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Case Report

A White Man's Story- A Case Report

P Prem Ananth, Professor [1], R Baskaran, Assistant Professor *[1], R Anand, Senior Resident [1], Caroline [2], V Madhusudhanan, Assistant Professor [3], N Nagarajan, Senior Resident [1], R Prathipa, Junior Resident [4]

1. Respiratory Medicine Department, Velammal Medical College Hospital and Research Institute, Madurai.

2. Ophthalmology Department, Velammal Medical College Hospital and Research Institute, Madurai.

3. Dermatology Department, Velammal Medical College Hospital and Research Institute, Madurai.

4. Dept. of Pathology, ACS Medical College, Chennai.

***Correspondence to:** R Baskaran, Assistant Professor, Respiratory Medicine, VMCH&RI.

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A 33-year-old male, never a smoker, complained of non-productive cough and persistent progressive breathlessness; MMRC- 3 for 6 months, easy fatigability for 1 month, fever for 1 week, and breathlessness increased to MMRC- 4 for 5 days and coughing blood for 1 day. No history of chest pain, palpitation, wheezing and weight loss. He claims that he doesn't have any airway disorder in the past. No past history of pulmonary Tuberculosis and COVID-19. He had reported that his sister died at the age of 29 years due to chronic lung disease. On examination he was tachypneic, Pulse- 102/ min, Blood pressure- 120/70 mm of Hg, and saturation measured on room air at rest was 95%. The skin has albinism(fig1) and mild sunburn; Clubbing is present(fig1); Both eyes-vision 6/60, horizontal pendular nystagmus, variable iris transillumination defect(fig 2). Chest auscultation revealed the cavernous type of bronchial breath sounds in the left suprascapular, supraclavicular, infraclavicular and auxiliary areas and bilateral fine crackles in all fields.

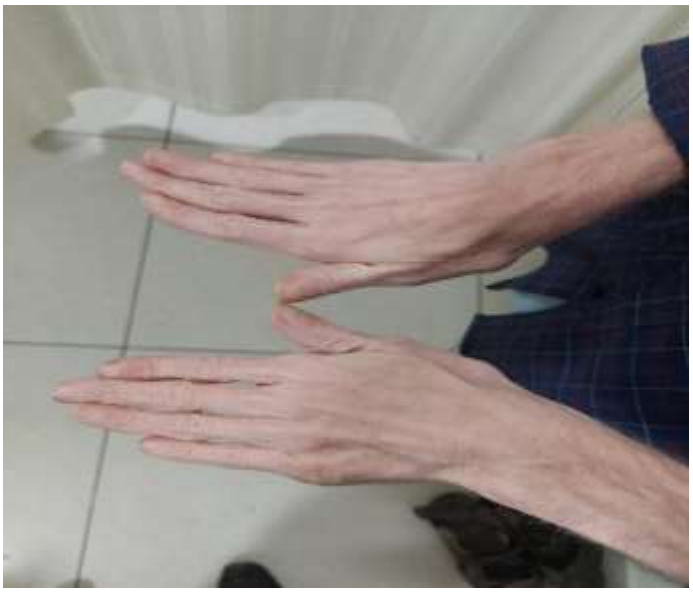

Figure 01

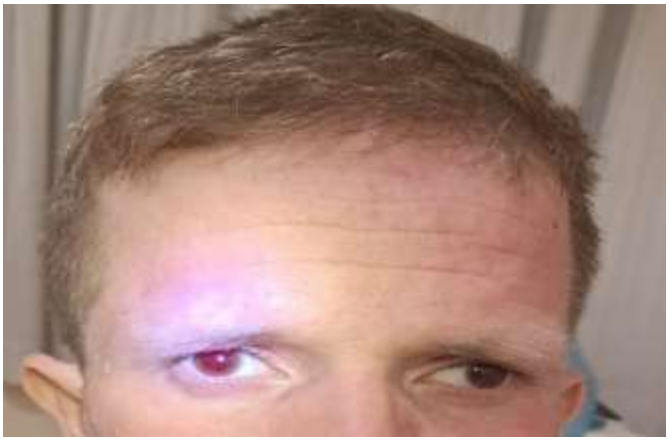

Figure 02

We suspected the possibility of cavitating pneumonia with underlying parenchymal disease and took a chest x-ray. Chest x-ray showed left upper and mid-zone consolidation with air bronchogram and silhouetting of aorta & left hilum; reticulonodular opacity in the left side predominant in the upper & mid zone and the right diaphragm elevation with loss of lung volume on both the sides(fig 3).

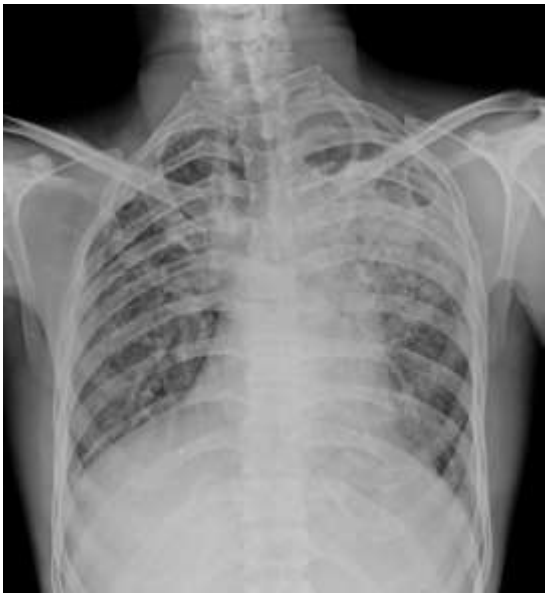

Figure 03

He was further invested for diffuse parenchymal lung disease with HRCT Thorax, it showed a left upper lobe cavity with intracavity soft tissue & surrounding consolidation; the bilateral upper zone showed subpleural honeycombing with traction bronchiectasis and fine reticulations with relative sparing of lower zone fig 4 A, B& C.

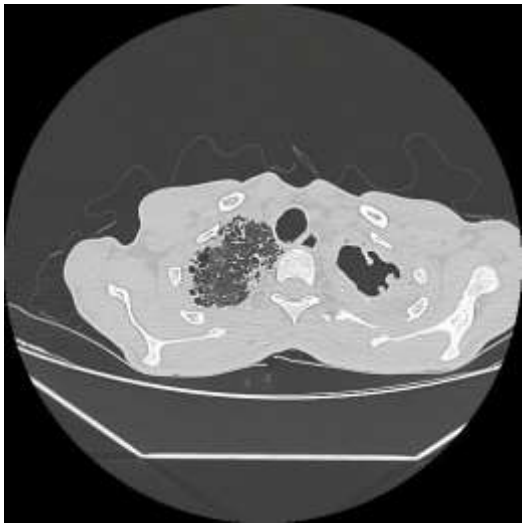

Figure 4A

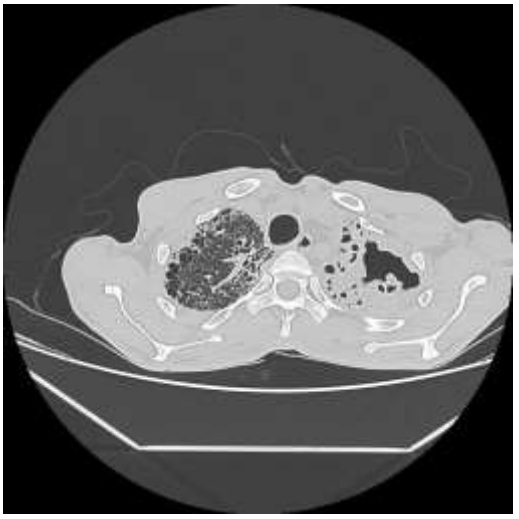

Figure 4B

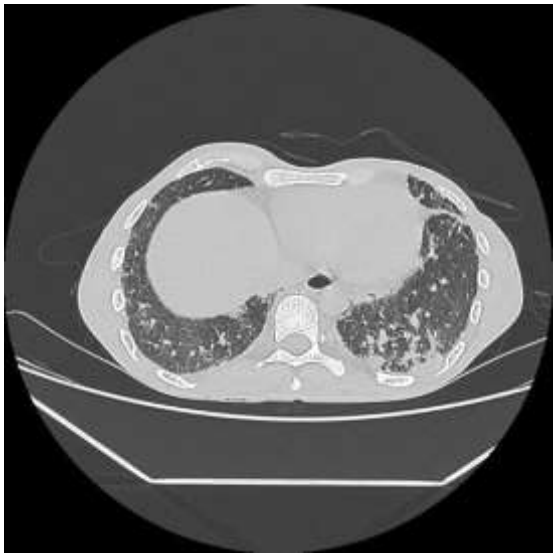

Figure C4

In the context of albinism with nystagmus and pulmonary fibrosis, we clinically diagnosed this case as Hermansky- Pudlak Syndrome with necrotising pneumonia. On further investigation, total counts- 21400 cells/cu.mm; Neutrophils-88.2%, Lymphocytes-4.1%, Eosinophils- 0.5%, Hb-11.4 g%, Platelets-6.06Lakhs/cu.mm

The liver and renal functions, bleeding time, clotting time, PT INR and aPTT were normal. The patient was started on iv antibiotics (piperacillin and tazobactam), and sputum for stains & cultures were sent. Sputum was negative for AFB, GeneXpert, Bacteria and fungus.

Bronchoscopy was done it showed a normal tracheobronchial tree. Bronchial washings taken from the left upper lobe bronchus showed Aspergillus Fumigatus growth. The patient was treated with Voriconazole. The chest x-ray showed significant consolidation resolution (fig5) An ophthalmic fundus examination was done during follow-up; it showed Fundus hypopigmentation with absent foveal and macular pigmentation(absent foveal reflex) fig.6A & B. Optical Coherence Tomography revealed the absence of a foveal pit and the persistence of inner retinal layers through the expected layer of the fovea. The echocardiographic right heart function assessment was found to be normal.

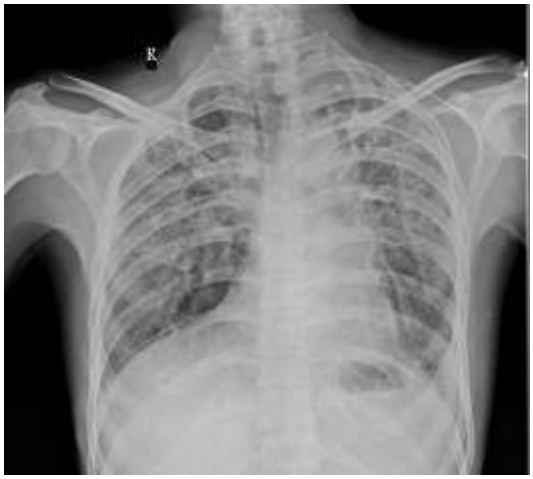

Figure 05

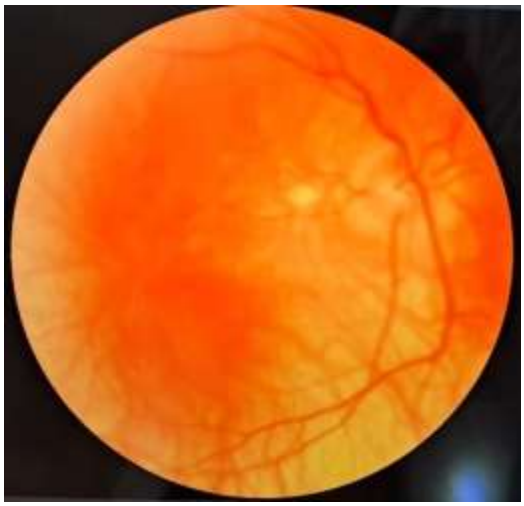

Figure 06

His blood was sent for next-generation sequencing(Clinical Exome) which showed homozygous 25 basepair insertion in exon 17 of the HPS 1 gene(chr10: g.98422468_98422469ins, depth: 136x) which results in frameshift and premature truncation of the protein 42 amino acids downstream to codon 548 was detected which confirms Hermansky Pudlak syndrome with Autosomal recessive inheritance. Now he is being managed with antifibrotics, Pirfenidone for pulmonary fibrosis.

Discussion

Hermansky Pudlak Syndrome(HPS) is an autosomal recessive disorder due to defective lysosome-related organelles characterised by oculo-cutaneous albinism, may be associated with bleeding diathesis, immunodeficiency, granulomatous colitis and pulmonary fibrosis(1). Though it is most commonly reported in the Caribbean Island of Puerto Rico (1 in 1800), worldwide its incidence is 1-10 in 10,00,000 population(1,2). This case has been reported from the southernmost part of India.

The age of presentation is usually in the 3rd or 4th decade (3). Usually, pulmonary fibrosis presents after the age of 45 years but HPS causes pulmonary fibrosis early. Though bleeding diathesis is one of the commonest manifestations, his coagulation parameters were within normal limits. HPS-1, 2 and 4 subtypes cause pulmonary fibrosis (1). He is positive for the HPS-1 gene. He was infected with Aspergillus fumigatus and subsequently recovered with treatment.

This Hermansky Pudlak syndrome case presented with fungal pneumonia was effectively treated with voriconazole. Hermansky Pudlak syndrome with pulmonary fibrosis has poor survival chances without lung transplantation (3,4). Early identification of pulmonary fibrosis in Hermansky Pudlak Syndrome will help in the initiation of antifibrotics and may delay the lung fibrosis progression. Pulmonary rehabilitation, close follow up and early referral for lung transplantation are needed for the management of Hermansky Pudlak Syndrome with pulmonary fibrosis.

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