PULMONARY MICROLITHIASIS

(An Autopsy Study)

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ABSTRACT

A case of pulmonary microlithiasis of unknown aetiology is described. Patient died of acute respiratory distress with cyanosis. Autopsy study did not reveal any of the known associated syndromes.

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KEY WORDS : Pulmonary micro calcification; Microlithiasis alveolaris pulmonum.

Introduction

Pulmonary alveolar microlithiasis is a rare entity, the patients usually presenting with progressive respiratory symptoms. The diagnosis is made on incidental radiographic findings. Based on clinical and radiological evidence, 150 cases of pulmonary alveolar microlithiasis have so far been reported in the world literature [1] alongwith an autopsy follow up in a few of

them. One such case with an autopsy study is presented.

CASE REPORT

A 22 years old lady reported with history of breathlessness with oedema feet and face of six days duration. She reported attacks of upper respiratory infections in the past. On examination she was found to have raised JVP, central cyanosis, pulse rate 140/min and a systolic thrill in the pulmonary area and right ventricular gallop but no distinct murmur was heard. She had bilateral crepitation with bronchial breathing and a palpable 4 cm tender liver. Clinically she was diagnosed as cyanotic

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Fig. 1 Section of lung shows calcospherites in the inter-alveolar septae and lumen of the alveoli (H&E x 100).

heart disease. Her biochemical parameters, blood sugar, blood urea and serum electrolytes were within normal limits. X-ray chest showed multiple calcified lesions in both lungs. She died of acute cardiorespiratory arrest the following day.

Autopsy findings

Lungs weighed 800 gm each. They were stony hard and difficult to cut. Heart showed dilatation of both the ventricles but no valvular lesion or any congenital defect. Liver was markedly congested. Other organs did not show any abnormality.

Histopathological Examination

Decalcified sections from the lungs showed alveoli and occasional bronchioles filled with calcospherites. Areas of haemorrhage were present in the vicinity of these lesions. Alveoli showed large number of haemosiderin laden macrophages. The calcospherites were localised in the interalveolar septae as well as in the lumen of many alveoli (Fig 1). No nuclear structures were seen in any of the non calcified lesions. No parasite or fungi were seen. There was no granuloma formation. Histopathological examination of other viscera did not reveal any significant pathological lesion except the chronic passive congestion of the liver.

Discussion

Pulmonary microlithiasis is a rare disease of uncertain etiology in young adults. Incidental radiographic diagnosis is made in many symptomless patients [1]. But the disease appears to be progressive ultimately

developing into respiratory failure. Association of pulmonary calcification with disseminated strongyloidosis in a immunosuppressed host is well documented [2].

Familial occurrence has been noted in more than half of the cases reported. Environmental factors seem to play a role in at least a few of the cases. Metabolic disturbances of calcium and phosphorus have been implicated but are difficult to substantiate in view of the normal serum calcium level [4]. Amongst other reported conditions, association with multiple urinary calculi [5] and milk alkali syndrome [6] has been described. Although several hypotheses have been put forward to explain its pathogenesis including the possibility of a congenital error of metabolism at the level of alveolar membranes, the aetiology of this entity remains obscure.

The presence of multiple small haemorrhages in the alveolar septae and alveoli and presence of haemosiderin laden macrophages in the septae suggest possible role of repeated microhaemorrhage in the pathogenesis of pulmonary alveolar microlithiasis.

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