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CASE REPORT

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Aspergilloma in a Pulmonary Hydatid Cyst: A Case Report

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Abstract

Aspergilloma infection consists of a mass of fungal hyphae that colonize lung cavities but the coexistence of pulmonary hydatid cyst and aspergilloma is an exceptional situation. Here we report co-infection of pulmonary hydatid cyst and aspergilloma in a 34-year-old male who had suffered from hemoptysis. Radiologic sign showed a cavitary lesion involving the right upper lobe. A right upper lobectomy was performed and the histopathologic exam of the specimen had showen the presence of hydatid membrane coexisting with filamentous fungus.

Keywords: Aspergilloma; Hydatid Cyst; Surgery

Introduction

Pulmonary aspergilloma is an infection that colonizes lung cavities due to underlying diseases in particularly tuberculosis in our country and it's usually observed in immune-compromised patients whereas hydatid disease infected by Echinococcus is endemic in several countries like in north Africa. The coexistence of pulmonary hydatid cyst and aspergilloma in the same cavity is an exceptional situation especially in the immune-competent patient [1-3].

Case Report

A 34-year-old male presented with hemoptysis, cough of 5 month duration without any history of pulmonary disease nor immunosuppression. The medical examination was normal. A chest radiograph showed an opaque shadow lesion with cavitation involving the right upper lobe (Figure 1) and the Computerized tomography (CT) scan revealed a lung cavitation with thickened and irregular wall (Figure 2). Bronchoscopy was normal and the Hydatid serology by enzyme linked immunosorbent assay was weakly positive.

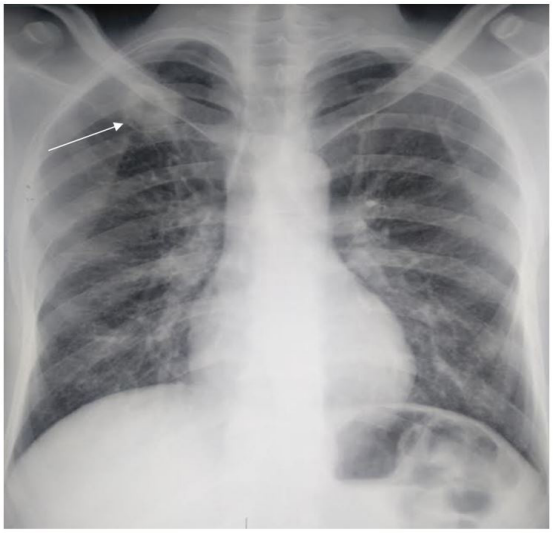

Figure 1: Chest radiograph showing an opaque shadow lesion (arrow) with cavitation involving the right upper lobe

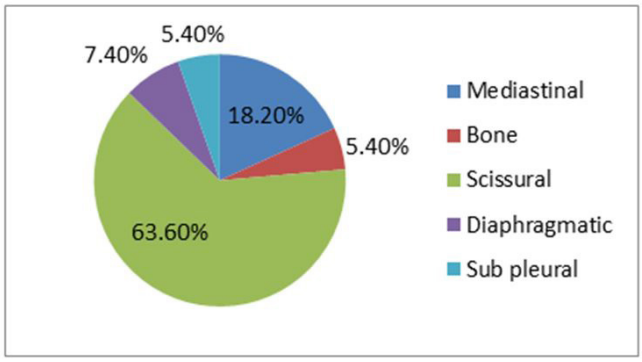

Figure 2: Chest CT scan showing a lung cavitation (arrow) with thickened and irregular wall

A surgical exploration was performed by postero lateral thoracotomy allowing finding a pulmonary lesion of the right upper lobe that was infected and completely destroyed. Then a right upper lobectomy was done. The exploration of the surgical specimen had allowed discovering the presence of hydatid membrane with aspergillosis filaments (Figure 3) and the histpathological exam of the specimen had confirmed this co infection (Figure 4). The post-operative history was simple without using antifungal therapy nore anthelmintic therapy since the lesion was completely resected and since the lesion was not ruptured in the pleural cavity and the patient was discharged at the fifth post-operative day. The patient was followed up for one year without any complications.

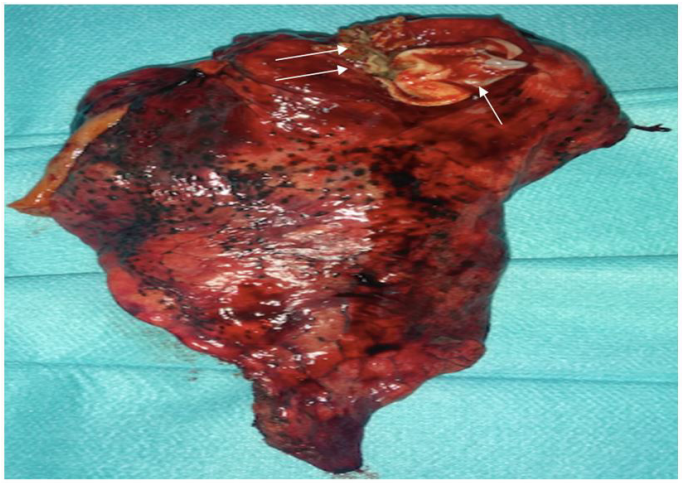

Figure 3: Surgical specimen showing to discover the presence of hydatid membrane (arrow) with aspergillosis filaments (double arrow)

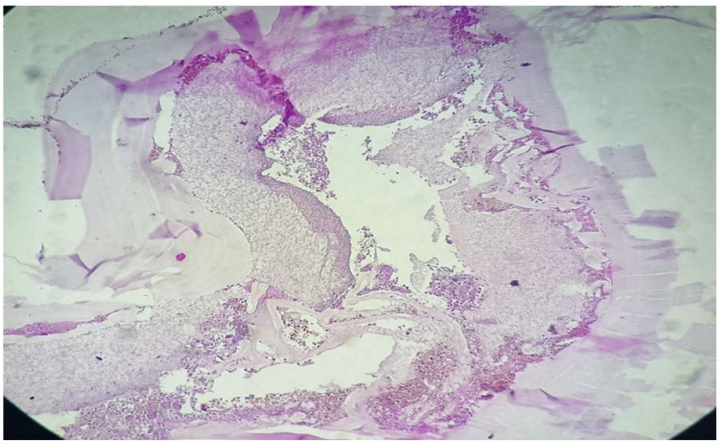

Figure 4: Histopathological exam of the specimen showing hydatids membranes with filamentous fungus

Discussion

Aspergilloma infection in the lung can occur in any kind of preexisting pulmonary cavity such after tuberculosis, pulmonary infarction and bronchestasis [4]. Occasionally aspergilloma has been reported within a hydatid cyst and only few cases were reports in the litteraure [5] and such association has been reported in both immune-compromised and immune-competent patients. The pathogeny is not well understood but it seems to result from the deterioration of local defense against opportunistic infections [5-8].

The diagnosis can be suspected on basis of some clinicals signs like hemoptysis more important than in hydatid cyst or some radiologics signs like heterogenous lesion with tissue density within a cystic lesion. The confirmation of the diagnostic can be obtained by histopathological evaluation or by a positive culture of the surgical specimen. Indeed, surgery is the mainstay of treatment of this coninfection because it's a curative treatment for both hydatid cysts and aspergillosis. If the pulmonary function is adequate, anatomic lung resection is advised especially if the lobe is destroyed as in our case and associated with antifungal therapy if the patient is immune-compromised [3,8-10].

Conclusion

The coexistence of pulmonary hydatid cyst and aspergilloma is extremely rare and the physiopathology is not yet clear. There is neither formal clinical sign nor radiologic sign to confirm this coninfection. However, the confirmation is obtained by the histopathological exam of the surgical specimen. Prognosis seems to be better than aspergilloma within tuberculous cavities.

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