Letters to the Editor

Idiopathic acquired true leukonychia: A few comments

Sir,

Leukonychia is the most common dyschromia of nails. We would like to add on the information to an interesting case reported by Arsiwala[1] in your journal. In most of such nail aberrations, it is difficult to make complete diagnosis. True hereditary leukonychia may be another diagnostic possibility here. Variable expression and incomplete penetrance in total hereditary leukonychia have been documented in past.[2] Leukonychia partialis is a subtle variant or phase of leukonychia totalis with variable expression of same genetic defect.[2] Absence of family history does not necessitate diagnosis of acquired leukonychia. There have been reports documenting onset of hereditary leukonychia in childhood, not necessarily at birth.[3] Moreover, it is highly unlikely that trauma may result in total leukonychia in all finger nails simultaneously. While hereditary leukonychia is a rare condition and usually involves the entire nail, acquired type usually presents in childhood as leukonychia partialis (either punctata or transverse striae).[3] True leukonychia may occur as an isolated trait or it may be a marker of several clinical syndromes.[3]

A white appearance of nails can result from whitening of the nail plate due to alterations or dysfunctioning of nail matrix (true leukonychia); the nail bed or other underlying tissue without any matrix dysfunction (apparent leukonychia); or when nail plate alternation has an external origin, for example, in onychomycosis (pseudoleukonychia).[4,5]

Depending on the extent of each nail involved, true leukonychia may be totalis, subtotalis, or partialis (involving less than 2/3rd of nail).[4] In subtotal leukonychia, the proximal 2/3rd of the nail is white.[5] Morphologically, leukonychia partialis may again be divided into punctate, transverse, or longitudinal types.[4] Total or subtotal leukonychia is usually hereditary.[6]

Abnormal keratinization of nail plate is a possible explanation for true leukonychia. In past, biopsy of a toenail, having trauma-induced acquired leukonychia, revealed an abnormal parakeratotic strip in the lower 1/3rd of nail plate. Leukonychia occurs due to reflection of light by these parakeratotic cells and loss of nail plate transparency.[4] While hereditary true leukonychia is persistent and resistant to treatment, it requires genetic counselling to unearth other syndromes in a family. Removal or treatment of a cause in acquired leukonychia may result in complete reversal of this nail abnormality.

Since leukonychia is rarely associated with other systemic findings, one can speculate that there will be many more cases compared to anecdotal reports published sporadically. It is imperative to diagnose this rare and intriguing nail abnormality correctly because leukonychia cause extensive cosmetic embarrassment to the patient.

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