



Dermoscopic features of acral melanocytic nevi in Central Anatolian Region of Turkey

Orta Anadolu Bölgesinde akral melanositik nevüslerin dermoskopik özellikleri

© Sarenur Esener, © İnci Mevlitoğlu*

Karaman Medical Center, Department of Dermatology, Karaman, Turkey

*Medicana Kadıköy Hospital, Clinic of Dermatology, İstanbul, Turkey

Abstract

Background and Design: Dermoscopy is a rapid and reliable method in the diagnosis of pigmented skin lesions, but dermoscopic examination of palmoplantar region is different due to the anatomical structures of acral region. The number of studies on the dermoscopy of acral melanocytic lesions is limited and acral volar melanocytic lesions were examined in all studies. For this reason, we aimed to examine acral melanocytic nevi located on the volar and dorsal side, to investigate the clinical and dermoscopic features, and to report the first demographic study of acral melanocytic nevi in the Central Anatolian Region of Turkey.

Materials and Methods: The study included a total of 97 patients with 143 lesions, who were admitted to Necmettin Erbakan University Meram Faculty of Medicine, Department of Dermatology, between March 2011 and January 2016 .

Results: Fifty-five patients had volar and 51 patients had dorsal melanocytic lesions. Seventy-two point eight percent of volar and 89% of dorsal lesions were located on hands. The most frequently seen dermoscopic patterns were parallel furrow pattern in 60% of volar lesions and reticular pattern in 39.7% of dorsal lesions. When the ABCD score of the dorsal lesions was calculated, the score was lower than 4.75 in 89% of the lesions.

Conclusion: No significant difference was found between age, gender, frequency of sun contact, skin type, anatomical location of the lesion and pattern distribution. However, all three lesions with dorsal multicomponent pattern and five lesions with non-specific pattern were observed in female gender. All three lesions with volar fibrillary pattern were found in skin type 2 group and all three lesions with dorsal multicomponent pattern were found in skin type 3 group. The relationship between dermoscopic diagnoses and ABCD criteria could not be evaluated due to the low number of cases and the inability to excise each lesion.

Keywords: Acral melanocytic nevus, dermoscopy, pattern analysis, ABCD scoring system

Öz

Amaç: Dermoskopi pigmente deri lezyonlarının tanısında hızlı ve güvenilir bir yöntemdir ancak akral melanositik lezyonların dermoskopisi palmoplantar bölgenin farklı anatomik yapısı nedeniyle özellik göstermektedir. Literatürler incelendiğinde akral melanositik lezyonların dermoskopisi ile ilgili yapılan çalışmaların sayısı azdır ve tüm çalışmalarda volar yerleşimli nevüsler incelenmiştir. Bu nedenlerle çalışmamızda akral bölge volar ve dorsal yüz yerleşimli melanositik nevüslerin klinik ve dermoskopik özelliklerini araştırarak ülkemiz İç Anadolu Bölgesi ile ilgili ilk demografik çalışmayı sunmayı amaçladık.

Gereç ve Yöntem: Çalışmamıza Mart 2011- Ocak 2016 tarihleri arasında Necmettin Erbakan Üniversitesi Meram Tıp Fakültesi, Deri ve Zührevi Hastalıklar Polikliniği'ne başvuran ve akral melanositik nevüs tespit edilen 97 hastanın volar ve dorsal yerleşimli 143 lezyonu dahil edildi.

Bulgular: Buna göre 55 hastanın volar, 51 hastanın dorsal lezyonu vardı. Volar lezyonların %72,8'i, dorsal lezyonların %89'u elde yerleşmişti. En sık gözlenen dermoskopik paternler volar lezyonların %60'ında görülen paralel oluk paterni, dorsal lezyonların %39,7'sinde görülen retiküler patern oldu. Dorsal lezyonların ABCD skoru hesaplandığında skor lezyonların %89'unda 4,75'ten düşüktü.

Sonuç: Yaş, cinsiyet, güneş temas sıklığı, deri tipi, lezyonların anatomik yerleşim bölgeleri ve patern dağılımları arasında anlamlı fark bulunmadı. Ancak dorsal multikomponent patern özelliğindeki üç lezyonun ve non-spesifik patern özelliğindeki beş lezyonun tümü kadın cinsiyette; volar fibriler patern özelliğindeki üç lezyonun tümü deri tipi 2 grubunda, dorsal multikomponent patern özelliğindeki üç lezyonun tümü deri tipi 3 grubunda yer aldı. Olgu sayısının az olması ve her lezyonun eksize edilememesi gibi nedenlerle dermoskopik tanımlar ile ABCD kriterleri arasında var olabilecek ilişki değerlendirilememiştir.

Anahtar Kelimeler: Akral melanositik nevüs, dermoskopi, patern analizi, ABCD skorlama sistemi

Address for Correspondence/Yazışma Adresi: Sarenur Esener MD, Karaman Medical Center, Department of Dermatology, Karaman, Turkey
Phone: +90 506 792 67 25 E-mail: saaltuner@hotmail.com **Received/Geliş Tarihi:** 10.11.2016 **Accepted/Kabul Tarihi:** 15.10.2018

ORCID ID: orcid.org/0000-0002-1140-8525

Introduction

Distinguishing the melanocytic and non-melanocytic pigmented skin lesions is very important for the aspects of treatment and follow-up to be planned. It may not be distinguished by naked eye whether a lesion is melanocytic or not. Dermoscopic assessment gains more importance in melanoma diagnosis. The palmoplantar region has different dermatologic structures and differs in dermoscopic characteristics, for this reason different dermoscopic patterns have been defined in this region. It is more difficult to diagnose the palmoplantar located melanocytic lesions and it requires experience.

In the studies carried out in Turkey, the dermoscopic characteristics of volar-located acral melanocytic nevi have been presented. With this study, by performing clinic and dermoscopic analysis of acral volar and dorsal melanocytic nevi, we aimed to investigate the familial and environmental factors which may have effects on the development and to reveal the dermoscopic patterns observed in acral melanocytic nevi.

Materials and Methods

The study included 143 lesions of 97 patients with acral nevi bigger than 0.5 mm diameter who applied to Necmettin Erbakan University Meram Medical Faculty of Medicine, Department of Dermatological and Venereal Diseases between March 2011 and June 2012. No gender or age discrimination has been observed. Informed consent was taken from all patients.

The dermoscopic evaluation has been performed with digital dermoscope (Fotofinder dermoscope imaging system, original magnification: X20). Pattern analysis has been performed for all nevi, while ABCD scoring has been performed only for acral dorsal-located nevi, and dermoscopic diagnoses were recorded.

Excision was recommended for nevi which have 5.45 and higher ABCD scores, parallel ridge pattern, diameter larger than 7 mm, not corresponding with classic dermoscopic pattern, multicomponent global pattern, multiple color, irregular dot, irregular globule, atypical pigment network, diffused pigmentation, abrupt edge, radial streaming, pseudopod, blotch, blue-white veil, spitzoid pattern, regression and atypical vascular pattern. Digital dermoscopic follow-up with 6-month interval has been recommended for lesions not excised. Necmettin Erbakan University Meram Faculty of Medicine, Non-Interventional Clinical Research Ethics Committee with numbered permission (approval number: 2012/217).

Statistical Analysis

The obtained data has been analyzed via SPSS 17.0 software system. Chi-square (χ^2) and Mann-Whitney U tests were used for inter-group comparisons. The level of significance was taken as $p < 0.05$.

Results

We examined 143 nevi of 97 patients in our study. Table 1 and 2 show the clinic and demographic evaluations of the patients. The age range was 3-58 years in volar group (mean: 24.8) and 1-70 year in dorsal group (mean 25.3). 9.2% of the patients with volar localised nevi were 15 years and below, 45.5% were between 16-30 years, 26.8% were between 31-45 years, 18.5% were between 46-60 years of age. 3.2% of the patients with dorsal localised nevi were 15 years and below,

43.1% were between 16-30 years, 32% were between 31-45 years, 13.4% were between 46-60 years and 8.3% were above 60 years of age. It has been determined that great majority of patients were within 15-30 year-old range (45.5% in volar group and 43.1% in dorsal group). No significant difference has been determined among gender distributions of volar and dorsal lesions ($p=0.986$). Frequency of sun contact accepted as rare (less than 1 hour per day), moderate (1-3 hours per day) and frequent (more than 3 hours per day) contact. No significant difference has been determined between the groups in terms of skin type and sun-exposure frequency ($p=0.79$). No significant difference has been determined between volar- and dorsal-located lesions in terms of color distribution. The largest lesion investigated was a dorsal-located melanoma case with 65 mm diameter.

It has been observed that the most frequent pattern was the parallel furrow pattern (Figure 1) in 42 (60%) volar-located lesions and reticular pattern (Figure 2) in 29 (39.7%) dorsal-located lesions. Table 3 shows the dermoscopic pattern distribution by groups.

The observed variants of parallel furrow pattern in volar-located group were single-line variant (Figure 1) in 16 cases (22.9%), dotted line variant

Table 1. Patient characteristics in our study

	Volar (n)	Dorsal (n)
Number of patient	55	51
Number of lesions	70	73
Sex (F/M)	40/15	37/14
Mean age (year)	24.8 (3-58)	25.3 (1-70)
Fitzpatrick skin type		
II/III	32/23	23/28
Frequency of sun exposure		
Rare (<1 h/day)	8	9
Moderate (1-3 h/day)	41	37
Frequent (>3 h/day)	6	5
History of dysplastic nevi	0	0
History of non-melanoma skin cancer	0	1
Family history of non-melanoma skin cancer	1	2
History of melanoma	1	2
Family history of melanoma	4	3
F: Female, M: Male		

Table 2. Lesion characteristics in our study

	Volar (n)	Dorsal (n)
Location (hand/foot)	51/19	65/8
Diameter (mean, mm)	2.7 (0.2-8.5)	4.06 (0.8-65)
Macular/papular	70/0	70/3
Color		
Light brown	28	30
Dark brown	41	35
Black	0	3
Blue	1	5
Acquired/congenital	66/4	68/5

(Figure 3) in 15 cases (21.4%), network variant (Figure 4) in 8 cases (11.4%), and double-lined variant (Figure 5) in 3 cases (4.3%). Eleven cases (15.7%) of volar located group showed the multicomponent pattern, where the parallel furrow, globular and lattice like patterns are observed in the same lesion. None of the volar located lesions showed parallel ridge, transitional or radial pattern.

When evaluating the dermoscopic pattern distribution of volar lesions in terms of age, it has been determined that the most frequent pattern observed in individuals at the age of 45 and below was parallel furrow pattern. Both of 2 patients at the age of 46 and above, the homogenous pattern has been observed. All of 3 lesions showing the characteristics of globular pattern were observed in 16-30 year-old group, while all of 2 reticular-pattern lesions have been observed at the age of 15 and below.

When evaluating the dermoscopic pattern distribution in dorsal lesions in terms of age group, the most frequent pattern observed at the age of 45 and below was reticular pattern. The most frequent pattern at the age of 46 and above was homogenous pattern. The homogenous

pattern has been observed most frequently in 16-30 age group. No significant difference has been determined in pattern distribution of volar and dorsal groups in terms of age group.



Figure 1. Parallel furrow pattern (single lined variant)
(Fotofinder dermoscope imaging system, original magnification: X20)



Figure 2. Reticular pattern
(Fotofinder dermoscope imaging system, original magnification: X20)



Figure 3. Parallel furrow pattern (dotted-line variant)
(Fotofinder dermoscope imaging system, original magnification: X20)

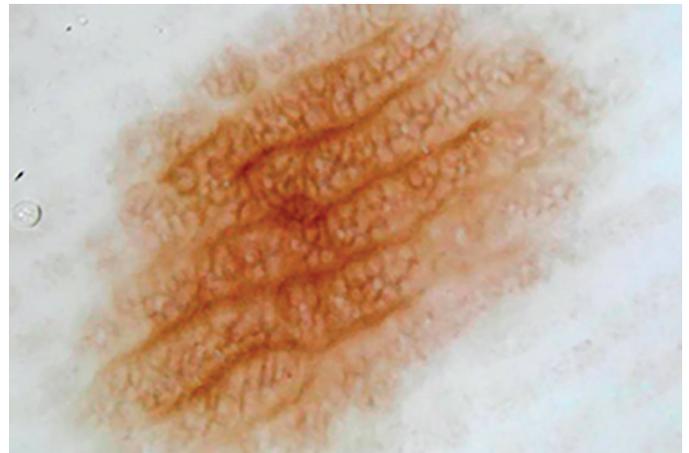


Figure 4. Parallel furrow pattern (network variant)
(Fotofinder dermoscope imaging system, original magnification: X20)



Figure 5. Parallel furrow pattern (double-lined variant)
(Fotofinder dermoscope imaging system, original magnification: X20)

No statistically significant difference has been determined between pattern distribution, Fitzpatrick skin type and sun-contact frequency. Among the dorsal lesions of which ABCD scores have been performed, this score was below 4.75 in 65 lesions (89%), between 4.75 and 5.45 in six lesions (8.3%), and higher than 5.45 in two lesions (2.7%).

One lesion of volar located nevi with diameter over 7 mm and two dorsal lesions with blue-white veil appearance, containing regression area, atypical vascular pattern, irregular dot and globule and multiple color, having diameter over 7 mm, showing multicomponent pattern characteristics and having ABCD score of above 5.45, one dorsal lesion showing multicomponent pattern characteristics, two dorsal lesions having diameter over 7 mm, four dorsal lesions showing multiple color characteristics, a total of 10 lesions were recommended to be excised, and 9 lesions were excised. All of the excised lesions were dorsal located. The patient with the volar lesion did not accept the excision. In histopathological investigation of these 9 lesions, one lesion corresponded with blue nevus, three lesions corresponded with dysplastic nevus, three lesions corresponded with congenital melanocytic nevus and two lesions corresponded with melanoma. The pathway followed in our study is summarized in Graphic 1.

Discussion

Dermoscopy (epiluminescence microscopy, episcopy, dermatoscopy, skin surface microscopy) is a non-invasive technique allowing us for distinguishing the skin surface and subsurface structures, which cannot be seen by naked eye, in diagnosis of pigmented skin lesions and early diagnosis of melanoma¹⁴. The importance of dermoscopic evaluation has been increased considerably as a result of revealing the diagnostic results in distinguishing melanoma from melanocytic nevi and pigmented skin lesions^{1,5,6}. Because of their localization, it is difficult to recognise the changes in acral nevi. The acral melanoma is frequently seen in non-white population. The examination of melanocytic nevi located in acral region with naked eye is difficult, dermoscopic

Table 3. Different dermoscopic patterns observed in our study

	Volar lesions n (%)
Parallel furrow	42 (60)
Fibrillar	3 (4.3)
Lattice like	5 (7.1)
Homogenous	4 (5.7)
Globular	3 (4.3)
Reticular	2 (2.9)
Multicomponent	11 (15.7)
	Dorsal lesions n (%)
Reticular	29 (39.7)
Globular	16 (21.9)
Homogenous	19 (26)
Cobblestone	1 (1.4)
Multicomponent	3 (4.1)
Non-typical	5 (6.8)

examination varies depending on anatomic characteristic of the region, and the nevi located in acral region are frequently observed in parallel pattern⁷.

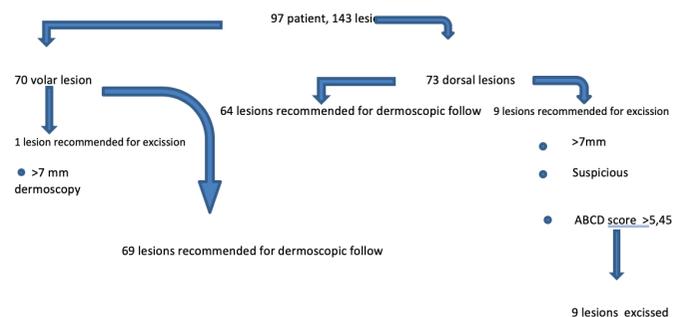
The dermoscopic patterns observed in studies on acral nevi are summarized in Table 4.

It has been found that 65% of patients in study of Jaramillo-Ayerbe et al.⁸ and 55.1% in study of Ozdemir et al.⁹ were in Fitzpatrick skin type 3, 59.1% of patients in study of Altamura et al.¹⁰ were in Fitzpatrick skin type 2. In our study, 58.2% of the patients with volar lesion were in Fitzpatrick skin type 2 and 54.3% of the patients with dorsal lesion were in Fitzpatrick skin type 3.

Because of there is no study on dorsal-located nevi in acral region in literature, the dermoscopic patterns observed in dorsal lesions were compared with non-acral-located melanocytic nevi.

The pattern analysis in classification of congenital and acquired melanocytic nevi has been emphasized in two different studies of Zalaudek et al.¹¹ and Argenziano et al.¹², and it has been indicated that the acquired melanocytic nevi observed in adults are frequently seen in reticular pattern, while the congenital melanocytic nevi and the acquired melanocytic nevi observed in children are frequently seen in globular pattern.

In the study from Turkey, Oztas et al.¹³ have evaluated 0-16 year old 180 children for 1173 melanocytic nevi, and they have observed globular pattern in 57.2%, homogenous pattern in 21.4% and reticular pattern in 15.4%. In the study on congenital melanocytic nevi observed in extremities, Seidenari et al.¹⁴ have found the mean age was 24±15 and the reticular pattern seen in 29.4% and globular pattern seen in 36.2% of the lesions. Zalaudek et al.¹⁵ have been investigated the congenital melanocytic nevi in two different studies. In the study with 39.4 year mean age lesions showed reticular pattern in 16%, globular pattern in 4% and homogenous pattern in 21%. In the study with 34-year mean age lesions showed reticular pattern in 39.1%, globular pattern in 10.3% and homogenous pattern in 10.3%¹⁶. In the study of Scope et al.¹⁷, they investigated the melanocytic nevi in 10-11 year old children and found reticular pattern in 13%, globular pattern in 37% and homogenous pattern in 44% of the lesions. In our study, the most frequent pattern observed in dorsal-located lesions was reticular pattern observed in 29 cases (39.7%). This data was similar to that of Zalaudek et al.¹⁵ and was associated with the majority of patients were adults. The patterns observed in nevi investigated in literature and in dorsal-located acral nevi in our study are summarized in Table 5.



Graphic 1. The pathway followed in our study

The major dermoscopic patterns observed in acral volar located melanocytic lesions are parallel furrow pattern, lattice-like pattern, fibrillary pattern, and parallel ridge pattern. The parallel ridge pattern was found to be correlated with melanoma. The most frequent pattern observed in acral melanocytic nevi is parallel furrow pattern⁷. The frequency of parallel furrow pattern has been found to be 42% and 44% by Saida et al.^{7,18}, 54% by Oguchi et al.¹⁹, 52.9% by Malvehy and Puig²⁰, 58.5% by Ozdemir et al.⁹, 48.7% and 42.1% by Altamura et al.^{10,21}, 51.1% by Ahmadabad et al.²², and 34.6% by Miyazaki et al.²³. In our study, parallel with the literature, the most frequently observed pattern was parallel furrow and seen 42 (60%) volar-located lesions. The most frequently observed variants of parallel furrow pattern in volar lesions were single-lined variant in 16 cases (22.9%) and dotted-lined variant in 15 cases (21.4%). In fibrillary pattern, where many thin lines cross the furrows and ridges, oblique-located melanin granules are observed in stratum corneum. Fibrillary pattern is accepted to be a variant of parallel furrow pattern^{7,20}. In a study of Ozdemir et al.⁹ in Turkey, it has been the second most frequent pattern observed in acral melanocytic lesions

(12.2%). In two different studies, Saida et al.⁷ have determined the fibrillary pattern to be the second most frequently seen pattern observed in acral melanocytic lesions with the frequency of 33% and the third most frequently observed pattern with the frequency of 12%¹⁸. The frequency of fibrillary pattern has been found to be 6.2% by Malvehy and Puig²⁰ and 5.6% by Jaramillo-Ayerbe et al.⁸. In our study, fibrillary pattern hasn't been observed more frequent than globular, homogenous and reticular patterns which are accepted as minor patterns (4.3%). The lines cutting the furrows vertically in palmoplantar region constitute the lattice-like pattern²⁰. Similar with fibrillary pattern, also this pattern is accepted to be a variant of parallel furrow pattern^{7,24}. The frequency of lattice-like pattern has been found to be 19% and 27% by Saida et al.^{7,18}, 21% by Oguchi et al.¹⁹, 12.4% by Malvehy and Puig²⁰, 15.2% and 14.9% by Altamura et al.^{10,21}, 16% by Kogushi-Nishi et al.²⁵, and 6.4% by Ozdemir et al.⁹. In our study, the lattice-like pattern was the second most frequently seen pattern observed in volar lesions (7.1%). The homogenous pattern defined as one of the minor dermoscopic patterns by Malvehy and Puig²⁰, is the appearance of diffused

Table 4. Patterns observed in acral melanocytic nevi

	Saida et al. ⁷	Saida et al. ¹⁸	Ozdemir et al. ⁹	Malvehy and Puig ²⁰	Altamura et al. ²¹	Altamura et al. ¹⁰	Ahmadabad et al. ²²	Miyazaki et al. ²³	(our study)
Patient/Lesion number	198 (93 MM)	66 (AMN)	138/188	156/210	230/230	641/723	46/69	278/298	55/70
Parallel furrow P. %(n)	42 (84) MM: 9 (4)	44 (29)	58.5 (110)	52.9 (111)	48.7 (112)	42.1 (304)	51.1 (24)	34.6 (103)	60 (42)
Parallel ridge P. %(n)	MM: 98 (42)	-	-	-	-	-	17.4 (12)	-	-
Lattice like P. %(n)	19 (37) MM: 7 (3)	27 (18)	6.4 (12)	12.4 (26)	15.2 (35)	14.9 (108)	23.4 (11)	21.5 (64)	7.1 (5)
Fibrillar P. %(n)	33 (65) MM: 35 (15)	12 (8)	12.2 (23)	6.2 (13)	10.8 (25)	10.8 (78)	8.5 (4)	43.9 (131)	4.3 (3)
Reticular P. %(n)	-	-	4.3 (8)	2.4 (5)	2.6 (6)	2.1 (15)	21.3 (10)	-	2.9 (2)
Globular P. %(n)	-	-	2.1 (4)	5.2 (11)	3.5 (8)	5.4 (39)	2.1 (1)	-	4.3 (3)
Nontypical P. %(n)	-	17 (11)	3.2 (6)	13.8 (29)	10.9 (25)	13.7 (99)	-	-	-
Homogenous P. %(n)	-	-	6.4 (12)	7.1 (15)	4.8 (11)	9.3 (67)	10.6 (5)	-	5.7 (4)
Multicomponent P. %(n)	-	MM: 100 (11)	-	-	-	-	-	-	15.7 (11)
Globulostreak like P. %(n)	-	-	5,3 (10)	-	-	-	-	-	-
Transitional P. %(n)	-	-	-	-	3,5 (8)	-	8,5 (4)	-	-

MM: Malign melanom, AMN: Acquired melanocytic nevi

Table 5. Patterns observed in melanocytic nevi

	Scope et al. ¹⁷	Oztas et al. ¹³	Seidenari et al. ¹⁴	Zalaudek et al. ¹⁵	Zalaudek et al. ¹⁶	(our study) acral-dorsal
Patient/lesion number	443/1203	180/1173	375/384	50/1268	680/680	51/73
Reticular P. % (n)	13 (155)	15.4 (181)	29.4 (113)	16 (208)	39.1 (266)	39.7 (29)
Globular P. % (n)	37 (449)	57.2 (672)	36.2 (139)	4 (54)	10.3 (70)	21.9 (16)
Homogenous P. % (n)	44 (571)	21.4 (251)	28.4 (109)	21 (264)	10.3 (70)	26 (19)
Non-typical P. % (n)	-	-	-	-	-	6.8 (5)
Multicomponent % (n)	5 (56)	4.8 (56)	-	59 (740)	38.8 (264)	4.1 (3)
Cobblestone P. % (n)	-	0.1 (1)	-	-	-	1.4 (1)

pigmentation. The frequency of homogenous pattern has been found to be 7.1% by Malvehy and Puig²⁰, 6.4% by Ozdemir et al.⁹, 4.3% and 9.3% by Altamura et al.¹⁰. In the studies of Altamura et al.^{10,21} and Malvehy and Puig²⁰ homogenous pattern has been found to be more frequent than fibrillary pattern. In our study, the frequency of homogenous pattern has been observed to be similar with studies presented in Italy and Spain (5.7%), and seen more frequent than fibrillary pattern.

Consisting of dots and globules located on brown pigmentation, the globular pattern's frequency has been found to be 5.2% by Malvehy and Puig²⁰, 3.5% and 5.4% by Altamura et al.^{10,21}, and 2.1% by Ozdemir et al.⁹. In our study, the frequency of globular pattern has been 4.3%. Defined as another minor pattern, the acral reticular pattern is the existence of light or dark-colored reticular pigmentation in the absence of parallel furrow, fibrillary or lattice-like patterns. The frequency of this pattern has been found to be 2.4% by Malvehy and Puig²⁰, 2.1% and 2.6% by Altamura et al.^{10,21} and 4.3% by Ozdemir et al.⁹. In our study, reticular pattern has been observed in 2.9% of volar melanocytic lesions. The globulostreak-like pattern, which has been defined first by Ozdemir et al.⁹ from Turkey, consists of dark brown globules and linear or curvilinear streaklike structures and has been found with the frequency of 5.3%⁹. We haven't detected any globulostreak-like pattern in our study.

In two different studies, Altamura et al.^{10,21} have detected the frequency of transition pattern to be 1.8% and 3.5%. Seen especially at the sides of acral regions, this pattern has an appearance where there is the parallel furrow or cage-like patterns in one side of lesion, while there is typical pigment network pattern in other side of the lesion. We haven't observed any transition pattern in our study.

Parallel ridge pattern is a dermoscopic pattern which is characterized with band-type pigmentation at the ridges and is prevalent in macular region of melanoma in palmoplantar region. Saida et al.⁷ have detected parallel ridge pattern in 42 (98%) out of 43 melanoma cases. In our study, parallel ridge pattern hasn't been detected in any lesion. Both of two melanoma cases diagnosed in our study were dorsal located, and the analyses of these lesions have been made in accordance with ABCD scoring system, the scores were higher than 5.45. Multiple color, blue-white veil appearance, atypical network structure, irregular pigmentation, and asymmetry were observed in these lesions. The melanoma diagnosis has been confirmed through excision and histopathological evaluation in these lesions.

Study Limitations

Because of the reasons such as limited number of cases and that each of lesions couldn't be excised, the dermoscopic and histopathologic diagnosis correlation, the net relationship between dermoscopic characteristics and atypia, pattern analysis, and the sensitivity and specificity of ABCD scoring system couldn't be revealed. Further detailed studies are needed.

Conclusion

There are only limited number of studies and epidemiologic data on dermoscopy of acral melanocytic lesions. In literature, the data about the acral volar located nevi have been presented in all of the studies on acral lesions.

The studies on acral melanocytic nevi from Turkey have been presented by Ozdemir et al.⁹ and colleagues.

For this reason, we evaluated the melanocytic lesions of the patients who have been diagnosed for acral nevus in our polyclinic, and aimed to collect the socio-demographical characteristics of patients, and the pattern and prevalence characteristics of the nevi. By splitting the acral nevi into two groups as volar and dorsal, we aimed to perform a more detailed investigation. We compared the dorsal located nevi involved in our study with nevi located in other regions which have been investigated in literature.

Our study is one of the limited number of studies on socio-demographical characteristics, pattern distribution and ABCD scoring of acral melanocytic nevi in our country, and it is the first epidemiologic study on middle Anatolian Region of Turkey.

Ethics

Ethics Committee Approval: Necmettin Erbakan University Meram Medical Faculty Non-interventional Clinical Research Ethics Committee with numbered permission (approval number: 2012/217).

Informed Consent: Informed consent was taken from all patients.

Peer-review: External and internal peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: S.E., İ.M., Concept: S.E., Design: S.E., İ.M., Data Collection or Processing: S.E., Analysis or Interpretation: S.E., İ.M., Literature Search: S.E., İ.M., Writing: S.E.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

References

1. Soyer HP, Argenziano G, Hofmann-Wellenhof R, Jorh RH. Color atlas of melanocytic lesions of the skin. Springer-Verlag Berlin Heidelberg 2007.
2. Malvehy J, Puig S, Braun RP, Marghoob AA, Kopf AW. Handbook of dermoscopy. UK: Taylor and Francis 2006.
3. Paech V, Schulz H, Argenyi Z, Gambichler T, Altmeyer P. Compendium of surface microscopic and dermoscopic features. Springer-Verlag Berlin Heidelberg 2008.
4. Micali G, Lacarrubba F, Massimino D, Schwartz RA. Dermatoscopy: alternative uses in daily clinical practice. J Am Acad Dermatol 2011;64:1135-46.
5. Marghoob AA, Braun RP, Kopf AW. Atlas of dermoscopy. UK: Taylor and Francis 2004.
6. Braun RP, Oliviero M, Kolm I, et al. Dermatoscopy: what's new? Clin Dermatol 2009;27:26-34.
7. Saida T, Oguchi S, Miyazaki A. Dermatoscopy for acral pigmented skin lesions. Clin Dermatol 2002;20:279-85.
8. Jaramillo-Ayerbe F, Vallejo-Contreras J. Frequency and clinical and dermoscopic features of volar and ungual pigmented melanocytic lesions: a study in schoolchildren of Manizales, Colombia. Pediatr Dermatol 2004;21:218-22.
9. Ozdemir F, Karaarslan IK, Akalin T. Variations in the dermoscopic features of acquired acral melanocytic nevi. Arch Dermatol 2007;143:1378-84.
10. Altamura D, Altobelli E, Micantonio T, et al. Dermoscopic patterns of acral melanocytic nevi and melanomas in a white population in central Italy. Arch Dermatol 2006;142:1123-8.
11. Zalaudek I, Docimo G, Argenziano G. Using dermoscopic criteria and patient-related factors for the management of pigmented melanocytic nevi. Arch Dermatol 2009;145:816-26.
12. Argenziano G, Zalaudek I, Ferrara G, Hofmann-Wellenhof R, Soyer HP. Proposal of a new classification system for melanocytic naevi. Br J Dermatol 2007;157:217-27.

13. Oztas P, Ilhan MN, Polat M, Alli N. Clinical and dermoscopic characteristics of melanocytic nevi in Turkish children and their relationship with environmental and constitutional factors. *Dermatol Surg* 2007;33:607-13.
14. Seidenari S, Pellacani G, Martella A, et al. Instrument-, age- and site-dependent variations of dermoscopic patterns of congenital melanocytic naevi: a multicentre study. *Br J Dermatol* 2006;155:56-61.
15. Zalaudek I, Grinschgl S, Argenziano G, et al. Age-related prevalence of dermoscopy patterns in acquired melanocytic naevi. *Br J Dermatol* 2006;154:299-304.
16. Zalaudek I, Argenziano G, Mordente I, et al. Nevus type in dermoscopy is related to skin type in white persons. *Arch Dermatol* 2007;143:351-6.
17. Scope A, Marghoob AA, Dusza SW, et al. Dermoscopic patterns of naevi in fifth grade children of the Framingham school system. *Br J Dermatol* 2008;158:1041-9.
18. Saida T, Oguchi S, Ishihara Y. In vivo observation of magnified features of pigmented lesions on volar skin using video macrocope. Usefulness of epiluminescence techniques in clinical diagnosis. *Arch Dermatol* 1995;131:298-304.
19. Oguchi S, Saida T, Koganehira Y, et al. Characteristic epiluminescent microscopic features of early malignant melanoma on glabrous skin. A videomicroscopic analysis. *Arch Dermatol* 1998;134:563-8.
20. Malvey J, Puig S. Dermoscopic patterns of benign volar melanocytic lesions in patients with atypical mole syndrome. *Arch Dermatol* 2004;140:538-44.
21. Altamura D, Zalaudek I, Sera F, et al. Dermoscopic changes in acral melanocytic nevi during digital follow-up. *Arch Dermatol* 2007;143:1372-6.
22. Ahmadabad RN, Ghaninezhad H, Moslehi H et al. A. Description of some dermatoscopic features of acral pigmented lesions in Iranian patients: a preliminary study. *Acta Med Iran* 2011;49:472-7.
23. Miyazaki A, Saida T, Koga H, et al. Anatomical and histopathological correlates of the dermoscopic patterns seen in melanocytic nevi on the sole: a retrospective study. *J Am Acad Dermatol* 2005;53:230-6.
24. Saida T, Koga H, Uhara H. Key points in dermoscopic differentiation between early acral melanoma and acral nevus. *J Dermatol* 2011;38:25-34.
25. Kogushi-Nishi H, Kawasaki J, Kageshita T, Ishihara T, Ihn H. The prevalence of melanocytic nevi on the soles in the Japanese population. *J Am Acad Dermatol* 2009;60:767-71.