

Case Report

Sudden death due to pulmonary aspergillosis

Prashantha Bhagavath MBBS, MD^a, Prateek Rastogi MBBS, MD^b,
Ritesh G. Menezes MBBS, MD^{b,*}, Manna Valiathan MBBS, MD^c,
T.S. Mohan Kumar MBBS, MD^a, Y.P. Raghavendra Babu MBBS^a,
Tanuj Kanchan MBBS, MD^b, Francis N.P. Monteiro MBBS, MD^a,
Vinod C. Nayak MBBS, MD^a

^a Department of Forensic Medicine and Toxicology, Kasturba Medical College, Manipal, India

^b Department of Forensic Medicine and Toxicology, Kasturba Medical College, Mangalore 575001, India

^c Department of Pathology, Kasturba Medical College, Manipal, India

Received 31 October 2007; received in revised form 26 March 2008; accepted 18 May 2008

Available online 9 August 2008

Abstract

Sudden death due to respiratory pathology is not uncommon and tuberculosis with its complications is well known to cause death. We report a case of a male, train passenger, who started coughing out blood and died on reaching the hospital. Medicolegal autopsy confirmed the sudden unexpected death to be due to pulmonary aspergillosis in the person with past medical history of tuberculosis.

© 2008 Elsevier Ltd and Faculty of Forensic and Legal Medicine. All rights reserved.

Keywords: Sudden death; Pulmonary tuberculosis; Pulmonary aspergillosis; Haemoptysis

1. Introduction

Forensic pathologists deal not only with criminal, accidental and suicidal deaths, but also with a wide range of natural deaths, especially, if they had occurred suddenly in apparently healthy individuals. Many of these deaths are sudden, unexpected, clinically unexplained or obscure; even though there may not be any criminal element in their causation. Some of the most difficult problems in criminal and litigious cases arise not out of gross, rapidly fatal trauma, but in deaths where concurrent natural disease or complications after trauma lead to a fatal outcome.¹ Suspicion usually arises when an individual is found dead, without anyone having witnessed the death.

Disease of any body system can result in sudden death. Tuberculosis (TB) remains a major respiratory cause of morbidity and mortality worldwide and has been identified

as a 'global emergency' by the WHO.² Sporadic cases of sudden death due to TB are reported. Reasons for increasing incidence of disease are HIV infection, drug resistance, lack of access to health care, ineffective preventive and control programmes, etc.³ Even after complete cure of the disease, TB leaves behind sequelae and complications like tuberculoma, cavitations, bronchiectasis, Rasmussen's aneurysm, lymphnode calcification, chronic empyema, pneumothorax, and opportunistic infections like aspergillosis, etc.

Aspergillus is a ubiquitous, filamentous, opportunistic infectious fungus found in soil and organic debris, however, only a few species of aspergillus are pathogenic to humans. The spectrum of pulmonary disease in humans ranges from aspergilloma to invasive pulmonary aspergillosis and allergic bronchopulmonary aspergillosis.⁴ Visualisation of regular, dichotomously branching, septate hyphae with unequivocal evidence of tissue infiltration is necessary for classification as invasive aspergillosis.⁵ Aspergillus assumes mycelia forms in lesions. Aspergillomas

* Corresponding author.

E-mail address: mangalore971@yahoo.co.in (R.G. Menezes).

occur in patients with preexisting pulmonary cavities, such as those with a history of TB. Invasive aspergillosis is limited to immunocompromised hosts, particularly those with diabetes or leukemia-associated neutrophil defects and patients receiving steroid treatment.⁴ In aspergillosis, the fungi preferentially localize in the lungs, from where they may disseminate. *Aspergillus* species cause a nondistinctive, suppurative, sometimes granulomatous, reaction with a predilection for invading blood vessel walls, causing vascular necrosis and infarction.⁶ We report a case of sudden unexpected death due to pulmonary aspergillosis in an old case of TB.

2. Case report

As per the history obtained from preliminary investigations, the deceased, a 35-year-old male, and a known TB patient, who was asymptomatic since last one year, had repeated attacks of haemoptysis while traveling in a train. His condition deteriorated and was shifted to the hospital within an hour. He was declared dead on arrival and the body was subjected for a medicolegal autopsy on the same day.

2.1. External examination

The deceased was moderately built and poorly nourished. Blood stains were present over the oral and nasal orifices. Clubbing of fingers and toes was present (Fig. 1). No external injuries were present on the body.

2.2. Internal examination

Trachea and bronchi contained blood clots. Right sided pleural adhesions were present. Brain was congested and oedematous. Right lung weighed 675 g; surface was grayish black with bossilations. Lower lobe was hard in consistency. Cut sections revealed multiple grayish white areas in the upper lobe; the lower lobe showed multiple grayish black areas and multiple cavities containing foul smelling



Fig. 1. Clubbing of fingers and toes.

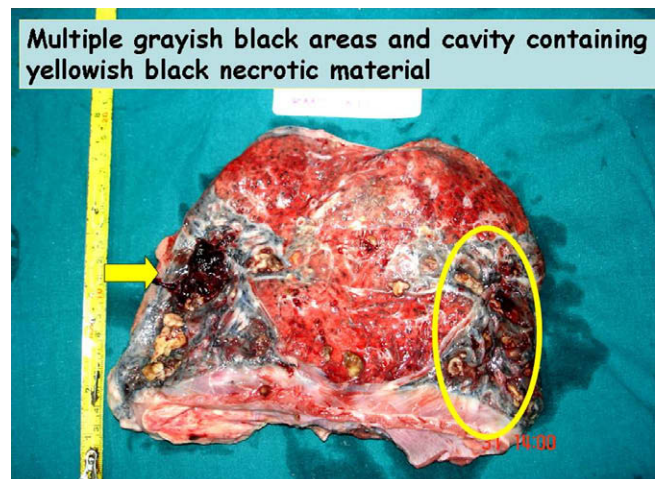


Fig. 2. Cut section of the lung showing grayish black areas and cavity containing yellowish black necrotic material.

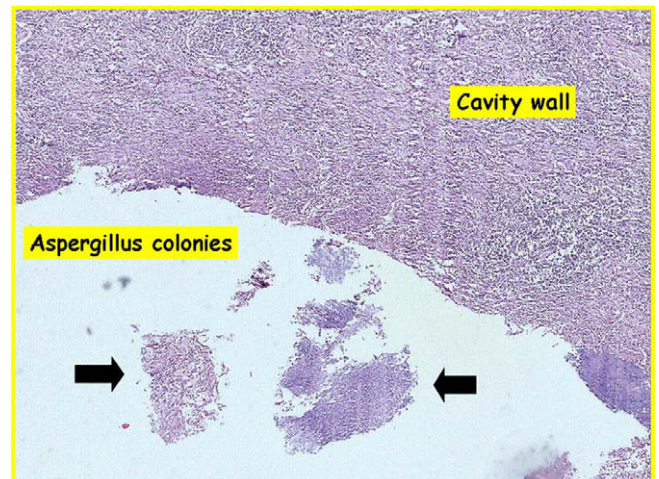


Fig. 3. Microscopy of the lung with Grocott's methanamine silver stain showing a cavity lined by fibrocollagenous tissue and colonized by *Aspergillus*.

yellowish^d black necrotic material (Fig. 2). Left lung weighed 500 g and was oedematous. Para-tracheal and hilar lymph nodes were enlarged and matted. Mesenteric lymph nodes were enlarged. Omental and mesenteric adhesions were present. Narrowing of the terminal ileum was seen. Stomach contained dark brown altered fluid blood. Other internal organs were pale.

2.3. Histopathology

Microscopy of the right lung using Grocott's methanamine silver stain showed a cavity lined by fibrocollagenous tissue and colonised by aspergillus (Fig. 3). Lung tissue

^d For interpretation of color in Figures 1–3, the reader is referred to the web version of this article.

Download English Version:

<https://daneshyari.com/en/article/102978>

Download Persian Version:

<https://daneshyari.com/article/102978>

[Daneshyari.com](https://daneshyari.com)