



IDIOPATHIC TRUE PARTIAL TO TOTAL LEUKONYCHIA IN 2 SIBLINGS


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ABSTRACT

Leukonychia is whitish discoloration of the nail plate. True leukonychia is due to pathology in the nail matrix. True leukonychia can be total, partial, striate, transverse or punctate. Here we describe a case of whitish discoloration of nail plate in all nails of fingers and toes since birth in a 21-year-old male patient and his 25-year-old brother.

Key words: Leukonychia, True leukonychia, Total leukonychia.

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INTRODUCTION

Leukonychia is whitish discoloration of the nail plate. It is derived from the Greek words leuko meaning white and onyx meaning nail. It was described by Mees in 1919 in describing chronic arsenic poisoning [1]. True leukonychia is due to a defect in the nail matrix. It results in diffracted keratin fibrils leading to diffraction of light causing a white opaque appearance [2]. True leukonychia can be divided according to the pattern of involvement into total, partial, punctate, transverse and longitudinal [3]. Apparent leukoplakia is seen due to changes of the nail bed vasculature and is seen in liver and renal disorders, chemotherapy, trauma and anemia. Pseudoleukonychia is where there is no dysfunction of nail plate or bed and is seen in onychomycosis or nail varnish deposition.

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Case presentation:

A 21-year-old male patient born out of a non-consanguineous marriage presented to our OPD with complaints of whitish discoloration of all nails of fingers and toes noticed since 11 years of age. The patient's brother aged 25 also had similar complaints noticed at 10 years of age.

The whitish discoloration had resolved partly 2-3 times and had come back in a period of 2-3 months. No history of scaling or separation of nail. The developmental history was normal. No history of any major childhood trauma, illness or surgery. He did not have any systemic complaints. The patient is not on any systemic or topical medication. He did not have any history of liver or kidney disorder or chest pain. No history of measles, typhoid or Hansen's disease. No history of any lesions over the skin or discoloration of hair. No history of flatulence or acidity. No history of deafness or thickening of skin over the palms and soles.

On examination the patient had partial leukonychia over 4 nails and total leukonychia over all the other nails (Figure 1). The nail bed and nail

folds were normal. No onycholysis, clubbing, paronychia, onychomadesis, subungual hyperkeratosis, erythronychia or onychodystrophia. The hair, skin, teeth and eyes were normal. No acanthosis nigricans, pili torti or keratosis pilaris were seen. The patient's brother had partial leukonychia over 2 nails

and total leukonychia over 8 finger nails. Toe nails were not affected (Figure 2). Total blood count, liver function tests and renal function tests were within normal limits. ELISA for HIV was negative. Considering these findings a diagnosis of idiopathic true leukonychia totalis was made.

Figure 1. Partial leukonychia over 4 nails and total leukonychia over the other nails of the patient.



Figure 2. Partial leukonychia over 2 nails and total leukonychia over 8 finger nails of the patient's brother. Toe nails are not affected.



DISCUSSION

True leukonychia can be either congenital or acquired. There can be an autosomal dominant and in a few cases autosomal recessive mode of inheritance [4]. Congenital leukonychias are part of syndromes such as Bart Pumphrey Syndrome (Sensorineural deafness, Knuckle pads, palmoplantar keratoderma), Bushkell Gorlin Syndrome (sebaceous cysts, Kidney stones), Bauer Syndrome (Sebaceous cysts), Keratoderma hypotrichosis leukonychia syndrome and LEOPARD Syndrome (lentiginos, Electrocardiogram abnormalities, pulmonary stenosis, ocular hypertelorism, short stature genital abnormalities, and sensorineural deafness) [5].

Acquired leukonychia may be idiopathic or secondary to injury of nail matrix, intake of chemotherapeutic drugs, HIV infection [6], subsequent to measles, acute myocardial infraction, pellagra and Hodgkin's lymphoma. Liver cirrhosis, leprosy, typhoid, trichinosis and congestive heart failure are conditions which may lead to leukonychia [7]. True hereditary leukonychia is associated with acanthosis nigricans, keratosis pilaris, pili torti, gall

stones and duodenal ulcers. There is no specific treatment for true leukonychia. Cosmetic nail lacquer may be used. Our case appears to be a case of true hereditary leukonychia where 2 siblings are affected with true total leukonychia totalis.

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CONFLICT OF INTEREST:

The authors declare that they have no conflict of interest.

STATEMENT OF HUMAN AND ANIMAL RIGHTS:

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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