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Allergic Bronchopulmonary Aspergillosis: A Masquerade to Malignancy

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Abstract: ***Allergic bronchopulmonary aspergillosis (ABPA) is an immunologically mediated lung disease that occurs in response to Aspergillus fumigatus which affects primarily asthmatic and cystic fibrosis patients. Central bronchiectasis is a classical radiological presentation of ABPA, but the presentation as total collapse of the lung, pneumothorax, lung mass, or fibrocavitary disease has been rarely described in all cases of asthma, there should be a thorough evaluation for ABPA if there is any abnormal chest radiology present. ABPA may mimic malignancy and there should be a high index of suspicion for the same should be there especially in cases of atopic individuals. Complete history taking and diagnostic work up is needed in such cases which include CT Chest and Fibreoptic Bronchoscopy (FOB). We report a case of ABPA in a 39 year old female with background history of asthma, initially suspected to have bronchogenic carcinoma of the right lung. After ruling out malignancy, the diagnosis of ABPA was established based on Rosenberg–Patterson criteria. Treatment with oral steroids for 6 months in tapering doses lead to clinical and radiological improvement and decrease in IgE levels.***

Keywords: Allergic bronchopulmonary aspergillosis, Malignancy, Rosenberg Patterson Criteria, Fibreoptic Bronchoscopy, IgE levels

1. Introduction

Allergic bronchopulmonary aspergillosis (ABPA) is a lung disease caused by hypersensitivity reaction to antigens of Aspergillus species of which Aspergillus fumigatus is the most common culprit [1] ABPA is most commonly diagnosed in patients with a history of uncontrolled bronchial asthma despite optimum treatment. The disease is potentially progressive if not managed adequately. This case highlights the possibility of atypical presentation of ABPA and thus emphasizing the need for a high index of suspicion for its early recognition and management.

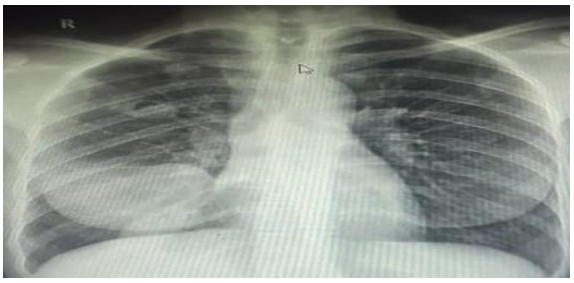
2. Case Report

We present a case of 32 year old female; non smoker; homemaker; who was referred from surgery dept for evaluation of mass in Right lower lobe with neoplastic etiology as a differential. However on enquiring further, she reported with chief complaints of cough with expectoration since one month with copious yellowish green sputum, chest pain on right side of the chest radiating to right shoulder and increased with respiration and movement and dyspnea on and off mMRC grade 2. Patient is a known case of bronchial asthma since 5 years for which she has been prescribed LABA and ICS (Budesonide 400 mcg) but is non compliant and takes inhaler on intermittent basis. There is no family history of asthma or Tuberculosis.

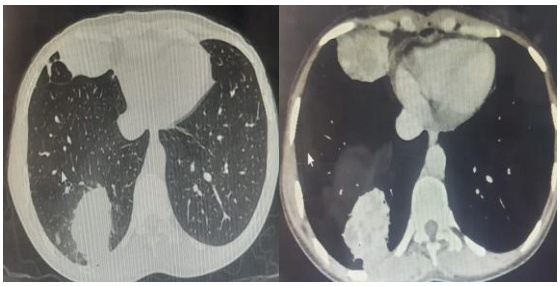
Approach to the case

Patient was admitted to the ward, vitals were taken and systemic examination including CNS, CVS, P/A was essentially normal. On Chest examination, there was decreased air entry in Right mammary, infraxillary, infrascapular area with diffuse inspiratory and expiratory random monophonic rhonchi over both lung fields. Routine investigations were sent which revealed mildly increased TLC of 12000 with eosinophilic count of 6.3%. Sputum examination was WNL and negative for AFB. Patient was started on empirical antibiotic (Piperacillin - tazobactum).

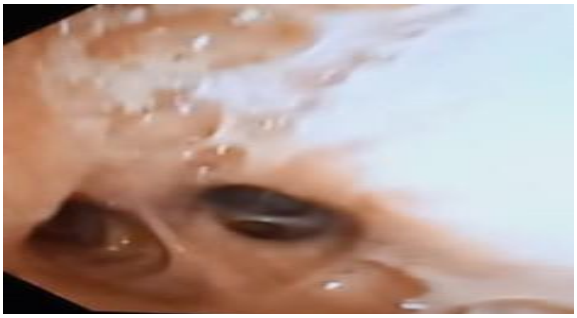
Patient initial Chest Xray showed a big opacity covering entire Right Middle, part of right lowerlobe.



Patient CT showed focal cystic bronchiectasis with hyperdense contents seen filling the lumen and centrilobular nodules in tree and bud pattern distal to obstructed bronchus in Right upper and middle lobe. Also there is mass like consolidatory changes adjacent to hyperdense contents filled bronchus with adjacent interlobular septal thickening / GGO's and heterogenous post contrast enhancement in right lower lobe.



Therefore we proceeded with Bronchoscopy in which thick mucopurulent secretions were drained.



and BAL samples were sent for analysis which revealed gram negative coccobacilli and thus antibiotics was modified to Meropenem and antifungal was given for short duration as BAL showed Candida on fungal culture. Gene Xpert of BAL was negative. Chest physiotherapy was started along with postural drainage. Patient was discharged on request and was followed up in OPD with ABPA reports which were significantly high (Total IgE = 6987, Aspergillus fumigatus IgE = 347, IgG= 974) and thus was given course of oral corticosteroids in tapering dose according to her weight. Patient follow up PFT was done which showed severe airflow limitation with significant Bronchodilator reversibility of 24%. Therefore, she was prescribed high dose MDI LABA - ICS and was counselled regarding its adequate intake. Patient serial Chest xray showed clearing of opacity andthus she is being saved from any surgical intervention.

3. Discussion

ABPA is an immunological lung disorder caused by hypersensitivity to fungus A. fumigatus which usually presents with difficult to control asthma and recurrent pulmonary infiltrates. It is a common but frequently misdiagnosed [2]clinical condition requiring a high index of suspicion for its detection owing to its varied presentations.

The criteria for diagnosis are the Rosenberg–Patterson criteria. [3, 4] Major criteria include history of uncontrolled bronchial asthma, X - ray evidence of fleeting pulmonary opacities, skin test positive for Aspergillus (Type 1 reaction), eosinophilia, precipitating antibodies (IgG) against Aspergillus in the serum, elevated serum IgE levels (>1000 IU/mL), central bronchiectasis, and elevated serum A. fumigatus - specific IgG and IgE. The minor criteria include the presence of Aspergillus in sputum, expectoration of brownish black mucus plugs, and delayed skin reaction to Aspergillus antigen (type III reaction). ABPA can be subdivided into ABPA - S (diagnosed serologically) and ABPA - CB (central bronchiectasis present radiologically). Central bronchiectasis is a hallmark finding although ABPA without bronchiectasis is also recognized. [5] The pathophysiology of ABPA is allergic in nature, characterized by activation of eosinophils and elaboration of IgE. Hence, immunosuppression is the mainstay of the treatment. Most common modality of management is conservative medical treatment with oral corticosteroids for duration of 6–12 months. There has been a case reported in literature where patient underwent a lobectomy for a suspected malignancy and later was diagnosed to haveABPA. [6]Likewise, this unusual case also serves as a reminder for the treating physicians that ABPA can present with atypical clinical and radiological features thus thorough evaluation is required to diagnose and treat it on time and avoid inadvertent surgical intervention.

Conflict of Interest
There are no conflicts of interest

References

[1] Allergic bronchopulmonary aspergillosis masquerading as malignancy in a nonasthmatic: A rare case report Ankush Chaudhary, Ketaki Utpat, Unnati Desai, Jyotsna M. Joshi
[2] de Oliveira E, Giavina - Bianchi P, Fonseca LA, França AT, Kalil J. Allergic bronchopulmonary aspergillosis' diagnosis remains a challenge. Respir Med 2007; 101: 2352 - 7.
[3] Rosenberg M, Patterson R, Mintzer R, Cooper BJ, Roberts M, Harris KE. Clinical and immunologic criteria for the diagnosis of allergic bronchopulmonary aspergillosis. Ann Intern Med 1977; 86: 405 - 14.
[4] Patterson R, Greenberger PA, Halwig JM, Liotta JL, Roberts M. Allergic bronchopulmonary aspergillosis. Natural history and classification of early disease by serologic and roentgenographic studies. Arch Intern Med 1986; 146: 916 - 8.
[5] Rajkumar DP. Evaluation of allergic bronchopulmonary aspergillosis in patients with and without central bronchiectasis. J Asthma 2002; 39: 473 - 7.
[6] Sánchez - Alarcos JM, Martínez - Cruz R, Ortega L, Calle M, Rodríguez - Hermosa JL, Alvarez - Sala JL. ABPA mimicking bronchogenic cancer. Allergy 2001; 56: 80 - 1