CLINICAL IMAGE

Albinism with pulmonary fibrosis: Hermansky–Pudlak syndrome

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A 60-year-old, nonsmoking, obese woman with asthma, arterial hypertension, and non–insulin-dependent diabetes was admitted to the hospital because of chronic, dry cough and exertional dyspnea. She had cutaneous albinism with colored eyes (FIGURE 1A), horizontal nystagmus, and a tendency to bruising and prolonged bleeding since childhood. Coagulopathy was diagnosed many years before based on decreased platelet aggregation with epinephrine (6%; predicted 69%–88%) and with adenosine diphosphate (52%; predicted 69%–88%) with normal blood cell counts, bleeding and prothrombin times, concentrations of fibrinogen and coagulation factors IX and XI. On admission, high-resolution computed tomography demonstrated reduced lung volume, a subpleural and peripheral reticular pattern, traction bronchiectasis, and small areas of honeycombing (FIGURE 1B–1D). Spirometry values were within normal limits (forced vital capacity, 91% of the predicted value), but diffusion capacity was moderately decreased (69% of the predicted value). The patient walked a normal distance in the 6-minute walk test, showing significant desaturation (from 97% to 84%). Slight pulmonary hypertension (PH) was found on echocardiography (tricuspid valve pressure gradient, 33 mm Hg). All these symptoms were suggestive of Hermansky–Pudlak syndrome (HPS), and it was a stimulus for genetic examination, which confirmed heterozygous, conjugated mutations in both alleles of the *HPS1* gene (c.355delC[p.His-119fs] and c.1513C>T9p.Gln505*). The diagnosis of HPS with pulmonary fibrosis (PF) and PH was established. Regarding the patient's family, her parents, daughter, and 2 sisters were healthy, but her brother had albinism.

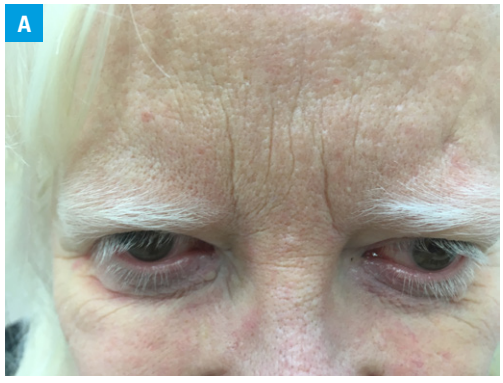

FIGURE 1 A – a picture of the patient with Hermansky–Pudlak syndrome showing hypopigmentation of the skin and hair and colored irises (patient consent obtained)

Hermansky–Pudlak syndrome is a rare, autosomal recessive disorder that occurs with an incidence of 1 to 2 cases per 1 million people. There are 10 subtypes, marked as HPS-1 to HPS-10. Mutations in HPS-related genes result in the anomalous development of lysosome-related organelles in specialized cells such as melanocytes or platelets.[1,2] Oculocutaneous albinism and bleeding diathesis occur in all subtypes, but PF is only found in types 1, 2, and 4.[3] Albinism is characterized by hypopigmentation of the skin and hair, with variable pigmentation of the iris. Radiologic and histologic features of PF in HPS have a pattern typical of interstitial pneumonia, but this disorder is frequently observed in younger patients (aged 20 to 40 years).[2,3] It is often accompanied by PH. Rarer manifestations of HPS include granulomatous colitis, immunodeficiency, renal failure, and cardiomyopathy. The wide spectrum of clinical presentation of the disease is due to various mutations in the specific genetic loci of HPS. Diagnosis of HPS is established usually during childhood, based on typical clinical findings, the absence of delta granules (dense bodies) in platelets on whole-mount electron microscopy, and genetic analysis of the HPS genes.[1,2] Diagnosis at an older age, as in the presented case, is extremely rare. The delay in diagnosis in our patient was due to limited knowledge of this rare

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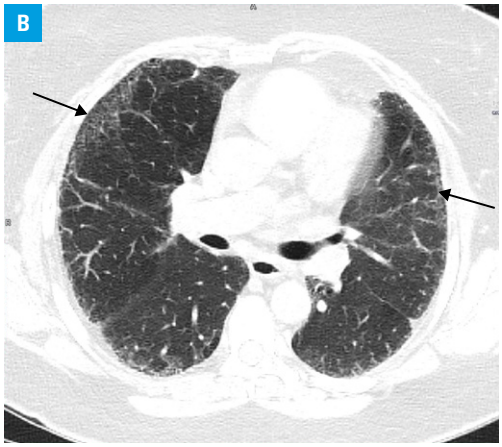

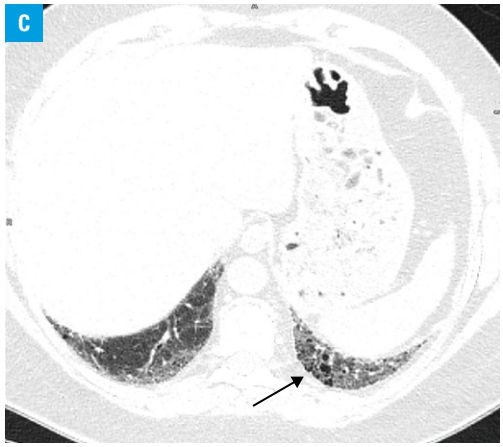

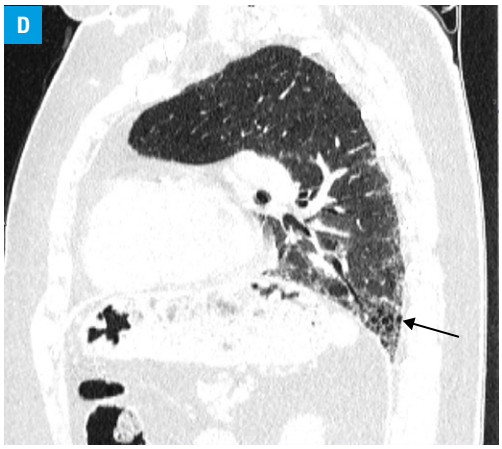

FIGURE 1 **B**, **C** – chest computed tomography in the axial view showing a subpleural and peripheral reticular pattern (**B**, arrows) and a small area of honeycombing (**C**, arrow); **D** – chest computed tomography in the sagittal view showing reduced lung volume, a subpleural reticular pattern, and honeycombing (arrow)

syndrome and mild symptoms of bleeding diathesis. Pulmonary fibrosis noted in this patient was not severe, but reduced exercise tolerance was mainly caused by PH. Antifibrotic treatment with pirfenidone was introduced in HPS patients with PF, but it is still not approved.[4] To our best knowledge, this is the first case of HPS presented in the Polish literature.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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