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A Case Report of Asthma-Bronchiectasis Overlap Syndrome (ABOS) in an Elderly Patient

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Abstract: **Asthma-bronchiectasis overlap syndrome (ABOS) is a rare disease, and some researchers have expressed doubts about its existence (3). In this report, we present a case of an elderly asthmatic patient with CT scan-confirmed bronchiectasis.**

Keywords: **asthma, bronchiectasis.**

I. INTRODUCTION

Bronchiectasis and asthma are distinct respiratory conditions, although they can occasionally coexist in the same individual. Bronchiectasis is characterized by chronic airway widening and scarring, while asthma involves reversible or partially reversible airflow obstruction with airway inflammation, resulting in episodic symptoms.

The incidence of bronchiectasis in individuals with asthma varies, with no specific percentage applicable to all cases. The coexistence of these conditions is referred to as asthma-bronchiectasis overlap syndrome (ABOS). The causal relationship between the two entities is complex. Some theories suggest that an imbalance between matrix metalloproteinases (MMPs) and tissue inhibitors of MMPs may contribute to both asthma and bronchiectasis, leading to extracellular matrix degradation, tissue destruction, and remodeling.

II. CASE REPORT

We present the case of a 69-year-old woman from Bukit Tunggal, Kuala Terengganu, Malaysia, with a history of childhood asthma since the age of 12. She presented with a five-day history of cough, fever, and shortness of breath. The patient had a recurrent history of asthma exacerbations since childhood, with her father and twin sister also being asthmatic. She did not smoke.

Upon examination, the patient exhibited tachypnea and coarse crepitations at the lung bases, with no finger clubbing or evidence of pulmonary hypertension or cor pulmonale. Basic investigations revealed leucocytosis (white cell count: 15 × 10^9/L) and mild anemia (hemoglobin: 10 g/L), likely due to chronic illness. Eosinophil count was normal, and a recent COVID-19 test returned negative. She experienced type 1 respiratory failure during her current hospital admission.

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Imaging studies included a chest radiograph and high-resolution CT scan.

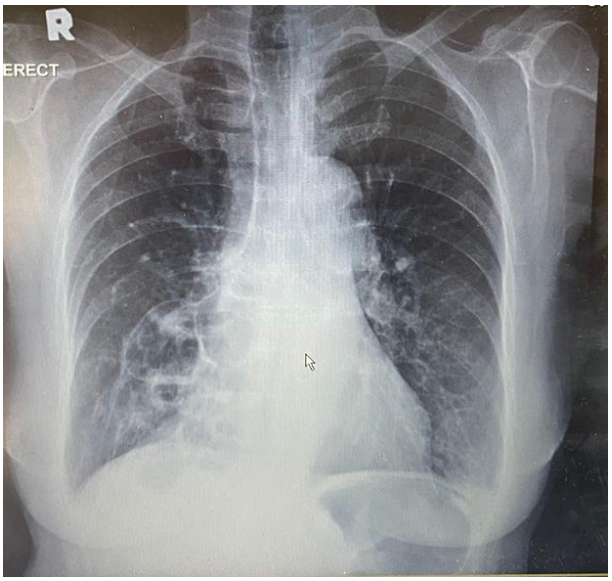

fig 1

Fig 1 : A chest radiograph in PA view showed heterogenous reticular opacity over the bilateral lower and middle lung zones. A thin-walled cystic space with a large ring shadow was observed in the right perihilar zone with consolidation inside. Multiple small cystic lesions were seen in the right perihilar region. No blunting of the costophrenic angle or silhouette signs were evident.

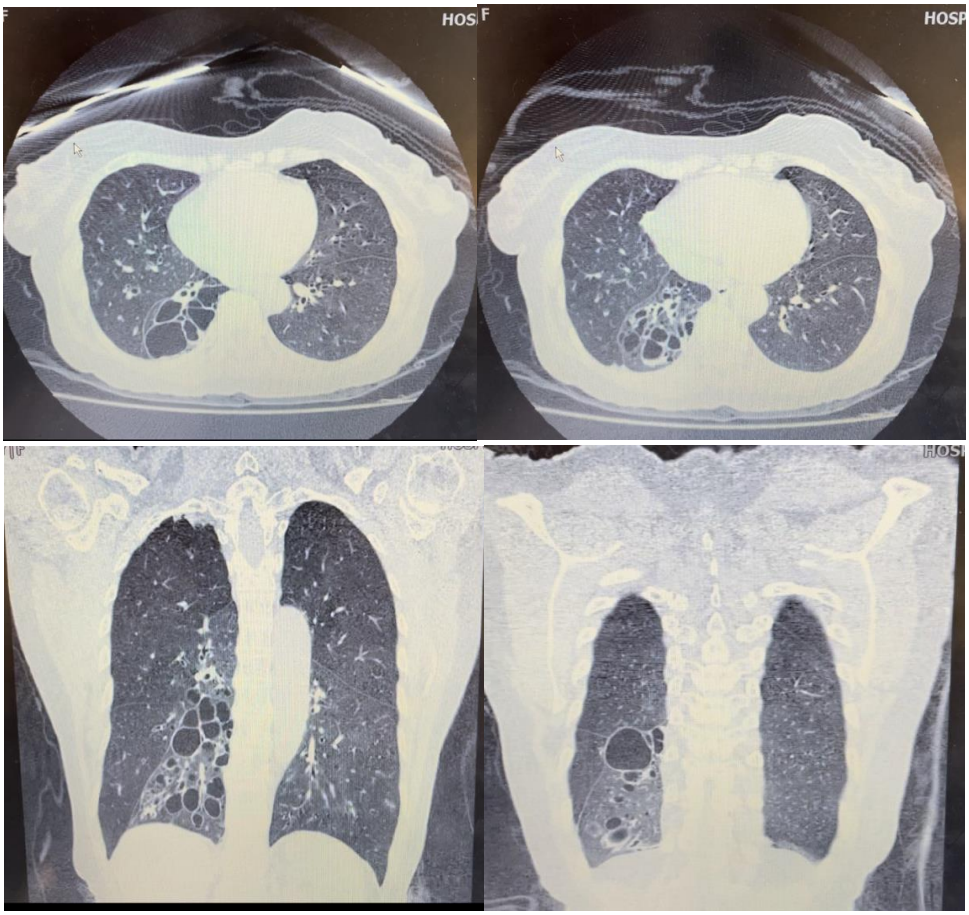

Fig 2

Fig 2 : The high-resolution CT scan of the chest revealed cystic lesions of various sizes suggestive of bronchiectasis in the right lower lobe, with minimal small cystic bronchiectasis in the left lung base. Minimal consolidation was observed in the posterolateral segment of the left lower lobe, and pleural thickening was noted in the right apical region. There was no mosaic perfusion, interstitial thickening, or fibrosis, and no emphysematous changes were present. The conclusion was severe cystic bronchiectasis in the right lower lobe.

The patient was diagnosed with community-acquired pneumonia and treated with intravenous amoxicillin and clavulanic acid for three days, followed by oral antibiotics. She was discharged without requiring oxygen support and had a follow-up appointment at the Respiratory clinic.

III. DISCUSSIONS

The prevalence of asthma-bronchiectasis overlap syndrome (ABOS) is rare, ranging from 1.4% to 8% (1,2). Recent research has highlighted specific features associated with ABOS, such as age, clinical presentation, exacerbation risk, and diagnostic and therapeutic options. Although there is limited information on the prognosis of ABOS, it has been suggested that patients with severe asthma and bronchiectasis may experience worse symptoms and more exacerbations compared to asthma patients without bronchiectasis (2).

Many questions surround the lifespan of patients with ABOS. This case demonstrates that our patient survived into her seventh decade of life without evidence of cor pulmonale or chronic respiratory failure.

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