Congenital isolated leukonychia

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Abstract

Congenital leukonychia is a rare nail disorder that may occur in isolation or in association with a number of syndromic disorders. In the following letter, we describe a case of isolated congenital true leukonychia to add to the current literature. This case is particularly unique in that it does not appear to be inherited in an autosomal dominant fashion, in contrast to the majority of reported cases.

Keywords: congenital leukonychia, true leukonychia, partial leukonychia, isolated leukonychia, nail disorders

Introduction

We read with interest the outstanding case report and literature review recently published on congenital leukonychia by Pathipati et al. [1]. The authors describe a middle-aged patient with isolated congenital subtotal leukonychia of all 20 nails. The article also reviews the syndromes associated with congenital leukonychia and provides a comprehensive list of cases of isolated congenital total or subtotal leukonychia reported to date [1].

Case Synopsis

We report a case of a 14-year-old girl with no significant past medical history who presented to our clinic with a complaint of nail discoloration. The patient's mother reported that the white discoloration on her nails has been present since birth. The discoloration was noted to involve most of her fingernails, with no reported changes other than slight enlargement with age. She denied any involvement of her toenails nor abnormalities of her palms or soles. The patient reported normal growth of her nails with the white areas remaining in the same distribution. The patient denied any symptoms related to the nail discoloration and she was otherwise healthy without any auditory or visual deficits or hair disorders. Additionally, there was no known family history of leukonychia or other skin disorders. She denied any history of chemical or environmental exposures or any trauma to the hands or nails. The patient's mother also denied any potential prenatal exposures and endorsed a normal pregnancy and delivery.

On physical examination, the patient was found to have partial true leukonychia with multiple variants including transverse, punctate, and subtotal leukonychia of her fingernails (**Figures 1-3**). Evidence

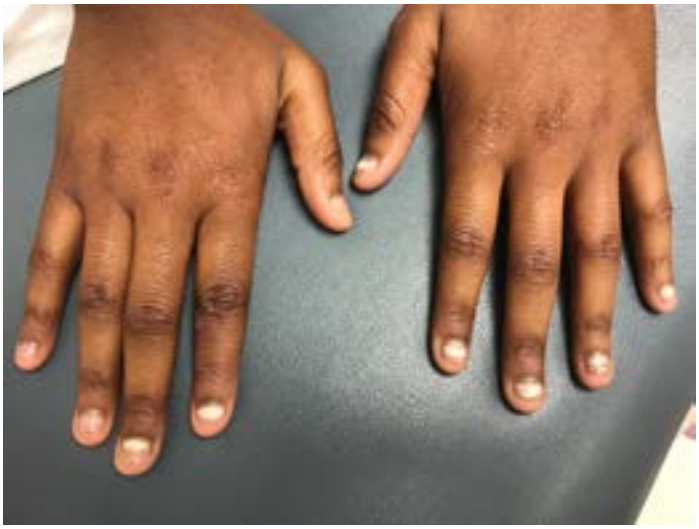

Figure 1. *Majority of nails involved with multiple patterns of partial leukonychia.*

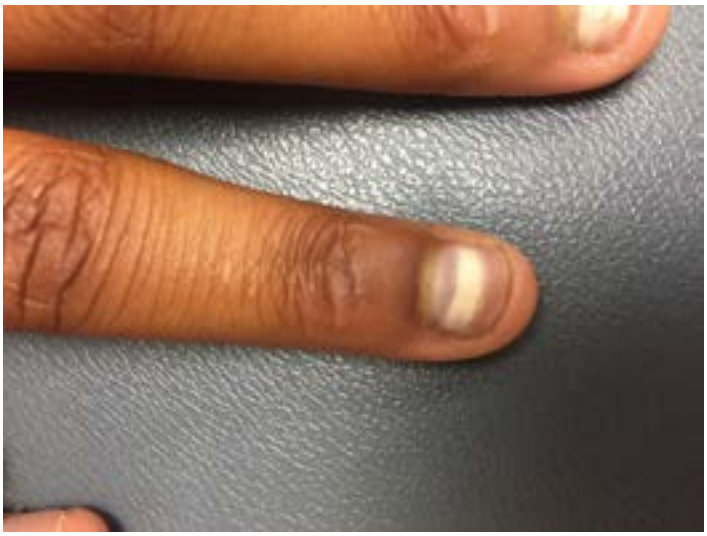

Figure 2. *Close up of transverse leukonychia.*

Figure 3. *Close up of subtotal and punctate leukonychia.*

of pitting, subungual debris, ridging, or other surface changes were absent. Her toenails were indeed uninvolved and no hyperkeratotic changes of the palms or soles were present. Potassium hydroxide preparation and fungal culture of her nails were negative. Laboratory studies were unremarkable except for vitamin D deficiency (10ng/mL) which was repleted; however, this provided no improvement of her nail condition.

Case Discussion

Isolated congenital true leukonychia is a rare entity with only 23 cases described in the literature, as reported by Pathipati et al. [1]. Cases of congenital leukonychia are usually inherited in an autosomal dominant fashion with most patients having isolated leukonychia totalis [2]. There have been even fewer cases of autosomal recessive transmission reported [3]. Similar to the case described by Brown et al., we believe our case represents a possible sporadic germ line mutation or a parental somatic mutation with gonadal mosaicism given that our patient has no other family members, including siblings, with leukonychia [4]. As there are very few case reports describing this entity, we present our case to add to the breadth of current literature on this condition.

References

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