A CASE OF ASPERGILLOMA WITH MUCIN SECRETING ADENOCARCINOMA IN THE CAVITY WALL

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ABSTRACT

A Pulmonary aspergillosis and lung cancer rarely occur simultaneously. We report a 63 year old female with complaint of heamoptysis. Contrast enhanced chest revealed a cavity containing fungus ball in the left lung lower lobe suggestive of a fungoma. Left lower lobectomy was done for intractable heamoptysis. The histological examination of the reselected specimen showed colonies of aspergilli in the cavity and mucin secreting adenocarcinoma in the cavitary wall. Careful gross examination of the patient must be done to rule out metastasis.

Key words: Aspergilloma, Adenocarcinoma, Left lower lobe, Cavity wall

INTRODUCTION

Reported cases of lung cancer with intracavitary aspergillus are rare in literature. Aspergilloma is a well recognized but rare complication of pulmonary carcinoma. In rare cases, lung cancer might arise from preexisting lung scars containing an aspergilloma or they can be induced by the unusually long prevalence of fungus in the lungs. Here we report one such rare case where lobectomy was done for long standing aspergilloma and subsequent histopathological examination revealed foci of mucin secreting adenocarcinoma.

CASE REPORT

A 63 year old female was admitted in our hospital for evaluation of heamoptysis for 2 years. Routine hematological, biochemical investigations and pulmonary function tests were within normal limits. Contrast enhanced computed tomography (CECT) chest showed a small thin walled cavity with fungus ball in posterior basal segment of left lower lobe.

Remaining bilateral lung fields showed normal bronchovascular markings and attenuation values. There was no evidence of pleural thickening, calcification, pleural effusion, pneumothorax and mediastinal lymphaedenoathy. A diagnosis of fungoma lung was suggested on radiological evaluation and patient was taken up for surgical resection. Left lower lobectomy was performed. On gross lobectomy specimen measured 14x8x4 cms which on serial section showed a single thin walled cavity, noncommunicating with bronchus and filled with dirty brown material, measuring 2x2cms (figure 1). Pericavitary area showed fibrosis. On microscopy microsections from dirty material showed colonized fungal hyphae filling the cavity. The hyphae were septate with acute angle branching typical of aspergillus (figure 2). The cavity wall was lined by stratified squamous epithelium and showed granulation tissue, fibrosis and small collection of tumor cells in subcentimeter area (maximum size in prepared section measured 0.8 cm), which was not appreciable grossly (figure 3a & b). The tumor cells were tall columnar mucin secreting cell with basal nuclei and were arranged in acinar and lepidic pattern. All tumor cells were positive for mucicarmine and CK7 (figure 4a & 4b). No tumor cells were found elsewhere. There was no pleural or vascular invasion. All hilar lymphnode were reactive and negative for tumor cells. Final diagnosis of aspergilloma left lower lobe with mucin secreting adenocarcinoma in the cavity wall was rendered.
**DISCUSSION**

Reported cases of lung cancer with intracavitary aspergillus are rare in literature. Regnard et al and Babatasi et al found only one patient with adenocarcinoma in their series of 89 aspergilloma patients. Similarly only 11 such cases have been reported in Japan. We here report a rare case of aspergilloma lung with mucin secreting adenocarcinoma in the fungal cavity wall and to the best of our knowledge there are no such cases reported from the Indian subcontinent.

It is known that aspergilloma is a well-recognized rare complication of pulmonary carcinoma but in none of the cases there is evidence that aspergilloma preceded the tumor. However, Kita...
et al reported that lung cancer might arise from preexisting lung scars containing an aspergilloma. Similarly Andrew et al reported that pulmonary carcinoma can be induced by the unusually long prevalence of fungus in the lung. In our case too lobectomy was done for long standing aspergilloma which subsequently revealed mucin secreting adenocarcinoma of subcentimeter size in the cavitary wall. Also it has been shown in animal models that aspergillus species have carcinogenic properties particularly in association with pulmonary adenocarcinoma. Moreover the association between ingestion of aspergillus toxin and hepatocellular carcinoma in man is well synergy between a viral infection (hepatitis B) and aspergillus flavus toxin in the diet.

Although, definite diagnosis of aspergilloma can usually be established by the characteristic appearance of fungus ball on the chest radiograph or computed tomography, but the presence of lung cancer with aspergilloma is difficult to detect radiographically. Therefore, in the light of our finding and the literature it should be kept in mind, that as pulmonary aspergilloma and carcinoma can occur simultaneously, there is need for careful gross and histopathological examination.

This case highlights two important facts. First, careful gross is to be done in every case of pulmonary aspergilloma. Second, the detail workup of the patient should be done to rule out metastasis whenever a coexisting malignancy is discovered.

REFERENCES