Dermoscopic Features of Pigmented versus Non Pigmented Basal Cell Carcinoma in Iraqi Population

Hayder R Al-Hamamy, Ruaa Ali Raheel ***

ABSTRACT:

BACKGROUND:

Basel cell carcinoma is the most common locally invasive skin cancer in human. The diagnoses depend on the clinical features and histopathological examination. Dermoscopy is a non-invasive tool which allows better visualization of the subsurface structures. Dermoscopy can be used as an aid in the diagnosis of basal cell carcinoma.

OBJECTIVE:

To evaluate the benefit of dermoscopy in the diagnosis of the basal cell carcinoma and describe features of both pigmented and non-pigmented basal cell carcinoma.

PATIENTS AND METHODS:

This is a cross sectional study of twenty five patient with suspected basal cell carcinoma. It was conducted at the Department of Dermatology, Baghdad Teaching Hospital, Baghdad, Iraq, from April 2016 to August 2017. Twenty five patients with 25 lesions of basal cell carcinoma were enrolled. History , clinical examination and photos were taken for each lesion, then dermoscopcial evaluation for each lesion was done using fotofinder handyscope mounted on iphone6s with a standardized dermoscopical image with 10x magnification and a polarized mode of light. Photos were then evaluated and saved. Finally, the data was analyzed.

RESULTS:

According to the visualized pictures by dermoscopy the features of basal cell carcinoma included leaf - like area in (50%) of lesions followed by multiple blue - grey nests in (50%) of lesions in pigmented basal cell carcinoma, while ulceration in (100%), arborizing blood vessel in (83%)in non-pigmented basal cell carcinoma. In mixed lesions shiny white to red structureless and milky pink area in (86%), large blue - grey ovoid nest in (71%) were commonly seen. All histopathological reports were basal cell carcinoma.

CONCLUSION:

Dermoscopy is a valuable tool for the diagnosis of basal cell carcinoma. There are specific findings in pigmented and non-pigmented basal cell carcinoma.

KEYWORDS BCCs, dermoscopy , fotofinder handyscope

INTRODUCTION:

Dermoscopy is a non- invasive technique widely used in the differential diagnosis differential diagnosis of pigmented skin lesions[1].

In recent years, Dermoscopy was found to be useful as an aid to the diagnosis of many other skin diseases[2], including basal cell carcinoma (BCC) [3]. A number of finding were demonstrated in BCC such as (leaf like area, spoke wheal area, large blue –grey ovoid nest) and others [4-5] .

The role of dermoscopy in the diagnosis of BCC has been studied by several investigators, and the correlation with the clinical type, location was assessed.

In the present study, dermoscopic findings in different clinical types of BCC were evaluated.

* Iraqi Board for Medical Specializations
** Baghdad Teaching Hospital\ Medical City

PATIENTS AND METHODS:

Twenty five patients with suspected basal cell carcinoma were recruited from the center of Dermatology and Venereology, Baghdad Teaching Hospital, Baghdad, Iraq, in a cross-sectional study carried out from April 2016 to August 2017.

A full history was taken from every patient including age, occupation, duration of the lesion, history of exposure to radiation or UV light, drug and family history.

Careful physical examination of the lesion was done regarding size, site, clinical type, of basal cell carcinoma (nodular, superficial or morpheaform) and the presence or absence of ulceration within the lesion.

Photos were taken for each lesion with mobile iPhone 6s with 12-megapixal camera then a dermoscopic evaluation for each lesion was

done using fotofinder handscope mounted on iphone 6s with a standardized dermoscopic images 10x of magnification and a polarized mode of light. The dermoscopic features were assessed.

The patient was informed of the suspicion of basal cell carcinoma and the fact that a biopsy was mandatory.

Incisional biopsies were obtained from all lesions to be stained with Hematoxylin and eosin stain

Statistical analysis of data was done and was presented with mean, standard deviation and percentage with comparison of the clinical and dermoscopic features.

RESULTS:

A total of twenty five patients with 25 of a clinically suspected basal cell carcinoma were enrolled in the study, 12 patients were males and 13 patients were females.

Their ages ranged from 39-76 years with a mean (60.68) years and standard deviation (9.06) years. All patients presented with a single lesion.

As for the site of lesions 18 were on the face, 4 on the scalp, 2 on the neck, & 1 on the upper back. The size of the lesions ranged from 0.5 cm^2 to 20.26 cm^2 with a mean of 7.69 cm^2 and standard deviation of 6.4 cm^2.

The types of lesions were 18 nodular, 6 superficial &1 morepheaform.

Dermoscopic features:

BCC were classified into pigmented (12) lesions, non-pigmented(6) lesions and (7) mixed lesions.

The dermoscopic features of pigmented, non-pigmented and mixed BCC as shown in table 1

Table 1 Dermoscopic features of pigmented, non-pigmented and mixed lesions

#	Feature	Pigmented BCC	Non-pigmented BCC	Mixed BCC
1	leaf - like area	6(50%)	0	3(43%)
2	spoke wheal area	4(33%)	0	2(29%)
3	large blue - grey ovoid nest	5(42%)	0	5(71%)
4	multiple blue - grey nest	6(50%)	0	2(29%)
5	arborizing blood vessel	2(17%)	5(83%)	4(57%)
6	ulceration	3(25%)	6(100%)	3(43%)
7	scattered vascular globular pattern	0	4(67%)	3(43%)
8	shiny white to red structureless and milky pink area	0	3(50%)	6(86%)
9	small fine telangiectasia	0	4(67%)	2(29%)
10	cork - screw vessel	0	1(17%)	1(14%)

The most common dermoscopic finding in pigmented BCC was leaf - like area 6(50%) lesions followed by multiple blue - grey nests 6(50%) lesions. In the non-pigmented BCC the most common feature was ulceration 6(100%) lesions followed by arborizing blood vessel 5(83%) lesions. In mixed lesions the most common feature was shiny white to red structureless and milky pink area 6(86%) lesions followed by large blue - grey ovoid nest 5(71%) lesions.

All histopathological reports were basal cell carcinoma.

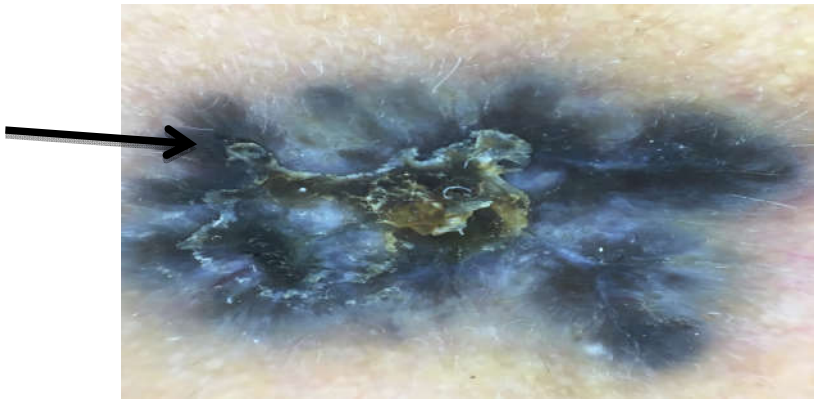

Figure 1 Leaf - like areas

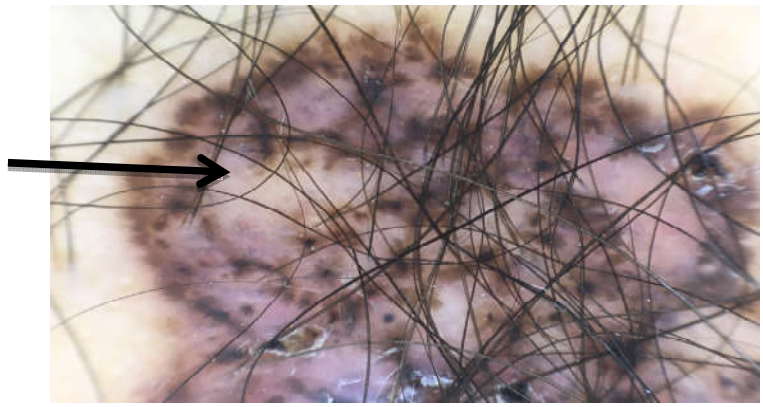

Figure 2 Spoke wheel areas

Figure 3 Large blue - gray ovoid nests

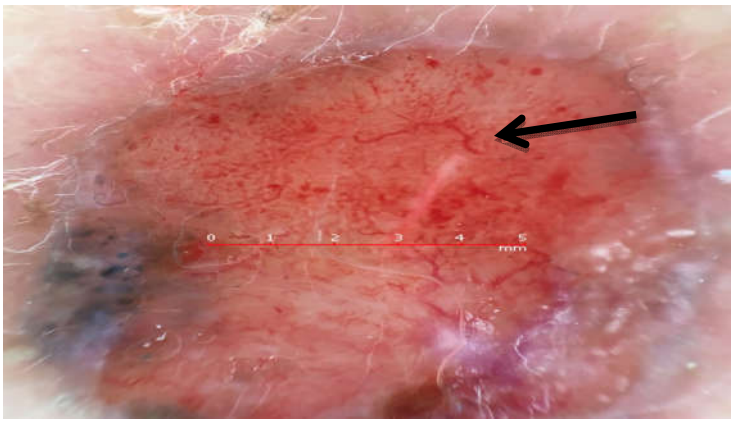

Figure 4 Scattered vascular global pattern

DISCUSSION:

BCC is the most common malignant neoplasm in human [6]. The diagnosis is usually made clinically supported by histopathological examination.

However, some lesions may be atypical and difficult to diagnose. Dermoscopy has been recently used in the diagnosis of such lesions[7]

There are many clinical types of BCC including, nodular, ulcerative, superficial and morpheaform. In addition some BCCs are pigmented while other are not. Dermoscopic finding varies with the clinical type and whether the lesion is pigmented or not [8].

A number of studies have demonstrated usefulness of dermoscopy. Takahashi et al (2015) studied 70 lesion and demonstrated the usefulness of dermoscopy in the diagnosis even in small lesions (less than 3 mm) [9].

Suppa et al (2015) found no association between the dermoscopical features and the location of BCC lesions. They also found no correlations with the clinical type and the dermoscopic findings in their study of 50 lesions[10].

Demırtaşoğlu et al (2006) attempted to correlate the dermoscopic finidings with the histopathological features, and found such a correlation with the pigmented BCCs and no such correlation in the non-pigmented BCCs[11].

In our study, BCC were classified in to pigmented, non-pigmented and mixed. The dermoscopic findings were different for the pigmented versus the non-pigmented lesions. In the pigmented lesions the most common findings were leaf - like area, multiple blue - grey nests, while in the non-pigmented lesions the most common findings were small fine telangiectasia and scattered vascular globular pattern. A combination of these findings was noticed in the mixed type of BCC

Trigoni et al (2012) studied 138 lesions and found different dermoscopic findings in the pigmented and the non-pigmented BCC. They found that the scattered globular pattern was the most frequent in pigmented BCC[12].

Popadic (2015) studied 7 pigmented BCC lesions and the correlation of the dermoscopic finding with tumor thickness.

In the thicker parts there were multiple erosions and pigmented features, while in the thinner parts white areas were mostly found[13].

REFERENCES:

1. Marghoob AA, Satine RP, Jaimes N, Dermoscopy for the Family physician , American Family physician ,2013, 88 : 441-450
2. Grin CM, Freidman KP, Grant –Kels JM. Dermoscopy: a review, Dermatologic clinic, 2002 , 20 , 641-646.
3. Katz B, Rabinovitz HS. Introduction to dermoscopy. Dermatological clinic, 2001, 19, 221-258.
4. Braun RP, Rabinovitz HS, Oliviero M, KOPF AW, SauratJ H . Dermoscopy of pigmented lesions. Journal of the American Academy of Dermatology. , 2005 , 52 , 106- 121.
5. Marghoob AA , Braun RP , Malvely J . Introduction , in an Atlas of dermoscopy .Marghoob AA , Malvely J , Brana RP , second edition , Informa Healthcare , 2012 , 1-2.
6. Wang S Q, Marghoob A A, Scope A, Principles of dermoscopy and dermoscopic equipment ,in an Atlas of dermoscopy , Marghoob AA , Malvely J , Brana RP,second edition , Informa Healthcare, 2012 , 3-5.
7. Madooei A , Drew M S . A bioinspired color representation for dermscopy image analysis ,in Dermoscopy image analysis , celebi ME , Mendoncat T , Marques JS , Taylor & Francis group, 2016, 24-33
8. Dogra S, Mittal A. Role of dermoscopy in the diagnosis of pigmentary dermatoses in skin of color. Pigment International, 2014, 1, 41-43.
9. Takahashi A, Hara H, Aikawa M, Ochiai T. Dermosopic Features of small size pigmented basal cell carcinoma. Japanese Journal of Dermatology dermatological association, 2016, 43, 543- 546.
10. Suppa M, Micantonio T, Di Stefani A, Soyer H.P., Chimenti S, Fargnoli MC. Dermoscopic variability of basal cell carcinoma according to clinical type and anatomic location. Journal of the European Academy of Dermatology and Venereology, 2015, 29, 1732-1741.

11. Demırtaşoğlu M, İlknur T, Lebe B, Kuşku E, Akarsu S, Özkan Ş. Evaluation of dermoscopic and histopathologic features and their correlations in pigmented basal cell carcinoma. Journal of the European Academy of Dermatology and Venereology, 2006, 20, 916-920

12. Trigoni A, Lazaridou E, Apalla Z, Vakirlis E, Chrysomallis F. Vary timiadis D, Ioannides D, Dermoscopic features in diagnosis of different types of basal cell carcinoma : prospective analysis . Hippokratia . 2012, 16: 29- 34.

13. Popadic M. Dermoscopy of aggressive basal cell carcinomas. Indian Journal of Dermatology and Venereology 2015; 81:608-610.