Invasive pulmonary aspergillosis in an immunocompetent patient

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Introduction

Aspergillus is a ubiquitous filamentous fungus that can cause allergy, colonization, or invasion [1]. Invasive pulmonary aspergillosis is a well-recognised complication in immunocompromised patients. Immunocompetent individuals rarely develop this infection and do so only in the presence of pulmonary and systemic abnormalities such as fibrotic lung disease suppurative infection or when they are on corticosteroids [2,3,4].

This case report draws attention to a non-immunocompromised adult, who presented with nonspecific multiple complaints with no signs and symptoms related to invasive pulmonary aspergillosis.

Case report

A 40 year old man presented with fever of one week duration and productive cough. Two days later he developed abdominal pain, icterus and tender hepatomegaly. The CXR showed bilateral and liver enzymes were high patchy opacities.

He was treated with clarythromycin and chloroquine. Another there days later he became hypoxic and developed multiorgan dysfunction six days after admission hew died.

Post mortem findings

The deceased was that of a middle aged male with appearance consistent with the stated age of 40 year. On examination of the respiratory system, the larynx and upper part of trachea contained a moderate amount of yellowish frothy mucoid material. The mucosa is reddish and looked inflamed. There was no pleural effusion. The mucosa of both bronchi and bronchioles was reddish and congested and covered with yellowish exudate in some places. Both lungs were heavy

and bulky. Some bronchioles were obliterated by fibrous tan grey colour material. The autopsy revealed bulky lungs with the coulour material obliterating the bronchiales.

Microscopically, both lungs show diffuse interstitial infiltrate of lymphocytes, plasma cells and neutrophils with thickening of alveolar septae. Scattered throughout the lung parenchyma were multiple foci of tissue necrosis with fungal colonies.

Discussion

Aspergillus infection spreads via airborne route and almost invariably, lung is the site of invasion. Aspergilli have a sporular diameter which allows penetration to the distal pulmonary areas and alveoli. Our case highlights that pulmonary aspergillosis can occur in immunocompetent individuals even in the absence of risk factors. Although invasive aspergillosis is often a fatal disease in immunocompromised patients, early diagnosis and institution of appropriate treatment, together with reduction in risk factors, appears to significantly improve the prognosis [5]. The diagnosis of invasive pulmonary aspergillosis is often difficult. Sputum cultures may be negative. In most cases, the diagnosis is made following tissue isolation of a single species in an appropriate clinical setting. Common diagnostic procedures include CT- guided percutaneous needle aspiration, specific bronchoscopy and bronchoalveolar lavage.

Two antifungal agents are licensed for the treatment of pulmonary aspergillosis - amphotericin B and itraconazole. The comparative response rates of both the agents appear similar. Operative removal of residual nodular infiltrates is of proven benefit, especially in neutropenic patients where re-activation is a risk.

References

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