

Sudden Death Due to Tuberculosis: An Enigma

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ABSTRACT

Sudden natural un-witnessed death of a previously apparently healthy person raises issues related to the manner of death. This issue can be appropriately answered with the expertise of a forensic pathologist, who has the means to help in these circumstances through his knowledge which is supplemented by the investigation of the police officer. Here, a case of sudden natural death of an apparently healthy individual construed to be unnatural by the kin of the deceased is highlighted.

Keywords : Death; Forensic pathologist.

INTRODUCTION

The primary component of forensic pathology is the ability to recognize and interpret injury and determine its role in causing death, but majority of cases investigated by the forensic pathologist are sudden deaths [1]. Of the cases of sudden deaths investigated by the forensic pathologist,

about 75% will be found to be deaths from natural causes [2]. Unfortunately, majority of these cases present without antemortem documentation of significant pathology, which poses a challenge to both the investigating officer and the forensic expert [1]. Although a sudden natural death may be due to a disease process in almost any organ, the majority are due to some affliction either of the heart, lungs, and brain [3]. One-fourth of sudden deaths are caused by diseases of the respiratory system [4]. The main cause of death due to respiratory cause is hemoptysis [5]. Hemoptysis may be secondary to tuberculosis, bronchogenic carcinoma, lung abscess or bronchiectasis [6]. The most massive hemoptysis of respiratory cause leading to death is tuberculosis [7]. Here, we present a case of sudden death due to complications of tuberculosis.

Case report

A 50-year-old male was brought to the mortuary with a history of vomiting of blood

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& sudden death at workplace. The co-workers and relatives of the deceased suspected foul play and a medico-legal autopsy was requisitioned to ascertain the matter of fact. On external examination, the clothes were found to be blood stained with passive oozing of blood from nostrils and mouth. On internal examination, the trachea and the esophagus were flooded with blood clots, both lungs were

adhered to the chest wall with bilateral nodular cavitated lesions in the upper lobe.(Fig1). The stomach contained 1500 ml of blood admixed with clots (Fig2). Histopathological examination of the lung showed caseating epitheloid granulomas with giant (Langhan's) cells (Fig3) and Ziehl Neelsen stain was positive for acid-fast bacilli (Fig4), which were suggestive of tuberculosis of the lung.

Fig 1. Left lung with nodular cavitated lesion in its upper lobe

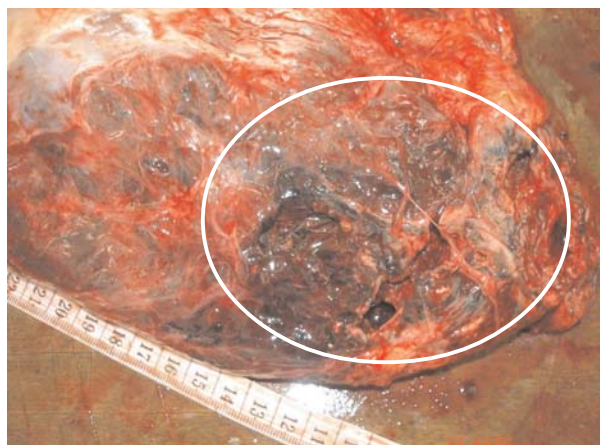


Fig 2. Blood admixed with clots in stomach



Fig 3. Caseating epitheloid granulomas with giant (Langhan's) cells (H & E stain)

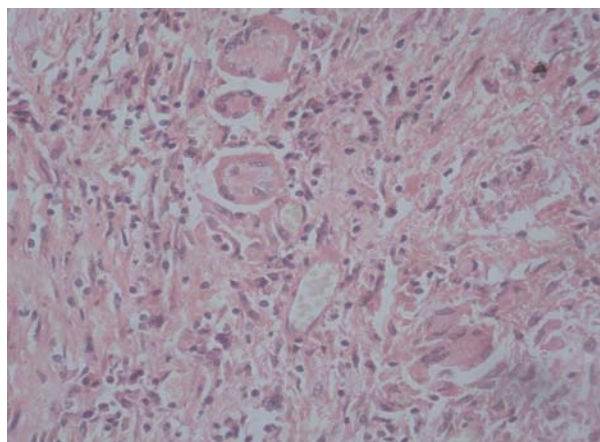
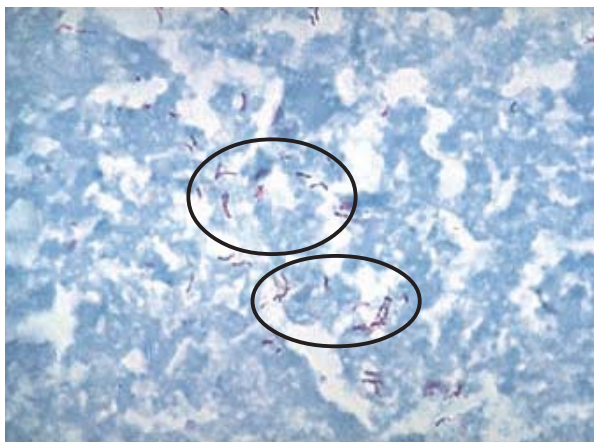


Fig 4. Ziehl neelsen stain with positive acid fast bacilli



DISCUSSION

Tuberculosis is the leading infectious cause of death in the world next to HIV [8]. Current

estimates suggest that nearly 4.56 million people in India are infected with HIV and that approximately 1.4 million of these individuals are also infected with tuberculosis[9]. Tuberculosis remains a worldwide public health problem despite the fact that the

causative organism was discovered more than 100 years ago[9] [10] [11]. India accounts for nearly one-third of global burden of tuberculosis. Eight out of ten of all those struck by tuberculosis are in the economically productive age group of 15-49 years [11]. Tuberculosis is caused by infection with mycobacterium tuberculosis, which is a part of a complex of organisms including *Mycobacterium bovis* and *Mycobacterium africanum*[12]. Acute death due to tuberculosis is a consequence of the erosion of a fully patent vessel located in the wall of a cavity. Hemoptysis, however, may result from rupture of a dilated vessel in a cavity (Rasmussen's aneurysm) or from aspergilloma formation in an old cavity [13]. Majority of these cases occur in the world's poorest and developing countries, who struggle to cover the cost associated with the management and control programmes[14,15,16]. There is also an increasing incidence of tuberculosis in developed nations due to factor such as immigration from high prevalence areas, HIV, increased proportion of elderly, and drug resistance[12].

About one-third of the current global population is infected asymptotically with tuberculosis, of which 5-10 percent will develop clinical disease during their life[11]. In the present case, the deceased was apparently healthy, asymptomatic who died after massive hemoptysis at workplace which aroused doubt as to the nature of death. Autopsy with histopathological examination confirmed it as natural death due to tuberculosis. So However medicolegal issues do arise in sudden, unwitnessed natural deaths and the absence of external signs of injury does not preclude death from physical violence. The very purpose of medicolegal autopsies is to determine whether violence or poisoning has been in any way responsible for the death. Histological examination of selected material should be an integral part of any postmortem examination, including chemical analysis for poisoning [2].

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