Case Report

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A Two Alkaptonuria Case Diagnosed at Elderly Patient

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ABSTRACT

Alkaptonuria is a rare autosomal recessive metabolic disease due to a deficiency of e the homogentisic acid oxidase enzyme. We report two cases with advanced age. Our aim is to draw attention to the fact that alkaptonuria should suggestions for clarity in every patient who shows clinical features regardless of age. We diagnosed two patients, 61 and 69 years old, with alkaptonuria. Alkaptonuria is a rare disease that presents with multisystemic manifestation. While early detection of the clinical signs of the disease provides early diagnosis, appropriate treatment can significantly increase the quality of life.

Keywords: alkatonuria, elderly, patient

Alkaptonuria is a congenital metabolic disease inherited autosomal recessively.[1] Clinical manifestations due to the accumulation of homogentisic acid (HGA) and its metabolites in collagen rich connective tissue accumulation due to the lack of homogentisic acid oxidase enzyme in the disease tyrosine metabolism.

Characteristic clinical presentation is the observation that urine darkens on standing. This symptom is the seen only in the pediatric age group.[2] In the diagnosis of alkaptonuria; classical triad is important, which is characterized by degenerative arthritis, ochronotic pigmentation and darkening of the urine color. Diagnosis can be made by the measurement of homogentisic acid metabolits in the urine.[3] The incidence of alkaptonuria is 1/250.000-1.000.000. Alkaptonuria is a disease characterized by progressive and systemic involvement. Although there is no significant shortening in the life expectancy, octronotic arthropathy and cardiovascular involvement in the 4th and 6th decades is the most important cause of morbidity.

CASE 1

A 61-year-old male patient was admitted to the internal medicine clinic to receive home care services. He was further investigated for the suspicion of octronos is because of his phenotypic features. The patient's history revealed that there was a darkening of the color in the urine since the younger ages. He has joint pain. He has impaired vision for 20 years. There is no history of medicine or drug use. Physical examination revealed hyperpigmented areas in the body and brown hyperpigmentation in the sclera. Hemogram and complete biochemistry of the patient was normal. There is no abnormality in the fresh urine. Urine developed brown-coke colour after addition of NaOH. HGA was studied in urine. 1885 mmol / mol (normal: 0). Echocardiography of the patient showed stenosis and calcification of the aortic and mitral valves.

CASE 2

A 69-year-old male patient with no disease was admitted to the ophthalmology clinic for the eye spot he has since 20 years. Eye biopsy was planned for biopsy and internal medicine outpatient clinic was consulted. The patient was taken to Internal Medicine Department for further examination. In history; For 20 years he had on his eyes and skin spot

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and stains and knee-back pains. The urine color was dark since his childhood. In physical examination; There were hyperpigmented areas on his face, hands and feet. The sclera had black-brown pigmentation. His biochemistry and complete blood count were normal. Fresh urine was normal. Regarding these findings, ochronosis was considered first in the diagnosis. The patient had no drug use and no heavy metal exposure in terms of exogenous ochronosis. He had dark urine since childhood. HGA was studied in urine. 1577 mmol / mol (normal: 0). When fresh water was dripped with NaOH, the color became black. Thoracolumber and knee radiographs were taken. The graphs revealed degenerative changes in the spinal vertebrae, narrowing of the knee joint space and calcifications. His echocardiography showed left ventricular hypertrophy, biatrial dilatation, mid mitral and tricuspid regurgitation. The conjunctival biopsy was performed. Biopsy revealed homogenous material accumulation except subepithelial yellow-orange colored cells.

DISCUSSION

Alkaptonuria is a rare autosomal recessive disorder characterized by a disorder of tyrosine metabolism.[4] It is generally noticed by the families in the neonatal period that the child's diaper is gray-black. Since the patients remain asymptomatic for a long time in the alkaptonuria, diagnosis can be made in advanced ages.[5]

The accumulation of HGA in alkaptonuria, especially in connective tissue, may cause joint, skin, eye, cardiovascular system, genitourinary system, respiratory system, and rarely central nervous system,

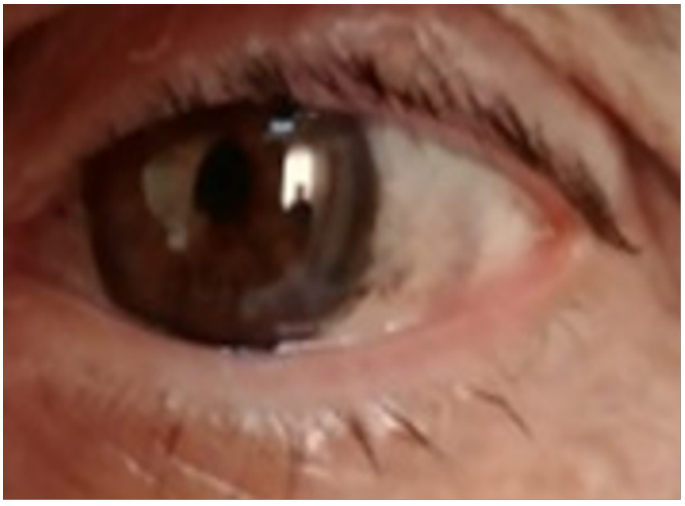

Figure 1. Hyperpigmented areas in conjunctival of the case 1

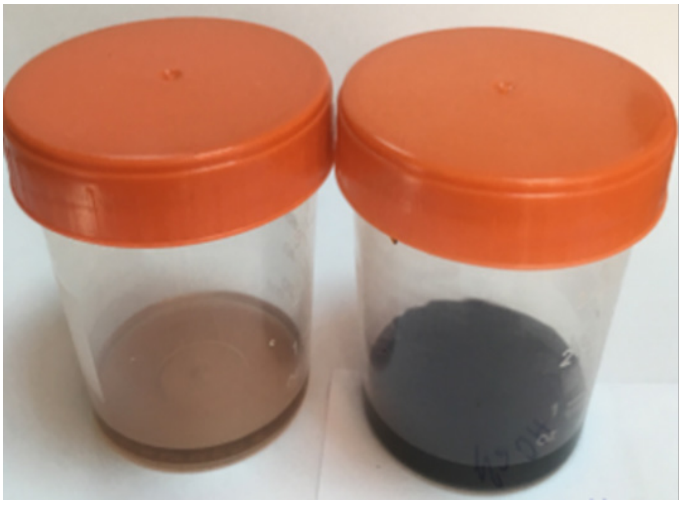

Figure 3. Case 1, Fresh urine of the case and its urine after instillation of NAOH

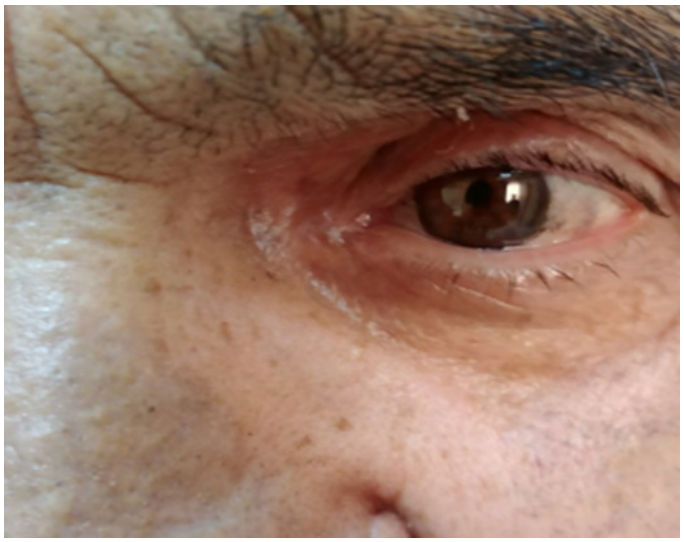

Figure 2. Hyperpigmented areas in conjunctival of the case 1

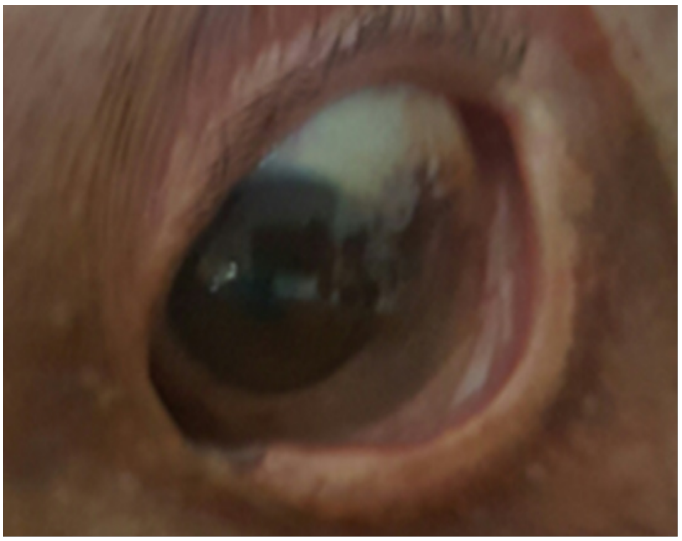

Figure 4. Hyperpigmented areas in conjunctival of the case 1

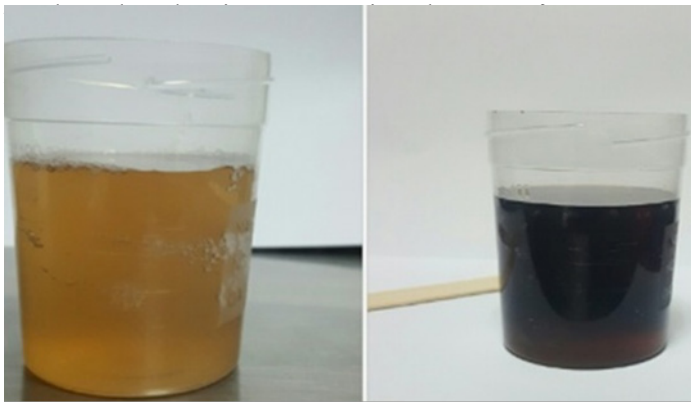

Figure 5. Case 1, Fresh urine of the case and its urine after instillation of NAOH

in cross-linking. The ochronotic pigments accumulate in the cartilage. This results in ochronotic arthropathy. Symptoms of ocronotic arthropathy in men in the fourth and fifth decades; women in the sixth decade. Large joints and intervertebral discs are affected at an earlier stage. Degenerative osteophytic changes at all levels seen on thoracolumbar graphies and extensive calcification in intervertebral discs are typical for alkaptonuria and have been found in both cases.[7] Histopathologically, in skin biopsies, the ochronotic pigment stained with hematoxylin and eosin yellowish brown can be observed in free tissue in the tissue, in the vascular wall endothelium, in the basement membrane, in ecrine sweat gland secretory cells and in the macrophage as fine granule. It is typical that the pigment deposited in collagen bands causes homogenization and swelling and fragmentation in collagen.[8] Conjunctival biopsy in our second case also showed a yellowish-orange extracellular homogenous accumulation in the subepithelial area. There is no definitive treatment for alkaptonuria, but it is intended to reduce the rate of pigment deposition by medical treatment. High-dose vitamin C is recommended in older children and adults.[9] We did not give vitamin C treatment because our patients were older and could not benefit.

CONCLUSION

The causes of serious morbidity in these patients are ochronotic arthropathy and cardiovascular involvement, especially in the 4th to 6th decade. Therefore, it is very important to know the diagnosis and to inform the patient. In addition, family screening of patients diagnosed with alkaptonuria should be recommended. Thus, early diagnosis and treatment can prevent or delay the development of complications. In cases diagnosed at a late age, follow-up should be in the form of follow-up complications.

Authors' Contribution

Study Conception: HBP,; Study Design: HBP,; Supervision: TA,; Funding: TA,; Materials: HBP,; Data Collection and/or Processing: HBP,; Statistical Analysis and/or Data Interpretation: HBP; Literature Review: TA,; Manuscript Preparation: HBP and Critical Review: TA.

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