



Original Research

Longitudinal melanonychia in an Iranian population: a study of 96 patients



Kambiz Kamyab, MD ^a, Maryam Abdollahi, MD ^a, Elaheh Nezam-Eslami, MD ^b, Azita Nikoo, MD ^a, Kamran Balighi, MD ^b, Zahra S. Naraghi, MD ^a, Maryam Daneshpazhooh, MD ^{b,c,*}

^a Department of Dermatopathology, Tehran University of Medical Sciences, Tehran, Iran

^b Autoimmune Bullous Diseases Research Center, Tehran University of Medical Sciences Tehran, Iran

^c Autoimmune Bullous Diseases Research Center, Tehran University of Medical Sciences

ARTICLE INFO

Article history:

Received 23 November 2015

Received in revised form 4 March 2016

Accepted 7 March 2016

Key words:

Hutchinson's sign

junctional nevi

longitudinal melanonychia

melanoma

ABSTRACT

Background: Longitudinal melanonychia (LM) can be a challenging sign since it may be caused by a wide variety of benign and malignant conditions. Cutaneous melanoma is the most important cause of LM. **Objective:** We performed this study to examine different aspects of LM in Iran, where cutaneous melanoma is rare.

Methods: In this cross-sectional study, we reviewed medical records and pathology reports of a total of 96 patients presenting with LM. These patients had been visited and undergone nail biopsy in Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran. Demographic, clinical, and pathological data were recorded.

Results: The most common diagnosis was junctional nevi in 28 patients (29.2%) followed by melanoma in 19 patients (19.8%). Patients had a mean age of 42.4 years (± 19.4). The mean ages in the groups with junctional nevi and melanoma were 33.3 (± 19.5) and 51.9 (± 17.8), respectively; their difference was statistically significant (P value = 0.001). Hutchinson's sign was present in 10 patients, 9 of which had melanoma. Also, melanoma was only observed in patients presenting with a solitary nail lesion. Nails mostly affected by melanoma were middle fingers of the hands (7 patients) and thumbs (6 patients). Out of 18 patients with nail dystrophy, 13 (72.2%) were diagnosed with melanoma.

Limitations: Only patients who have undergone biopsy were studied.

Conclusion: Melanoma is an important cause of LM in Iranian patients and should especially be suspected in older patients who present with a solitary nail lesion on their middle finger or thumb. Other findings that direct us toward melanoma are presence of Hutchinson's sign and nail dystrophy.

© 2016 The Authors. Published by Elsevier Inc. on behalf of Women's Dermatologic Society. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Longitudinal melanonychia (LM) refers to brown, black, or grayish bands on the long axis of the nail that run from the proximal nail fold to the distal free edge. Although pigmented bands on the nail can be caused by hemorrhage, infections, drugs, etc., the brown-black appearance in LM is commonly caused by melanin deposition in the nail plate (Baran and Kechijian, 1989; Di Chiacchio et al., 2013b; Sohn et al., 2015). Melanocytes of the nail are primarily located in the suprabasal layer of the matrix, and melanin is produced

by these melanocytes (Baran and de Berker, 2010; Dominguez-Cherit et al., 2008; Theunis et al., 2011).

From a histological perspective, longitudinal melanonychia can occur due to melanocytic activation (hypermelanosis), melanocytic hyperplasia (lentigo), melanocytic nevi, and nail apparatus melanoma (Baran and de Berker, 2010; Baran and Kechijian, 1989). In melanocytic activation, the number of melanocytes in the nail matrix is not increased, but the melanin content that is deposited in the nail plate is more than usual (Ruben, 2010). Racial melanonychia, a very common form of melanonychia, is mostly the result of this process and is seen commonly in blacks and Asians (Dominguez-Cherit, et al. 2008; Elder et al., 2008). Melanocytic hyperplasia is a benign process in which the number of nail melanocytes is moderately increased and the resulting lesion is a lentigo. Nail matrix nevi are usually junctional and comprise the major cause of melanonychia in children

* Corresponding author.

E-mail address: maryamdanesh.pj@gmail.com (M. Daneshpazhooh).

(Ruben, 2010). Nail apparatus melanoma is the most important cause of LM, but if diagnosed and treated early in the course of the disease, the survival rate increases dramatically (Baran and de Berker, 2010). Cutaneous melanoma is much rarer in Iran, compared to western countries (Noorbala et al., 2013).

Until now, no studies have been done on Iranian patients presenting with LM. In this study, we tried to evaluate different aspects of LM in Iranian patients to ascertain the causes of LM and their relative frequencies.

Methods

In this cross-sectional study, we reviewed the medical records and pathology reports of 96 patients with clinical diagnosis of LM who had undergone nail biopsy between September 2006 and September 2010 in Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran. Our patients were Iranians who were mostly of skin phototypes III or IV. Clinical data including age, gender, number, and name of involved fingers, presence of nail dystrophy, and presence of the Hutchinson's sign and pathological diagnosis were collected. Pathological slides were reexamined by a dermatopathologist if previous reports were inconclusive or incomplete.

Quantitative variables were presented as mean \pm standard deviation (SD), and qualitative variables as frequency and percentage. Chi-square test and student t-test were used whenever appropriate. P value less than 0.05 was considered significant.

Results

A total of 96 patient records were reviewed in this study. Fifty-eight of our patients were female (60.4%) and 38 were male (39.6%). The mean age of the patients was 42.4 years old (\pm 19.4), and their age range was between 5 and 86 years. The most frequent histopathological diagnosis among them was junctional nevus observed in 28 patients (29.2%). Melanoma was diagnosed in 19 patients (19.8%). The frequencies of different pathological diagnoses of melanonychia based on the patients' gender and age have been summarized in Table 1. There was no significant difference between the two genders in regard to the frequencies of any of the diagnoses (P value = 0.37).

Hutchinson's sign was recorded in a total of 10 patients (10.4%). Nine were diagnosed with melanoma, and one patient had a junctional nevus.

Eighteen patients had dystrophic nails (18.7%); 13 were in the group with the diagnosis of melanoma.

In 88 patients, only one nail was affected with melanonychia (91.6%); in one patient, all 20 nails were affected (1%), and the rest of the patients had melanonychia in multiple nails but not all of them. Melanoma was only found in patients presenting with a single nail lesion. In 25 patients, the affected nail was the thumb (26%); in 24 patients, the big toe (25%) was affected; in 18 patients, the index finger of the hand was involved (18.75%).

Table 1
Frequency of different types of longitudinal melanonychia (LM) based on patients' gender and age.

Diagnosis	Mean age (SD)(year)	Male	Female	Total
Junctional nevi	33.3 (19.5)	12 (42.9%)	16 (57.1%)	28 (29.2%)
Melanoma	51.9 (17.8)	5 (26.3%)	14 (73.7%)	19 (19.8%)
Hemorrhage	46.8 (20.9)	10 (58.8%)	7 (41.2%)	17 (17.7%)
Racial LM	42.9 (14.8)	4 (26.7%)	11 (73.3%)	15 (15.6%)
Inflammation	43.3 (19.2)	5 (38.5%)	8 (61.5%)	13 (13.5%)
Lentigo	37.0 (17.9)	2 (50%)	2 (50%)	4 (4.2%)
Total	42.4 (19.4)	38 (39.6%)	58 (60.4%)	96 (100%)

After histopathological examination, in 14 patients' specimens, a pagetoid spread was observed, all of whom were diagnosed with melanoma.

The mean age in the group with the diagnosis of junctional nevi was 33.3 years (\pm 19.5), 16 of them were female (57.1%), and the other 12 were male (42.9%). Only 3 patients in this group had multiple affected nails while the rest had presented with a single nail lesion. We had a total of 33 nail biopsies with the diagnosis of nevi; seven of these were in thumbs, and another 7 were in index fingers. Another 5 biopsies were from the middle fingers of the hands, and 4 were taken from the big toes.

Among all 19 patients who had melanoma, the mean age was 51.9 years old (\pm 17.8), 5 of them were male (26.3%), and the other 14 were female (73.7%). The most frequently involved nails were middle fingers of the hand (7 patients) and thumbs (6 patients), and all of the lesions were solitary.

The mean age of patients with melanoma (51.9 years old) was significantly higher than patients with junctional nevi (33.3 years old) (P value = 0.001).

Nine patients were in the pediatric age group (18 years old or younger). In 6 patients, junctional nevi were the cause of LM. Inflammation was seen in two patients, and the remaining one was due to hemorrhage. No melanoma was found.

Discussion

The presence of LM is a helpful clue in the diagnosis of melanoma, a disease that may be associated with a high mortality rate. Early diagnosis and treatment of melanoma can affect prognosis and increase patients' 5-year survival rate; therefore, it is important to determine clinical and histopathological characteristics of melanoma in patients with LM (Baran and de Berker, 2010; Carreño et al., 2013). Features that suggest a possible malignant melanoma of the nail include the presence of LM on the thumb, index finger, or big toe confined to only one finger or toe, sudden appearance of LM in an adult, irregular shape and color variation of the band, rapid changes in the shape and color of the lesion, presence of Hutchinson's sign (extension of pigmentation to adjacent nail folds or to the hyponychium), and nail dystrophy (Baran and de Berker, 2010). A triangular band that is broader proximally is cause for concern (Di Chiacchio et al., 2013a, 2013b). Based on these features, if melanoma is suspected, a nail biopsy and subsequent histopathological examination of the lesion should be performed (Baran and de Berker, 2010; Di Chiacchio et al., 2013b). Levit et al. (2000) developed an acronym (the ABCDEF rule) for the diagnosis of subungual melanoma which stands for Age; Band, Breadth, and Border; Change; Digit involved, Dominant hand; Extension; Family or personal history. However, neither this rule nor dermoscopy improved the overall diagnostic accuracy of dermatologists in the diagnosis of nail matrix melanoma in situ (Di Chiacchio et al., 2010).

In our study, the most common cause of LM was junctional nevi, followed by melanoma. Melanoma was only observed in patients who presented with a solitary lesion in one finger. In addition, the presence of Hutchinson's sign and nail dystrophy were strong indicators of melanoma. Also, observing a pagetoid spread on microscopy seemed to be an exclusive finding in melanoma.

Up until this time, not many large-scale studies have been carried out on the causes of LM (Table 2).

The rate of melanoma as a cause of LM seems to be higher in our patients compared with most other studies. This can reflect a selection bias since biopsy is not performed routinely in all cases of LM; only patients in whom there was a higher suspicion of an underlying melanoma were biopsied. As expected and in accordance to most previous studies, melanoma presented exclusively as a single band (Baran and de Berker, 2010; Carreño et al., 2013; Molina and Sanchez,

Download English Version:

<https://daneshyari.com/en/article/3197100>

Download Persian Version:

<https://daneshyari.com/article/3197100>

[Daneshyari.com](https://daneshyari.com)