Sir,
Alkaptonuria (AKU) is a rare autosomal recessive disorder of tyrosine metabolism caused by accumulation of homogentisic acid (HGA) in the connective tissues.[1] It presents with characteristic dark urine, ochronosis and systemic manifestations. We present a case of Alkaptonuria presenting in the 6th decade for its rarity and to emphasise the role of dermatologists in the diagnosis with clinico-dermoscopic-histopathological correlation.

A 60-year-old man presented with asymptomatic lesions on the palms for 15-20 years. Previously diagnosed as allergic contact dermatitis, considering his occupation as a teacher, he was treated with topical corticosteroids. He was wheelchair bound since 2 decades due to arthritis. Physical examination revealed bluish keratotic papules, patches and crateriform plaques on the sides of fingers, thenar and hypothenar eminences [Figure 1a], greyish blue discoloration on malar area [Figure 1b], ear pinna and sclera. Urine showed progressive darkening on standing [Figure 1c]. Dermoscopy (using DermLite 3 dermoscope - 10× magnification) of the hand lesions showed white globular structure and greyish-blue areas [Figure 2]. Considering clinical differential diagnosis of ochronosis and argyria, further work up was done. Otoscopy showed black discoloration of tympanic membrane [Figure 3a]. Urine spectrophotometry was positive for homogentisic acid (elevation factor - 156.30). X-ray of the spine, knees, feet and wrist showed degenerative changes [Figure 3b]. Skin histopathology showed epidermal thinning and deposition of oval brown pigment material (ochre bodies) with collagen degeneration in dermis [Figure 4]. These constellation findings permitted diagnosis of AKU. Coordination of multispecialty care and a high dose of Vitamin C (1000 mg OD) were recommended.

The incidence of AKU is 1 in every 250,000 to 1 million live births making it rare condition.[2] It is caused by mutations in the HGA dioxygenase (HGD) gene that encodes HGD, an enzyme in the tyrosine degradation pathway. This causes accumulation of HGA and its pigmented oxidative products in the connective tissue, urine and sweat. Pigment deposition in the dermis that clinically appears blue-black in colour is called ochronosis. Ochronosis initially becomes evident in the sclera (Osler’s sign) and ears after 3rd decade.[3] Other manifestations include dusky discoloration of hands and azure lunulae. Degenerative collagenous plaques of the hands is characterized by bandlike coalescing, crateriform papules on the sides of hands. This occurs due to degeneration of collagen fibres. Our case highlights this unique pattern which is described only in a few case reports.[3,4]

The most prominent internal manifestation of AKU is degenerative arthritis (predominantly large joints and spine) beginning in third decade.[2] HGA in the urine oxidizes and darkens on exposure to air or with an alkalizing agent. Dark staining of diapers usually prompts investigation early in life. The diagnosis relies on detection of elevated HGA levels in urine. Deposition of HGA also occurs in the kidney, bladder, prostate and cardiac valves.

Our dermoscopic findings of AKU are similar to the observation made by Ankad et al.[5] They explained that the greyish-blue...
area corresponds to noncellular ochre bodies in the dermis. White globular structures correspond to fibroplasia in the
dermis. These findings correlate with the histopathological picture of AKU. Dermoscopy can be a useful non-invasive tool to differentiate AKU from exogenous ochronosis, lichen sclerosis, melanoma, etc.\(^5\)

Treatment options are directed at managing complications. Vitamin C and dietary restriction of phenylalanine and tyrosine have not been found to be efficient. Nitisinone, approved for treatment of tyrosinemia type I, is currently under investigation as a potential treatment.\(^2\)

An incidental cutaneous observation could be a marker of a disease masquerading as different diseases. This case of AKU, though present since birth and manifesting for years, was being treated as dermatitis and arthritis. Asymptomatic bluish pigmented plaques and patches could be a diagnostic clue to alkaptonuric ochronosis, which can be aided by dermoscopy and histopathological examination.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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