

## Hand in Glove Appearance

Shrikanti K Malegaonkar\*

Department of pulmonary medicine, AIIMS Nagpur, India

### Abstract

Allergic bronchopulmonary aspergillosis (ABPA) is a hypersensitivity reaction to aspergillus fumigatus fungus occurring in asthmatic patients. ABPA is associated with characteristic radiological findings, identification of which can significantly aid in its earlier diagnosis. Our article depicts one such characteristic radiological finding in this condition.

**Keywords:** Allergic bronchopulmonary aspergillosis, Bronchial asthma, Chest radiology

40-year-old man presented to our pulmonology clinic with complaints of persistent cough with expectoration and breathlessness since past 2 months. Elucidation of medical history revealed patient to be an asthmatic with use of inhaled bronchodilators through metered dose inhaler (MDI) on an as and when required basis. However, in past 2 months despite use of regular MDI there was no relief of symptoms. Apart from polyphonic wheeze on auscultation rest of general and systemic examination was unremarkable.

Our patient underwent evaluation on the lines of difficult to treat asthma, Chest roentgenogram done as part of the same revealed inhomogeneous opacities involving bilateral mid lung zones and ring shadows in left lower lung zone. (Figure 1a) Axial cuts of computed tomography of chest (CT) done for better evaluation of chest roentgenogram changes showed mucus plugs occluding dilated bronchi. These mucus plugs gave characteristic hand in glove appearance on Chest roentgenogram and CT Chest. (Figure 1b) The mucus characteristically had high attenuation when evaluated in soft tissue window termed high attenuation mucus (HAM). (Figure 1c) In

view of above findings patient underwent allergic bronchopulmonary aspergillosis (ABPA) workup which was positive. Patient received systemic corticosteroids along with inhaled bronchodilator resulting in significant improvement in his symptoms and radiology.

Allergic bronchopulmonary aspergillosis (ABPA) is a hypersensitivity reaction in response to colonization of airway with *Aspergillus fumigatus* occurring exclusively in patients with asthma or cystic fibrosis. Prevalence of ABPA among difficult to treat asthmatics is estimated to be about 1 to 2 percent [1]. Diagnosis of ABPA is made based on criteria given by International Society for Human and Animal Mycology (ISHAM) which includes presence of a predisposing condition along with demonstration of immune reaction to *Aspergillus fumigatus* fungi, eosinophilia and characteristic chest radiology.

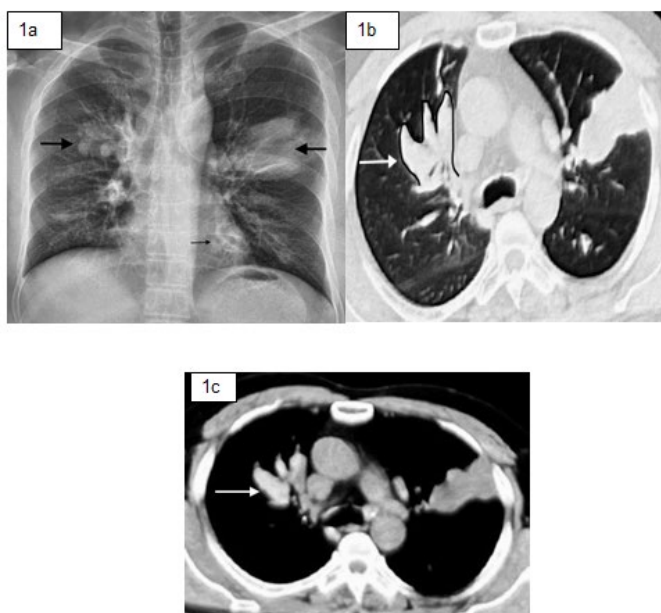
Finger in glove appearance or opacities representing mucoid impaction in dilated bronchi with occlusion of the distal end and high – attenuation mucus (HAM) that is mucus having high attenuation values, appearing visually denser than paraspinal skeletal muscle are characteristic and pathognomonic of ABPA [2].

Primary therapy for ABPA includes use systemic corticosteroids to decrease inflammatory activity and thereby preventing irreversible lung damage. Antifungal agents like itraconazole are used in steroid dependent patients or in those in whom steroid use is contraindicated [3].

ABPA is an important entity to be kept in mind while investigating difficult to treat asthmatic patients. Early recognition and treatment can spare patient from bronchiectasis or pulmonary fibrosis occurring in later stages of disease.

### References

1. Greenberger PA (2002) Allergic bronchopulmonary aspergillosis. *J Allergy Clin Immunol.* 110: 685–92.



**Figure 1:** (1a) Chest roentgenogram showing bilateral mid zone lung opacities with left lower zone ring shadows (black arrows); (1b): CT Chest showing dilated airways with mucus plugging (white arrow) Hand in glove appearance; (1c): Non contrast CT Chest showing high attenuation mucus.

\*Corresponding author: Srikant K Malegaonkar, Department of pulmonary medicine, AIIMS Nagpur, India, E-mail: kmsrikant@aiimsnagpur.edu.in, kmsrikant@gmail.com

**Received:** 14-July-2024, Manuscript No: jprd-24-141634, **Editor assigned:** 16-July-2024, Pre QC No: jprd-24-141634 (PQ), **Reviewed:** 31-July-2024, QC No: jprd-24-141634, **Revised:** 05-Aug-2024, Manuscript No: jprd-24-141634 (R) **Published:** 12-Aug-2024, DOI: 10.4172/jprd.1000209

**Citation:** Srikant KM (2024) Hand in Glove Appearance. *J Pulm Res Dis* 8: 209.

**Copyright:** © 2024 Srikant KM. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

2. Agarwal R, Khan A, Garg M, Aggarwal AN, Gupta D, et al. (2011) Pictorial essay: Allergic bronchopulmonary aspergillosis. *Indian J Radiol Imaging.* 21: 242–252.
3. Agarwal R, Sehgal IS, Dhooria S, Aggarwal AN (2016) Developments in the diagnosis and treatment of allergic bronchopulmonary aspergillosis. *Expert Rev Respir Med.*10: 1317–1334.