Dermatology Practical & Conceptual

Clinical, Dermoscopic and Histopathological Evaluation of Basal Cell Carcinoma

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ABSTRACT

Introduction: Dermoscopy aids in identifying histopathological subtypes and the presence of clinically undetectable pigmentation in basal cell carcinoma (BCC).

Objectives: To investigate the dermoscopic features of BCC subtypes and better understand non-classical dermoscopic patterns.

Methods: Clinical and histopathological findings were recorded by a dermatologist who was blinded to the dermoscopic images. Dermoscopic images were interpreted by two independent dermatologists blinded to the patients' clinical and histopathologic diagnosis. Agreement between the two evaluators and with histopathological findings was evaluated using Cohen's kappa coefficient analysis.

Results: The study included a total of 96 BBC patients with 6 histopathologic variants: nodular (n=48, 50%), infiltrative (n=14, 14.6%), mixed (n=11, 11.5%), superficial (n=10, 10.4%), basosquamous (n=10, 10.4%), and micronodular (n=3, 3.1%). Clinical and dermoscopic diagnosis of pigmented BCC showed high agreement with histopathological diagnosis. The most common dermoscopic findings according to subtype were as follows: nodular BCC: shiny white-red structureless background (85.4%), white structureless areas (75%), and arborizing vessels (70.7%); infiltrative BCC: shiny white-red structureless background (92.9%), white structureless areas (78.6%), arborizing vessels (71.4%); mixed BCC: shiny white-red structureless background (72.7%), white structureless areas (54.4%), and short fine telangiectasias (54.4%); superficial BCC: shiny white-red structureless background (100%), short fine telangiectasias (70%); basosquamous BCC: shiny white-red structureless background (100%), white structureless areas (80%), keratin masses (80%); micronodular BCC: short fine telangiectasias (100%).

Conclusions: In this study, arborizing vessels were the most common classical dermoscopic feature of BCC, while shiny white-red structureless background and white structureless areas were the most frequent non-classical dermoscopic features.

Introduction

Basal cell carcinoma (BCC) is the most common skin cancer, and its incidence has doubled in the last 25 years [1, 2]. Although it rarely metastasizes, it is an important cause of morbidity in untreated patients [3]. BCC has diverse clinicopathological manifestations, including nodular, superficial, morpheaform, and pigmented variants [4]. BCCs are pigmented in more than 50% of dark-skinned people and less than 10% of light-skinned people [5, 6]. Knowledge of the histopathologic subtypes of BCC is important both for estimating the potential risk of recurrence and for choosing the type of treatment [7].

Dermoscopy is a noninvasive technique commonly used in the diagnosis of skin tumors [8]. This is an in vivo technique with 89-91.2% sensitivity and 95% specificity. BCC's dermoscopy includes features that vary with age, sex, race, histopathologic subtype, tumor location, and presence or absence of pigmentation [9]. When the dermoscopic features defined for superficial BCC are correctly determined, the rate of correct diagnosis increases to 99% [10]. There are no clear criteria for dermoscopic evaluation of rarer, aggressive histopathologic subtypes [6, 11, 12].

In this study, we aimed to establish a relationship between BCC histopathologic subtypes and the clinical and dermoscopic features of BCC, to describe the dermoscopic features of the rarer aggressive subtypes of BCC, to better understand the dermatoscopic patterns of nonvascular/nonpigmented structures to diagnose early BCC lesions before the classical pattern features are observed. Furthermore, our secondary purpose was to compare the frequency of clinical and dermoscopic pigmentation in patients with a histopathologic diagnosis of pigmented BCC.

Materials and Methods

This retrospective study was conducted in patients who presented to the dermatology and venereal diseases department of Trakya University between December 2017 and April 2021. The records of 96 patients with BCC who presented to the outpatient clinic between these dates were screened. Patients who had clinical and dermoscopic images on record, whose BCC subtype was determined histopathologically, and who had a histopathological diagnosis of total excision were included. The study was approved by the Trakya University Faculty of Medicine Ethics Committee (approval number: 10/18, date: 26.04.2021).

The main demographic features (age, sex, previous history of BCC, Fitzpatrick skin type, lesion location and whether it is in a sun-exposed or sun-protected area), clinical features (lesion palpability, ulceration, presence of pigmentation) were recorded for each patient by an independent dermatologist. The same dermatologist examined the patients' clinical images and histopathologic data. Histopathologic assessment of pigmentation was based on the presence of pigmented basaloid sockets in the dermis or melanin deposits at the dermo-epidermal junction. The clinical diagnosis of hyperpigmentation was made by evaluating macro photographs and the retrospective history of the patients. Based on these findings, the patients were divided into two subgroups, clinically and histopathologically pigmented and nonpigmented BCC, and six subgroups based on histopathologic type.

Dermoscopic images were obtained with FotoFinder platform-based dermoscopy system (FotoFinder Systems GmbH, Germany) using 20X lenses. For each lesion, images were obtained in polarized mode using both contact and noncontact techniques. Minimal pressure was applied and ultrasound gel was used to preserve vessel morphology and ensure optimal visualization.

Dermoscopic images were interpreted on a computer display by two independent dermatologists who were both blinded to the patients' clinical and histopathologic diagnosis.

BCC and its subtypes were defined according to the criteria compiled by Reiter et al. [3]. Accordingly, structures were divided into three categories:

1. Pigmented structures: multiple blue-grey dots and globules, large blue-grey ovoid nests, leaflike areas, spoke-wheel areas, and concentric structures
2. Vascular structures: arborizing vessels, short fine telangiectasias, polymorphous vessels (more than one vessel pattern), and others (dotted, coiled [glomerular], looped [hairpin], and helical [corkscrew] vessels)
3. Nonvascular/nonpigmented structures: shiny white structures (shiny white streaks, shiny white blotches and strands, rosettes) surface changes (multiple small erosions, ulceration), shiny white-red structureless background.

In addition, the article by Kittler et al. [13] was used to standardize the naming of dermoscopic terms. The "rosettes"

structure that Kittler et al. evaluated within the structure of shiny white structures was also examined in this subtitle. The dermoscopic diagnosis of basosquamous BCC was based on the study by Giacomel et al. [14]. In addition, some of the dermoscopic patterns indicating melanocytic lesions (brown to black dots/globules, blue/white veil, pigmented network, pseudopods, radial flowing, or a polymorphous vascular pattern) used by Altamura et al. were included in the evaluation [4].

In the dermoscopic evaluation, two dermatologists grouped the lesions as pigmented and non-pigmented according to the presence of at least one pigmentation-related dermoscopic criterion. These data were then compared with clinical and histopathologic grouping.

Statistics

Statistical analysis of the data was performed using IBM SPSS Statistics version 22 software. As the ages of the male and female patients were not normally distributed, Mann-Whitney U test was used to compare age between the groups. Cohen's kappa coefficient was used to analyze agreement between the two evaluators and with histopathological findings. P values < 0.05 were considered statistically significant. Findings of milia-like cysts by the two independent dermatologists did not show statistically significant agreement with dermoscopic findings (p > 0.05). These dermoscopic features were excluded from the evaluation.

Results

The sociodemographic and clinical characteristics and dermoscopic images of a total of 96 patients with BCC were examined. The patients ranged in age from 32 to 87 years, with a mean age of 67.13 ± 12.58. Sixty-nine patients (71.9%) were men and 27 (28.1%) were women. Seventeen patients (17.7%) had a past history of BCC. The most common Fitzpatrick skin phototypes were II (42.7%) and III (42.7%).

Most tumors were located in the head and neck region (n = 87; 90.6%) and in sun-exposed areas (n = 78, 81.3%). On clinical evaluation, 35 (36.5%) of the lesions were flat, 32 (33.3%) were elevated, and 29 (30.2%) were nodular. Clinically visible ulceration and pigmentation were observed in 21 (21.9%) and 22 (22.9%) of the lesions, respectively (Table 1).

The following BCC histopathologic variants were observed: nodular (n = 48, 50%), infiltrative (n = 14, 14.6%); mixed (n = 11, 11.5%); superficial (n = 10, 10.4%); basosquamous (n = 10, 10.4%); and micronodular (n = 3.1%) (Table 1). The clinical images of the histopathologically confirmed BCC subtypes are shown in Figure 1.

The clinical characteristics of the histopathologic subtypes are compared in Table 2. The most common clinical appearance was nodular for nodular BCC (n = 20, 41.7%), elevated for infiltrative BCC (n=9, 64.3%), and flat for superficial BCC (n=10, 100%).

The lesions' pigmentation characteristics and their clinical, dermoscopic, and histopathologic correlations were

Table 1. Demographics, clinical and histopathological evaluation of basal cell carcinoma patients.

	N= 96
Age	
Mean± SD	67.13±12.58
Range	32.0-87.0
Sex [n (%)]	
Male	69 (71.9)
Female	27 (28.1)
Past history of BCC [n (%)]	
Negative	79 (82.3)
Positive	17 (17.7)
Skin phototypes [n (%)]	
I	3 (3.1)
II	41 (42.7)
III	41 (42.7)
IV	10 (10.4)
V	1(1.0)
Location [n (%)]	
Head and neck	87 (90.6)
Upper limbs	3 (3.1)
Lower limbs	1 (1.0)
Trunk	5 (5.2)
Site of the lesion [n (%)]	
Sun exposed	78 (81.3)
Sun protected	18 (18.8)
Palpability [n (%)]	
Flat	35 (36.5)
Elevated	32 (33.3)
Nodular	29 (30.2)
Ulcer [n (%)]	
Negative	75 (78.1)
Positive	21 (21.9)
Clinical pigmentation [n (%)]	
Non-pigmented	74 (77.1)
Pigmented	22 (22.9)
Histopathological pigmentation [n (%)]*	
Non-pigmented	66 (68.8)
Pigmented	30 (31.3)
Histopathological subtypes [n (%)]	
Superficial	10 (10.4)
Nodular	48 (50)
Micronodular	3 (3.1)
Infiltrative	14 (14.6)
Mixed	11 (11.5)
Basosquamous	10 (10.4)

BCC = Basal Cell Carcinoma.
* Histopathological pigmentation corresponds to pigmented basaloid nests in the dermis or melanin deposition at the dermo-epidermal junction.

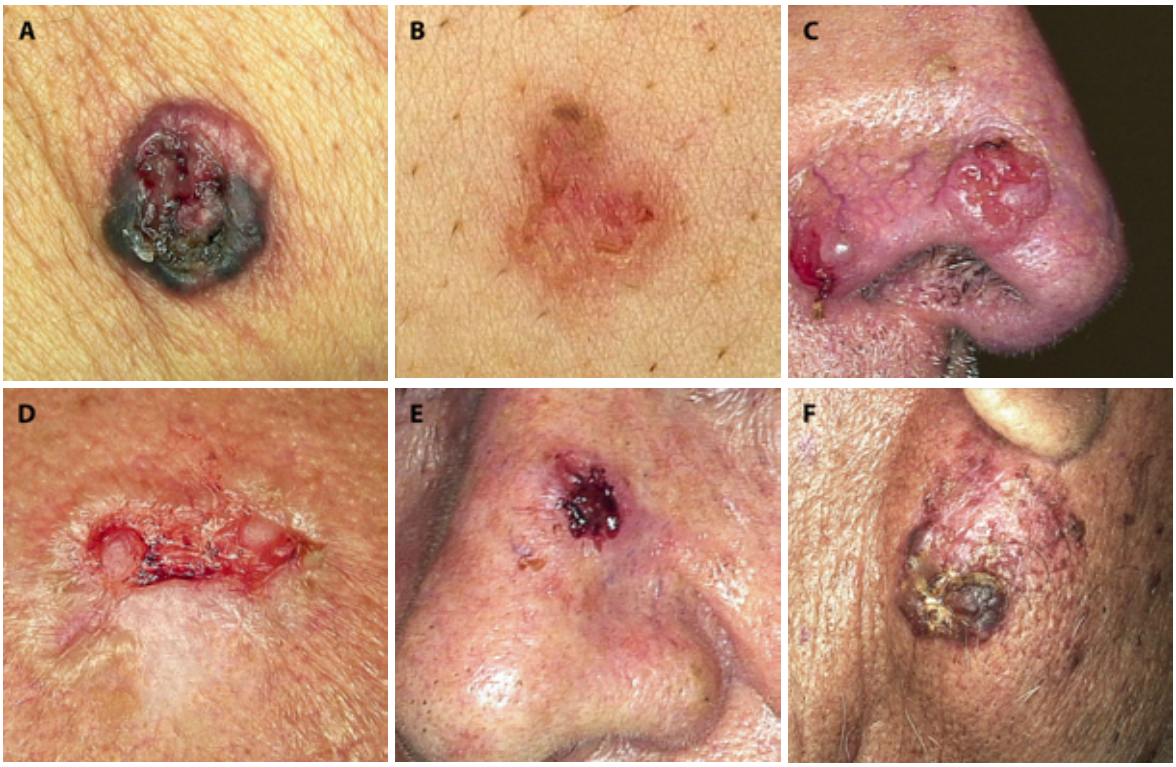

Figure 1. The clinical aspect of basal cell carcinoma. (A) Pigmented, (B) Superficial, (C) Nodular, (D) Infiltrative, (E) Mixed, (F) Basosquamous.

Table 2. Clinical assessment of basal cell carcinoma subtypes.

	Nodular (n = 48)	Infiltrative (n = 14)	Mixed (n = 11)	Superficial (n = 10)	Basosquamous (n = 10)	Micronodular (n = 3)
Flat	12 (25)	3 (21.4)	6 (54.5)	10 (100)	2 (20.0)	2 (66.7)
Elevated	16 (33.3)	9 (64.3)	2 (18.2)	0	4 (40.0)	1 (33.3)
Nodular	20 (41.7)	2 (14.3)	3 (27.3)	0	4 (40.0)	0

Numbers in parentheses represent percentages.

Table 3. Comparison of the presence of histopathologic pigmentation with the presence of clinical and dermoscopic pigmentation in basal cell carcinoma.

		Presence of histopathologic pigmentation							
		Negative		Positive		Total			
		n	%	n	%	n	%	κ	p
Presence of clinical pigmentation	Negative	64	97.0	10	33.3	74	77.1	0,686	***0,000***
	Positive	2	3.0	20	66.7	22	22.9		
Presence of dermoscopic pigmentation	Negative	63	95.5	-	-	63	65.6	0,929	***0,000***
	Positive	3	4.5	30	100.0	33	34.4		
N = 96		66	68.8	30	31.3	96	100		

Cohen's kappa concordance test (κ)

compared. According to this table, clinical and dermoscopic features were consistent with histopathological features in the diagnosis of pigmented BCC (Table 3).

The frequency of different dermoscopic features in BCC and its subtypes is detailed in Table 4.

Dermoscopic Characteristics of BCC Histopathologic Subtypes

Nodular BCC presented most commonly with shiny white-red structureless background (n = 41, 85.4%), shiny white blotches and strands (n = 36, 75%), arborizing vessels

Table 4. Distribution of dermatoscopic patterns according to different types of basal cell carcinoma.

		Nodular n (%)	Infiltrative n (%)	Mixed n (%)	SF n (%)	BS n (%)	MN n (%)	BCC n (%)
Vascular structures	Arborizing vessels	34 (70.7)	10 (71.4)	5 (45.5)	2 (20)	7 (70)	1 (33.3)	59 (61.4)
	Short fine telangiectasias	17 (35.4)	8 (57.1)	6 (54.5)	7 (70)	5 (50)	3 (100)	46 (47.8)
	Polymorphous vessels	19 (39.6)	4 (28.6)	4 (36.4)	3 (30)	6 (60)	-	36 (37.5)
	Others [dotted, coiled (glomerular), looped (hairpin), helical (corkscrew) vessels]	2 (4.2)	1 (7.1)	-	1 (10)	2 (20)	-	6 (6.3)
Pigmented structures	Multiple blue-grey dots	1 (2.1)	-	1 (9.1)	1 (10)	-	-	3 (3.1)
	Multiple blue-grey globules	3 (6.3)	1 (7.1)	1 (9.1)	-	1 (10)	-	6 (6.3)
	Large blue-grey ovoid nests	13 (27.1)	-	1 (9.1)	-	1 (10)	1 (33.3)	16 (16.6)
	Brown dots	6 (12.5)	-	1 (9.1)	4 (40)	1 (10)	2 (66.7)	14 (14.6)
	Brown globules	9 (18.8)	-	2 (18.2)	4 (40)	1 (10)	3 (100)	19(19.8)
	Brown nets	6 (12.5)	1 (7.1)	1 (9.1)	2 (20)	-	2 (66.7)	12 (12.5)
	Concentric structures	5 (10.4)	2 (14.3)	2 (18.2)	2 (20)	-	2 (66.7)	13 (13.5)
	Leaflike areas	2 (4.2)	-	1 (9.1)	3 (30)	-	2 (66.7)	8 (8.3)
Shiny white structures	Shiny white streaks	21 (43.8)	6 (42.9)	5 (45.5)	2 (20)	2 (20)	-	36 (37.5)
	Shiny white blotches and strands	36 (75)	11 (78.6)	6 (54.5)	6 (60)	8 (80)	2 (66.7)	69 (71.9)
	Rosettes	5 (10.4)	3 (21.4)	2 (18.2)	1 (10)	2 (20)	-	13 (13.5)
Others	Multiple small erosions	21 (43,8)	6 (42,9)	3 (27,3)	6 (60)	2 (20)	-	38 (39,6)
	Ulceration	28 (58.3)	10 (71.4)	5 (45.5)	3 (30)	6 (60)	-	52 (54.2)
	Shiny white-red structureless background	41 (85.4)	13 (92.9)	8 (72.7)	10 (100)	10 (100)	2 (66.7)	84 (87.5)
	Blue whitish veil	3 (6.3)	2 (14.3)	-	-	-	1 (33.3)	6 (6.3)
	Keratin masses	-	-	3 (27.3)	-	8 (80)	-	11 (11.4)

SF = Superficial; BS = Basosquamous; MN = Micronodular; BCC = Basal Cell Carcinoma.

(n = 34, 70.7%), and ulceration (n = 28, 58.3%). When pigmentation was present, the most common structure was large blue-grey ovoid nests (n = 13, 27.1%).

The most common dermoscopic findings in infiltrative BCC were shiny white-red structureless background (n = 13, 92.9%), shiny white blotches and strands (n = 11, 78.6%), arborizing vessels (n=10, 71.4%), ulceration (n=10, 71.4%), and short fine telangiectasias (n = 8, 57.1%).

In mixed BCC, the most common dermoscopic findings were shiny white-red structureless background (n = 8, 72.7%), shiny white blotches and strands (n = 6, 54.4%), and short fine telangiectasias (n = 6, 54.4%).

The most common dermoscopic findings in superficial BCC were shiny white-red structureless background (n = 10, 100%), short fine telangiectasias (n = 7, 70%), shiny white blotches and strands (n = 6, 60%), and multiple small erosions (n = 6, 60%).

Basosquamous BCC presented with dermoscopic findings of shiny white-red structureless background (n = 10, 100%), shiny white blotches and strands (n = 8, 80%), keratin masses (n= 8, 80%), arborizing vessels (n = 7, 70%), and polymorphous vessels (n = 6, 60%).

In micronodular BCC, short fine telangiectasias were observed on dermoscopy (n=3, 100%). In the presence of pigmentation, the most common dermoscopic finding was brown globules (n = 3, 100%).

Various dermoscopic images of basal cell carcinomas with vascular structures, pigmented structures, shiny white structures, surface changes, shiny white-red structureless background, blue-whitish veil, and keratin masses were shown in detail in Figure 2-5.

Discussion

In this study, patients with clinical and dermoscopic pigmented/unpigmented BCC were evaluated using polarized dermoscopy to assist in the diagnosis of BCC subtypes.

The sociodemographic characteristics of the patients in our study were found to be consistent with previous studies [11, 15]. In various publications, nodular BCC has

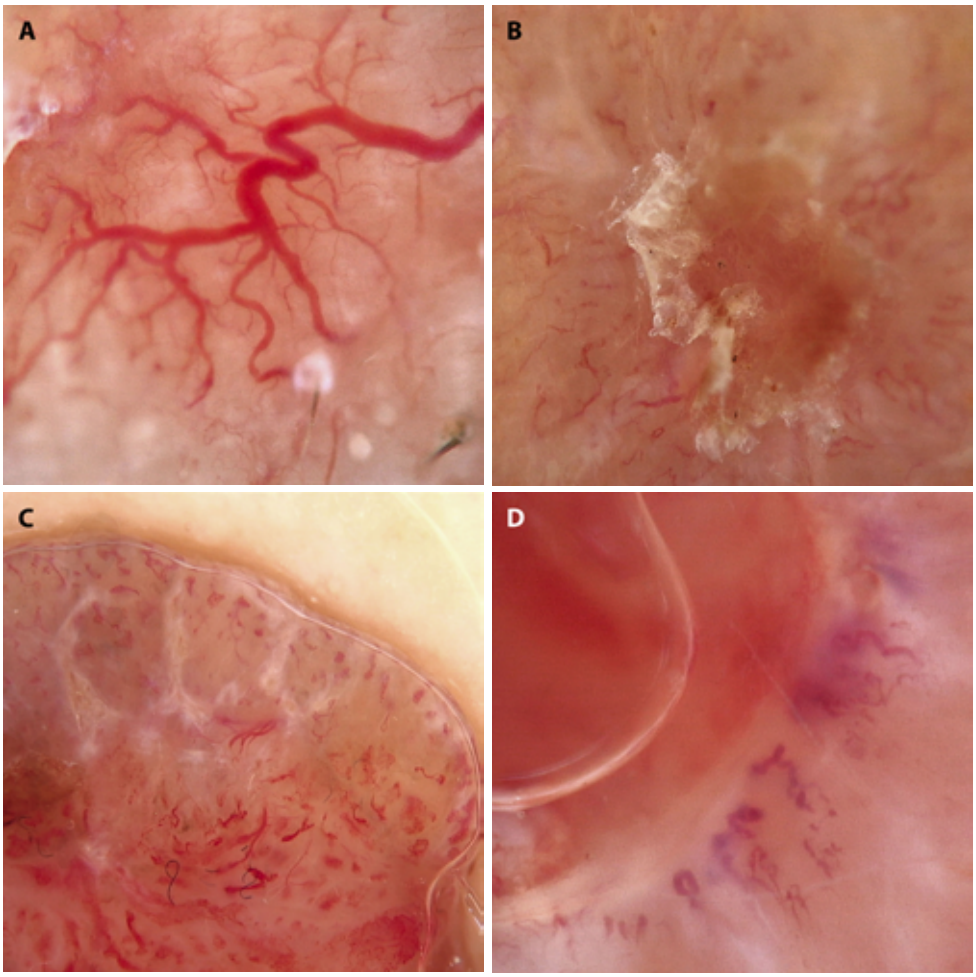

Figure 2. Dermoscopic features of (A) Arborizing vessels, (B) Short fine telangiectasias, (C) Polymorphous vessels, (D) Looped (hairpin) vessels.

consistently been reported as the most common subtype (57.6-78.7%), followed by superficial BCC (14.8-17.5%) and infiltrative BCC (6.2-26.2%) [16,17]. Arits et al. reported total rates for superficial and infiltrative BCC of 23.8% and 27.6%, respectively [18]. In our study, infiltrative BCC was more frequent than superficial BCC.

When BCC subtypes were clinically evaluated, our results were similar to those of Lallas et al. [19]. A notable feature of both studies was the absence of nodular lesions among superficial BCCs. Superficial BCCs classically present as a well-circumscribed and erythematous thin plaque or patch with scale [20]. Both Lallas et al. and our studies support this clinical appearance. Micronodular BCC is difficult to distinguish clinically from superficial and nodular BCC and can present as erythematous macules or thin papules/plaques [20]. The clinically rare nodule appearance of micronodular BCC was observed both in our study and by Lallas et al. [19].

In the review by Reiter et al., shiny white structures and shiny white-red structureless background structures were evaluated in nonvascular/nonpigmented structures. It has been emphasized that different terms were used in each study [3]. In studies conducted in 2005 and 2008, the term "shiny white-red structureless" was used, and these structures were observed in all superficial BCCs [21, 22]. Trigoni et al. included shiny white-red structureless background features observed within lesions under a general description of white-red structureless areas [23]. Emiroglu et al., on the other hand, referred to these structures as "milky-pink to red background" and emphasized that they are also seen in other BCC subtypes that are mostly superficial [24]. A 2021 publication used this term as "red-white homogenous areas" and noted that they are present in superficial and nodular BCC subtypes [25]. We evaluated the lesions similar to the statement by Trigoni et al. Accordingly, in our study, the shiny white-red structureless background was found in all superficial BCC cases as well as in other BCC subtypes. Since this is a nonvascular/nonpigmented structure, a dermoscopic feature in BCC diagnosis, it was not considered in some studies [26, 27]. The main problem is that the studies did not use a standardized term. We believe that standardization is needed in defining nonvascular/nonpigmented structures.

There are few studies in the literature comparing the incidence of shiny white structures in BCC subtypes [24, 26].

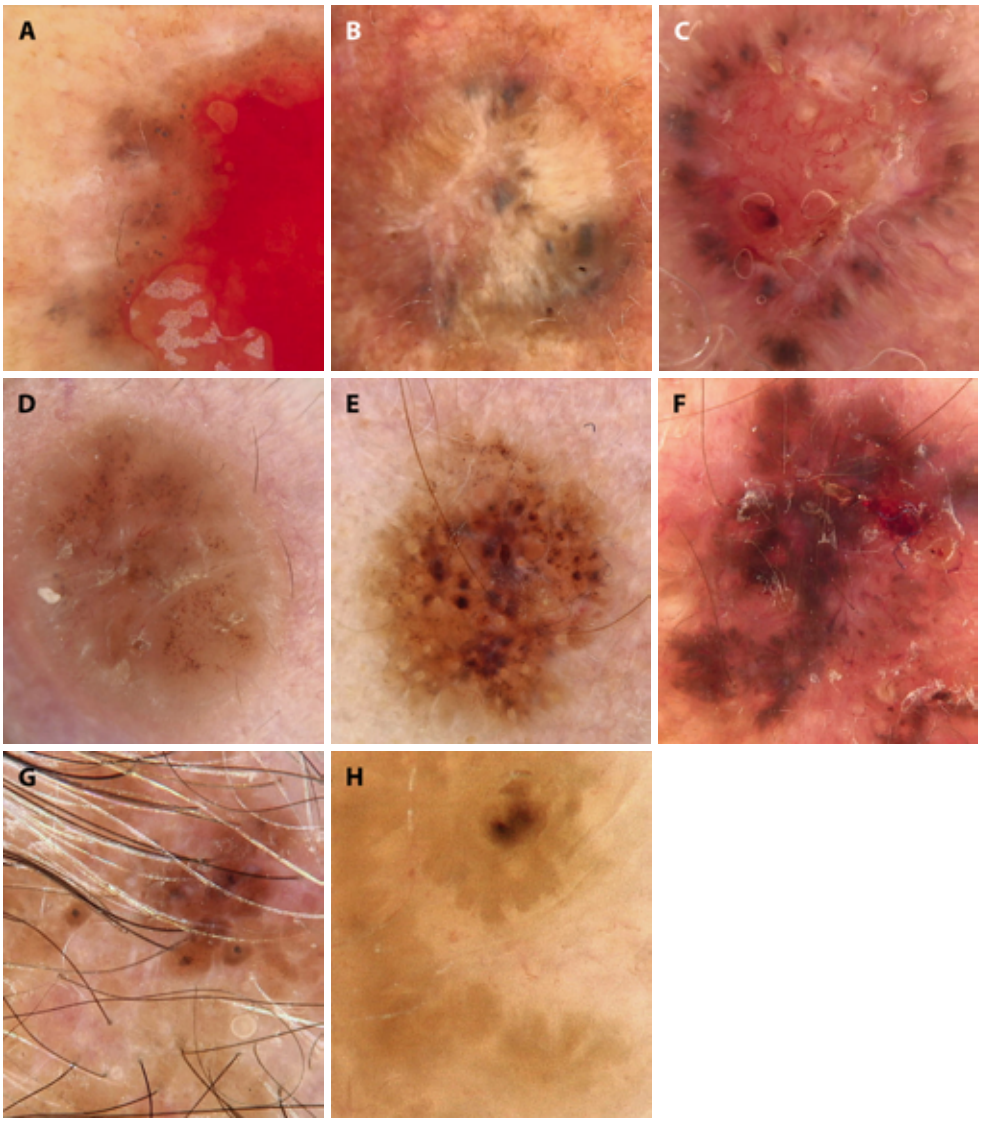

Figure 3. The different dermoscopic pigmentation patterns of basal cell carcinoma. (A) Multiple blue-grey dots, (B-C) Multiple blue-grey globules, Large blue-grey ovoid nests, (D) Brown dots, (E) Brown globules, (F) Brown nets, (G) Concentric structures, (H) Leaflike areas.

When these studies and our study are examined, shiny white structures are most common in the nodular BCC subtype. When the incidence of rosette structures in BCC subtypes is examined, they were most commonly seen in superficial BCCs in the study by Suppa et al. [26], whereas they were most commonly seen in nodular BCCs in our study. A better understanding of these structures will facilitate the diagnosis of BCC subtypes.

Lallas et al. reported that pigmentation could be detected in 30% of clinically nonpigmented BCCs using dermoscopy and emphasized that dermoscopy has the potential to reveal clinically undetectable pigmentation [28]. In our study, there was consistency among clinical (22.9%), dermoscopic (34.4%), and histopathological (31.3%) features in diagnosing pigmented BCC. As in the study of Lallas et al., the frequency of clinically pigmented BCC was lower than the rate of dermoscopic and histopathological diagnosis, but the difference was not statistically significant [28]. This may be due to the small sample size.

Pigmented BCC is considered a low-risk variant in some publications [29]. However, Xavier-Júnior et al. described pigmented BCCs with higher risk morphology, including sclerosing and micronodular subtypes [30]. Lallas et al. emphasized that pigmentation can occur in all subtypes [28]. We also observed dermoscopic pigmentation findings in all subtypes, most commonly in nodular BCC.

Altamura et al. reported that 40.6% of BCCs had dermoscopic findings suggestive of the features of melanocytic lesions [4]. In our study, polymorphous vascular pattern was observed in 36 patients (37.5%), brown globules in 18 patients (18.8%), dots in 13 patients (13.5%), and blue-whitish veil in 6 patients (6.3%). Altamura et al. emphasized that these dermoscopic features may make it difficult to distinguish pigmented (especially heavily pigmented) BCCs from

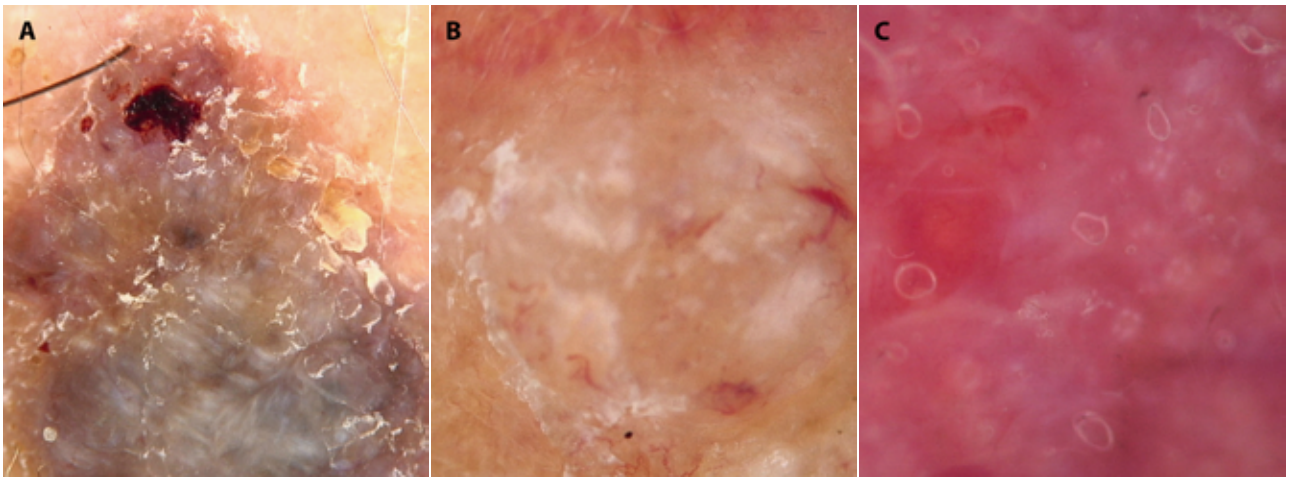

Figure 4. Dermoscopic features of (A) Shiny white streaks, (B) Shiny white blotches and strands, (C) Rosettes.

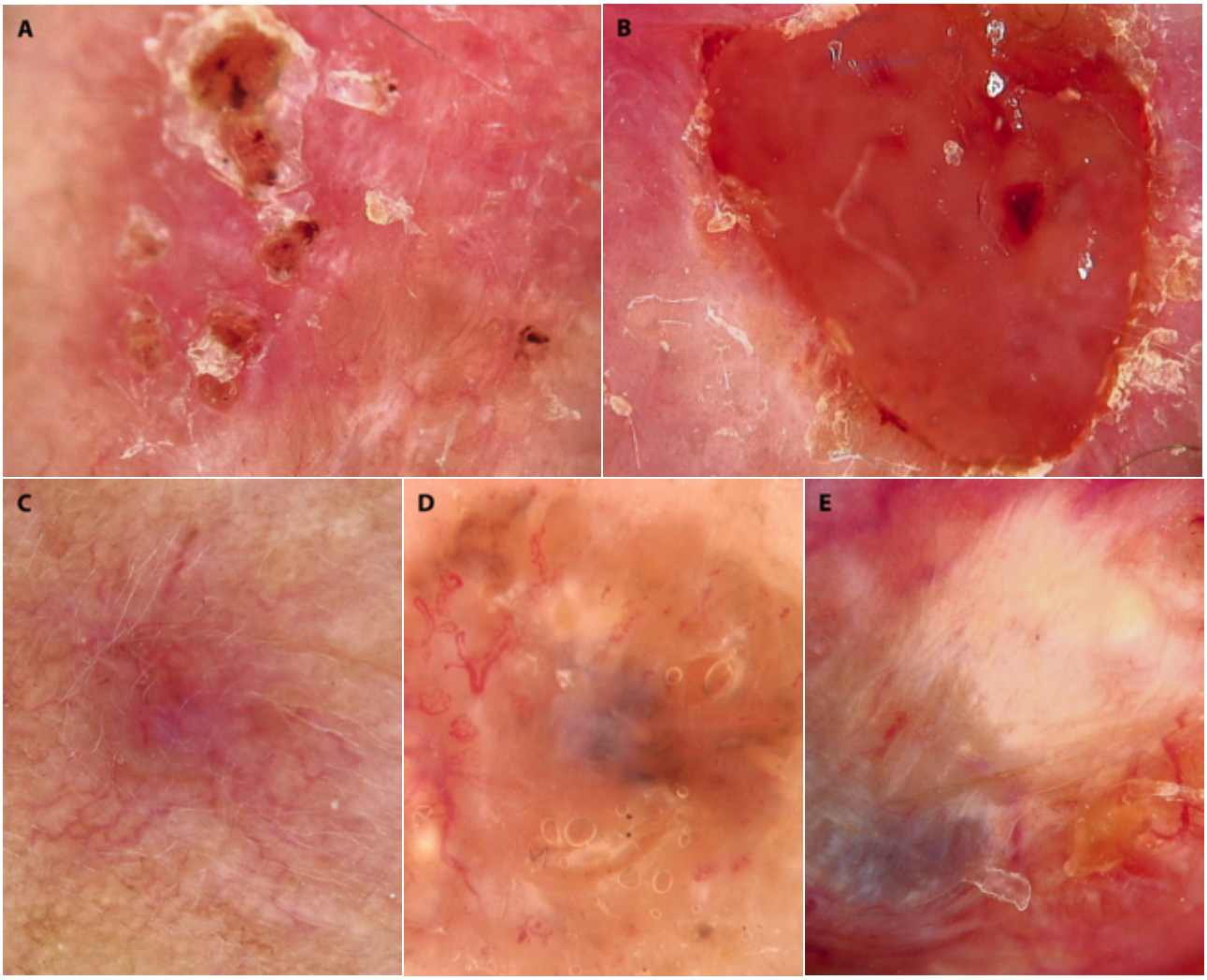

Figure 5. Other dermoscopic features of basal cell carcinoma. (A) Multiple small erosions, (B) Ulceration, (C) Shiny white-red structureless background, (D) Blue-whitish veil, (E) Keratin masses.

melanocytic nevi and melanomas [4]. Clinician caution is advised in this respect.

Infiltrative BCC was reported to present with arborizing vessels (76%), followed by ulceration (44%) and short fine telangiectasias (40%) [3, 31]. The dermoscopy study conducted by Popadić included three infiltrative BCCs and white shiny areas were detected in all of these patients [32]. Information about the subgroups of white shiny areas was

not given in this study. Pampena et al. evaluated 71 infiltrative BCC patients and reported the most common dermoscopic findings to be short white streaks (77.5%), arborizing vessels (71.8%), and shiny red-white structureless areas (69.0%) [33]. Of the white shiny areas in our study, the most common were shiny white blotches and strands (78.6%) and shiny white streaks (42.9%). In infiltrative BCCs, knowledge of the subgroups of shiny white structures will help in diagnosis.

Pampena et al. determined that short fine telangiectasias are common on dermoscopy of infiltrative BCC and concluded that arborizing vessels and short fine telangiectasias can be seen in the same lesion [33]. Similarly, we observed both arborizing vessels (71.4%) and short fine telangiectasias (57.1%) in our infiltrative BCC patients. When the same authors evaluated the degree of dermoscopic pigmentation in infiltrative BCC, they found that these lesions were more amelanotic and less pigmented than nodular BCC [33]. In our study, the frequency of pigmentation seen in infiltrative BCC (6.1%) and mixed BCC (6.1%) patients was lower than in other BCC subtypes.

Reiter et al. in their review reported that the most common dermoscopic findings seen in superficial BCC were short-fine telangiectasia (60%), multiple small erosions (43%), and shiny white structures (43%). Furthermore, 79% of lesions were observed to have a white-red structured background. They emphasized that shiny white-red structureless background is a unique dermoscopic finding for superficial BCC [3]. Papageorgiou et al. emphasize that the white shiny blotches/strands structure is a predictor of superficial BCC in anatomic sites other than the lower extremities [34]. In our study, shiny white-red structureless background and shiny white blotches and strands structures are the most common nonvascular/nonpigmented structures in superficial BCC, which is consistent with previous literature. Zalaudek et al. accepted blue-gray ovoid nests as a negative predictor of superficial BCC [35]. Similarly, blue-gray ovoid nests were not detected in any of the superficial BCCs in our study. Considering that brown structures are associated with melanin, accumulation is observed in the dermo-epidermal junction on dermoscopy and constitutes a feature of superficial BCC [28]. In light of available data, brown dots and globular structures were mostly seen in superficial and micronodular BCC in our study.

Verduzco-Martínez et al. evaluated the dermoscopic findings of a patient with micronodular BCC and observed truncated vessels and globules [36]. In their study evaluating the dermoscopic properties of aggressive BCC types including micronodular BCC, Kim et al. reported that the appearance of multiple blue-gray globules was more common [37]. El-Sayeda et al. observed arborizing vessels and blue-gray globules in a patient with micronodular BCC [11]. Our findings are consistent with the study by Verduzco-Martínez et al. [36]. However, the insufficient number of patients in all studies makes it difficult to comment on the specific findings of micronodular BCC.

In patients with basosquamous BCC, Giacomel et al. observed dermoscopic features of unfocused (peripheral) arborizing vessels (73%), keratin masses (73%), shiny white blotches and strands (73%), ulceration or blood crusts (68%), polymorphous vessels (50%) [14]. Akay et al. reported dermoscopic features of keratin mass (91.7%), ulceration (69.4%), shiny white blotches and strands (69.4%), and polymorphous vessels (61.1%) in basosquamous BCC [38]. When the results of these two studies and our own are evaluated, keratin masses, shiny white blotches and strands, ulceration, and polymorphous vessels are among the most common dermoscopic findings. Dermoscopy of basosquamous BCC shows features of keratinization with vascular patterns suggestive of BCC [38]. The greatest limitation of our study was that arborizing vessel structures were not grouped as focused or unfocused when evaluating basosquamous BCC. Therefore, we are unable to evaluate the appearance of arborizing vessels in this group.

This study has several limitations. Firstly, it was retrospective and conducted in a small patient population. In addition, the population living in the Trakya area is predominantly Fitzpatrick skin type II-III. Another limitation is that histopathologic examinations were conducted by a single pathologist who was not blinded. Finally, the absence of a control group (dermoscopic images including benign and malignant lesions) was another limitation.

Conclusion

In this study, the most common finding among the classical dermoscopic features of BCC was arborizing vessels, while shiny white-red structureless background and shiny white blotches and strands were the most frequent nonvascular/nonpigmented structures dermoscopic features. The dermoscopic features observed in the BCC histopathologic subtypes were consistent with the literature. However, a specific/dermoscopic structure belonging to BCC subtypes could not be detected. Of the less common subtypes, the frequency of short fine telangiectasias was 100% in micronodular BCC, whereas shiny white-red structureless background was detected in 100%, shiny white blotches and strands in 80%, and keratin mass in 80% of basosquamous BCCs. The small number of these subtypes in our population and the absence of the morpheaform type precludes a comprehensive interpretation of dermoscopic presentations in all BCC subtypes. Further studies are needed for this purpose.

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