



BMH Med. J. 2017;4(2):62-64 **Case Report**

Hermansky-Pudlak Syndrome

Preena A, Renju Ramachandran, Anil Joseph, Rauf CP

Chest Hospital, Kozhikode, Kerala, India

Address for Correspondence: Dr. Preena A, Chest Hospital, Kozhikode, Kerala, India. Email: preenaart@gmail.com

Abstract

Hermansky-Pudlak syndrome is a rare autosomal recessive multisystem disease, with oculocutaneous albinism, pulmonary fibrosis and bleeding diathesis. Here we report a case of Hermansky-Pudlak syndrome who presented with dyspnea, oculocutaneous albinism and nystagmus.

Keywords: Hermansky-Pudlak syndrome, oculocutaneous albinism, pulmonary fibrosis

Case Report

Young male with oculocutaneous albinism, product of a fourth degree consanguineous marriage, presented with exertional dyspnea of three and a half years duration. He had recurrent episodes of dry cough of 6 months duration. In addition he had loss of weight and loss of appetite. There is no history of bleeding manifestations and there were no other albinos in the family.

On examination, he was tachypneic, with respiratory rate of 32 breaths/min, pulse rate of 80 beats/min, blood pressure of 110/70 mm Hg and oxygen saturation of 91% in ambient air. He is had oculocutaneous albinism, strabismus (**Figure 1**), horizontal nystagmus and grade 2 clubbing. His BMI was 18.4 Kg/m². On respiratory system examination, bilateral end inspiratory crepitations in infrascapular and infra axillary areas were noted. All routine investigations including CBC, RBS, ECG and 2D ECHO were normal. Pulmonary function test showed restrictive pattern with 22% of predicted FVC. DLCO showed severe impairment with 12% of predicted value. 6 minute walk test showed significant desaturation. Chest X-ray (**Figure 2**) showed bilateral reticular shadows, cystic shadows in right lower zone and volume loss. CT Thorax (**Figure 3**) was suggestive of interlobular septal thickening predominantly in bilateral upper lobes and right lower lobe and honeycombing in upper lobe. Bronchoscopy showed normal study and BAL study showed macrophage predominance.

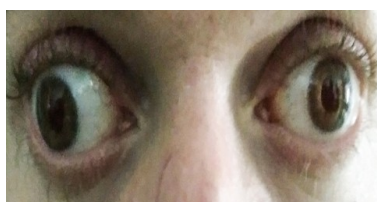


Figure 1: Oculocutaneous albinism and strabismus

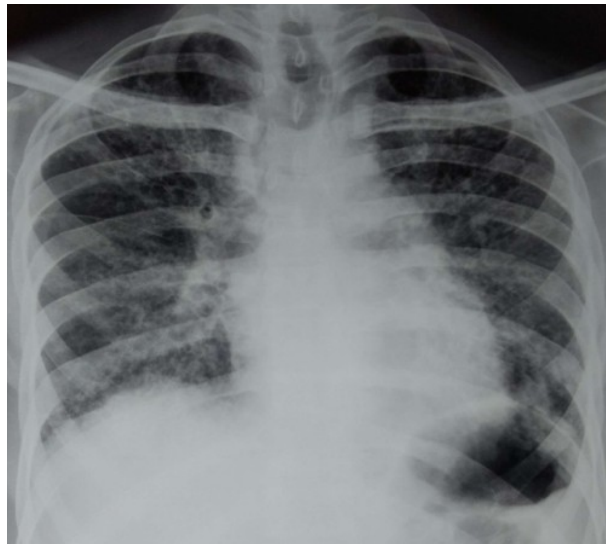


Figure 2: X-ray Chest PA view

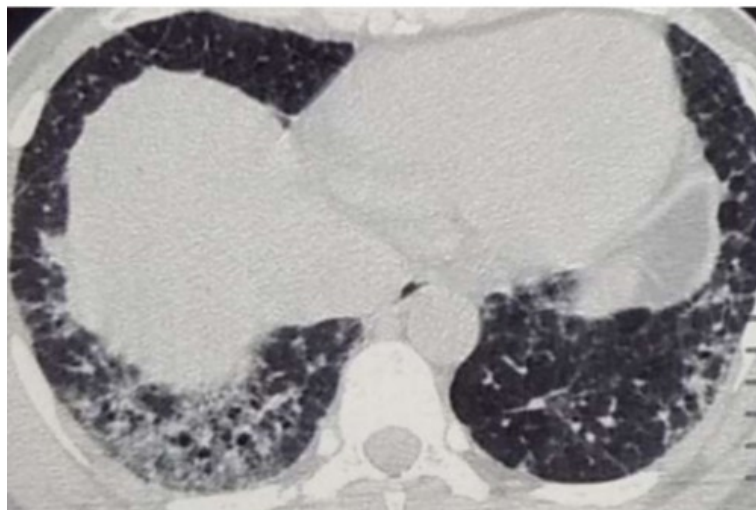
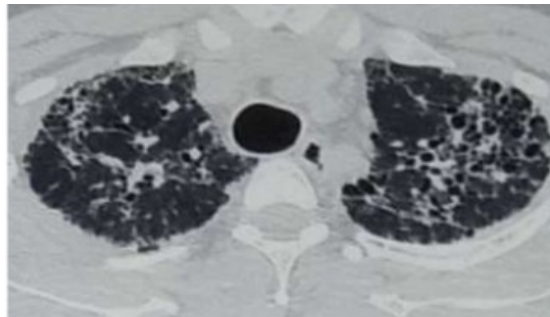


Figure 3: CT Thorax

This young man with severe respiratory restriction had lung architectural distortion and honeycombing suggestive of fibrosing lung disease. We considered the differential diagnosis of idiopathic interstitial pneumonias. Architectural distortion and honeycombing are features of idiopathic pulmonary fibrosis. Young age of presentation and honeycombing in upper lobe is inconsistent with idiopathic pulmonary fibrosis. Sarcoidosis and Hypersensitivity pneumonitis were also considered due to upper lobe predominance. Diffuse parenchymal lung involvement is common in connective tissue disorders like systemic sclerosis, rheumatoid arthritis and systemic lupus erythematosus. This patient had no joint involvement or other symptoms suggestive of connective tissue disorders. Genetic disorders like Dyskeratosis congenita and Hermansky-Pudlak syndrome are associated with pulmonary fibrosis.

As he is having oculocutaneous albinism, nystagmus, squint, myopia and pulmonary fibrosis, we

considered the possibility of Hermansky-Pudlak syndrome. History of consanguinity also suggest Hermansky-Pudlak syndrome. Platelet count, bleeding time and cogulation profile tests were normal. Considering increased chance of bleeding, we avoided lung biopsy.

Discussion

Hermansky- Pudlak syndrome (HPS) is a rare autosomal recessive multisystem disease involving intracellular trafficking, with clinical features of oculocutaneous albinism, pulmonary fibrosis and bleeding diathesis. HPS is most commonly found in Puerto Rico with prevalence of 1/1,800 and prevalence of 1/5,00,000-1/10,00,000 in non-Puerto Rican populations. Inheritance of one of eight known HPS genes produces one of eight described subtypes of HPS: HPS1 through HPS8, with HPS1 and HPS4 showing the greatest degree of pulmonary involvement [1].

Clinical features include photosensitivity and albinism. Ocular manifestations are hypopigmentation of iris, decreased visual acuity, strabismus and nystagmus. Bleeding diathesis manifest as ecchymoses, epistaxis, gingival bleeding, menorrhagia or postpartum bleeding. Pulmonary manifestations start as exertional dyspnea in third or fourth decade with radiological evidence of pulmonary fibrosis.

Oculocutaneous albinism is due to dysfunction of melanosomes. Bleeding diathesis is the result of abnormalities in platelet dense granules causing platelet aggregation defects. Laboratory findings include prolongation of the bleeding time and abnormal platelet-aggregation with normal platelet counts and coagulation profile tests. Dysfunction of lamellar bodies in type 2 pneumocytes cause deposition of ceroid and degeneration and death of pneumocyte, and pulmonary fibrosis. Pulmonary function test shows restriction. Pulmonary symptoms developed in 61 % of patients with HPS1, with onset at a mean age of 35 years. Diagnostic investigations include genotyping of DNA samples, electron microscopy of platelets, and demonstration of ceroid deposits in pathological specimens [2].

Lung transplantation is the life extending treatment for severe pulmonary fibrosis. Pirfenidone treatment has been attempted in patients with HPS with pulmonary function greater than 50% of normal, with some benefit [3]. Refractive error should be corrected and strabismus surgery also considered for cosmetic purpose. Clothing with long sleeves and sunscreen with high SPF is advised to prevent photosensitivity. Genetic counselling should be given for patients.

Conclusion

Even though Hermansky-Pudlak syndrome is rare in non-Puerto Rican populations, we should also consider the possibility of HPS in young patient with exertional dyspnea and oculocutaneous albinism.

References

1. Pierson DM, Ionescu D, Qing G, et al. Pulmonary fibrosis in Hermansky-Pudlak syndrome. A case report and review. *Respiration* 2006;73:382-95.
2. Witkop CJ, Krumwiede M, Sedano H, White JG. Reliability of absent platelet dense bodies as a diagnostic criterion for Hermansky-Pudlak syndrome. *Am J Hematol* 1987;26:305-11.
3. Gahl WA, Brantly M, Troendle J, et al. Effect of pirfenidone on the pulmonary fibrosis of Hermansky- Pudlak syndrome. *Mol Genet Metab.* 2002;76(3):234-242.