

Idiopathic Acquired True Leukonychia Totalis and Partialis: Two Case Reports

A 20-year-old male presented with a history of whitening of nails which was insidious in onset progressed to symmetrical total whitening of all fingernails and partial whitening of all toenails within 1 year [Figure 1]. Examination revealed opaque porcelain-white discoloration of all fingernails with partial involvement of all toenails. On blanching, white discoloration remained the same. A second similar case was seen in an 18-year-old male with a history of progressive whitening of fingernails and toenails for the past 3 years [Figure 2]. On examination, total porcelain white discoloration was seen in all fingernails and toenails except the thumb and great toenails where partial leukonychia was present. There was no history of preceding trauma, illness, drug intake, or exposure to chemicals and no similar changes were seen in the family members of both cases. The rest of the mucocutaneous and systemic examination was unremarkable. No skin lesions suggestive of psoriasis or lichen planus were seen. Routine hematological and biochemical blood investigations were normal. Nail clipping Periodic acid Schiff stain (PAS) and 20% KOH test showed no fungal elements and the culture revealed no fungal growth. On the basis of history and clinical examination, a diagnosis of idiopathic acquired true total and partial



Figure 1: Case 1 with symmetrical total whitening of all fingernails and partial whitening of all toenails

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leukonychia was made. Both patients were counseled regarding the benign nature of the condition, and there were no changes noticed in leukonychia during the follow-up period.

Leukonychia or white nails can be broadly classified based on morphology into leukonychia punctate, leukonychia striata, leukonychia partialis, and leukonychia totalis. True leukonychia characterized by the involvement of the nail plate can be either hereditary or acquired.^[1] True leukonychia occurs as a result of abnormal keratinization of the distal matrix resulting in persistent parakeratosis and retained keratohyalin granules in the nail plate. This causes reflection of light by the nail plates and thus prevents the visualization of the underlying nail bed.^[2] True leukonychia occurs due to nail plate abnormality and must be distinguished from the more common apparent leukonychia where nail bed disorders are the underlying cause.^[3,4]

Hereditary true leukonychia may be inherited in an autosomal-dominant or autosomal recessive pattern—either as an isolated finding or as a part of a syndrome. Acquired true leukonychia may be either idiopathic or induced by trauma, drug intake, exposure to



Figure 2: Case 2 with total whitening of fingernails and toenails

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chemicals, systemic or local infections, and inflammatory diseases.^[3,5] In our patients, none of the above mentioned associations could be elucidated; hence, a diagnosis of acquired idiopathic true leukonychia was made in both.

Our study will add two more cases of idiopathic acquired true leukonychia totalis and partialis in addition to the 12 cases that have been found in the literature so far. All reported cases including our two cases were young men and boys with age at the time of presentation ranging from 12 to 32 years. Both our cases had involvement in all the 20 nails; only two cases involving all 20 nails have been reported so far.^[2] We report these cases in view of the rarity of this condition and the involvement of all the nails.

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 b`e 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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