery Quiz – Case 1

P. Konofaos,[1]
C.S. Floudas,[2]
C. Markakis,[1]
K. Konstantoudakis,[1]
P. Tomos[1]

[1]2nd Department of Propedeutic Surgery,
[2]First Department of Internal Medicine, National and Kapodistrian University of Athens, Medical School, "Laiko" General Hospital of Athens, Athens, Greece

A 55-year-old man was admitted for evaluation of progressive shortness of breath and an elevated erythrocyte sedimentation rate (ESR). He denied having any chest pain or fever.

His medical history included persistent gastritis, recurrent episodes of coughing up small volumes of fresh blood. He did not take any medications, he was a heavy smoker with 40 pack–years and consumed a lot of alcohol. His family history was unremarkable.

On physical examination he was healthy–looking with normal vitals. Chest auscultation revealed diffusely decreased breath sounds but no wheezing or rhonchi. There were no palpable lymph nodes and the rest of the examination was normal.

Laboratory findings revealed an elevated white blood cell count of 12500/μL (normal <10000/μL) with normal differential and an elevated ESR at 105 mm/hour. Arterial blood gases analysis was within normal limits. Sputum microbiology revealed colonization with *Haemophilus* spp but cytologic examination was negative for neoplastic cells. Urinalysis was normal.

Chest X-ray revealed a mass lesion of the left upper lobe (fig. 1). A chest CT demonstrated a round, centrally located, dense mass lesion causing stenosis of the left upper lobe lobar bronchi, and a second hypodense mass lesion in contact with the pleural surface in the left upper lobe (fig. 2). Small interlobular emphysematous cysts and small mediastinal lymph nodes (size 5–10 mm) were also noted (fig. 3). The patient denied a percutaneous needle biopsy. On bronchoscopy the left upper lobe bronchi had edematous and redness mucosae and abundant secretions and a biopsy was performed. Given the high suspicion of malignancy from the radiologic appearance of the lesion as well as the negative results of sputum microbiology and cytology an exploratory thoracotomy was performed. Due to the malignant and infiltrating appearance of the lesion we performed a lobectomy of the left upper lobe and dissection of four lymph nodes. Pathologic examination revealed infiltrating aspergillosis of the left upper lobe. No evidence of malignancy was found.

Comment

Aspergillus fumigatus infection produces a spectrum of diseases, usually in the immunocompromised host, but sometimes even in immunocompetent individuals.

Allergic bronchopulmonary aspergillosis (ABPA) occurs in persons with preexisting asthma and is marked by a hypersensitivity reaction to the fungal antigens. Episodic wheezing, fixed or transient pulmonary infiltrates, fever, peripheral eosinophilia, elevated IgE, positive antigen testing and sputum cultures are the main features.

The clinical types of invasive lung disease are: Pulmonary aspergilloma (fungus ball) is in general a result of saprophytic colonization of preexisting cavities with fungal spores. Patients may be asymptomatic, but hemoptysis occurs in the majority of cases. Chronic invasive aspergillosis sometimes in association with a fungus ball, at the interface with the normal lung, with cough, hemoptysis and low grade fever. Invasive aspergillosis usually occurs as an opportunistic infection in immunocompromised patients, with iatrogenic neutropenia and can be life-threatening.

Diagnosis is confirmed by sputum cultures, bronchial brushing specimens, chest X-ray, CT scanning, bronchoscopic examination and percutaneous needle biopsy. The treatment of choice for aspergilloma is surgery, especially in patients with severe hemoptysis. Reversal of immunosuppression and antifungal agents such as amphotericin B, fluconazole, voriconazole and caspofungin are important for the treatment of invasive disease.

Corresponding author:

C.S. Floudas, 50 Alexandroupoleos street, GR-115 27 Athens, Greece
e-mail: chfloudas@gmail.com

Figure 1

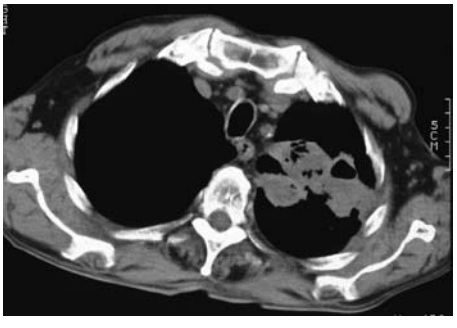

Figure 2

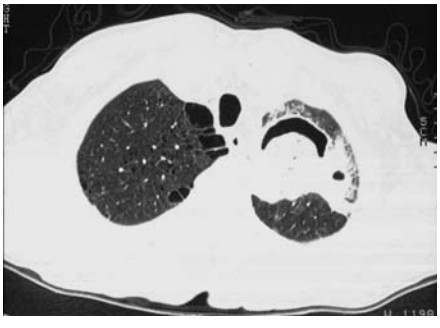

Figure 3

Diagnosis: *Pulmonary aspergillosis of the upper lobe of the left lung with tumor-like aspergilloma and chronic invasive aspergillosis.*