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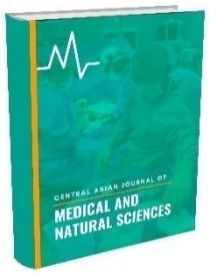

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Pigmented Histotype of Basal Cell Carcinoma, Experience of Clinical and Dermatoscopic Research among Patients of Asian Origin in the City of Tashkent

1. **Solmetova M. N**
2. **Vaisov A.Sh**
3. **Gafur-Akhunov M. A**
4. **Yuldasheva D. Yu**

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[1] Republican Dermatovenerologic Clinical Hospital under the Ministry of Health of the Republic of Uzbekistan

[2] Tashkent Medical Academy

[3] Center for the development of professional qualifications of medical workers under the Ministry of Health of the Republic of Uzbekistan

[4] Tashkent city branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology

Abstract: Basal cell skin cancer (BCSC) is the most common skin cancer worldwide, and its pigmented form, which is more common among Asians, is sometimes a major diagnostic challenge. In this article, we aim to illustrate the importance of dermatoscopy for detecting the pigmented form of BCSC using the example of a series of clinical cases encountered in the daily practice of a dermatologist.

Materials and methods: data of the Cancer-Register of the Tashkent branch of the RSPMCO&R on the prevalence of malignant skin diseases, including BCSC and melanoma; data from the pathomorphological laboratory of the RDvCH and a dermatologist's appointment. Five residents of the city of Tashkent, patients with skin pigmented lesions suspected of melanoma, underwent a dermatoscopic examination, the results of which were compared with their pathological findings.

Results: the statistical data of the Cancer-Register of Tashkent city, on the basis of the Tashkent branch of the Republican Scientific and Practical Medical Center of Oncology and Radiology, for 2018-2019 were analyzed with the identification of structural features of the incidence of malignant dermato-oncological diseases; the author has done histotyping of the BCSC in more than half of the cases of the first time registered cases during this period;

Keywords: BCSC, pigment form of BCSC, dermatoscopy, dermatoscopic criteria for the pigmented form of BCSC.

On the basis of a dermatological clinic - RDvCH of the Ministry of Health of the Republic of Uzbekistan, dermatoscopy was carried out in 50 patients with a pigmented form of BCSC, the corresponding pathogonomic signs were developed. The article presents the clinical, morphological

and dermatoscopic correlation of the pigmented forms of BCSC, using the example of five clinical cases. At the preoperative stage, the patients received the correct clinical and dermatoscopic diagnosis and received adequate treatment.

Conclusions: Dermatoscopy is a useful non-invasive method that helps clinicians to distinguish pigmented BCSC from other pigmented, both benign and malignant skin neoplasms, and to further develop the correct treatment approach while minimizing psychological, economic and cosmetic damage to the patient.

Introduction: Dermato-oncology, which has arisen from the urgent need of dermatologists and oncologists in a differentiated approach to skin neoplasms, considers the introduction into clinical practice of knowledge of the etiomorphological features of a specific nosological form of tumor lesions of the skin [1].

Since the formation of modern oncology, the stumbling block between the two disciplines of oncology and dermatology has become the problem of early diagnosis of melanoma - an aggressive pigmented tumor of the skin, clinically proceeding as a sarcomatous tumor, due to its morphogenesis, in which during the period of embryonic development, a mesenchymal-epithelial transition occurs (eng. Mesenchymal-epithelial transition), that is, initially, the mesenchymal cell passes and is grouped in the epithelial layers of the integumentary tissues [2].

The initial clinical manifestation of melanoma is outwardly indistinguishable from the favorably current, but rare - 6% of all basal cell skin cancers (BCSC) [1], its pigmented form, which leads to a number of cases of both false-negative and false-positive diagnostics.

Modern technologies, namely immunohistochemistry, have made it possible to improve the differential diagnosis of these tumors, however, after surgery. At the same time, a competently interpreted digital dermatoscopic picture, at the stage of preliminary differential diagnosis, can establish the correct diagnosis, without expensive diagnostic methods that increase the economic burden of cancer, significantly reducing the cosmetic damage caused to the patient's visual image. And on the contrary, the establishment of a formidable disease - melanoma, in the early stages, will prevent the fatal consequences of a diagnostic error, and achieve a favorable prognosis.

At the stages of clarifying preoperative diagnostics, when establishing the diagnosis of BCSC, parallels were developed between visual examination and the subsequent pathomorphological nature of the tumor. At the same time, many authors adhere to the clinical and pathological classification of BCSC, which includes: nodular, superficial, sclero-dermo-form and pigmented variants [3,4].

In recent decades, physical examination of a skin tumor requires the use of a dermatoscopy method. Dermoscopy is a non-invasive method that improves the accuracy of diagnosis of both pigmented skin lesions and non-pigmented dermatological diseases [5,6]. The capabilities of modern digital dermatoscopy are such that they can detect incipient skin lesions invisible to the naked eye, and, subsequently, dynamically observe and archive the obtained high-precision images [6].

The dermatoscopic picture of the pigmented BCSC variant, originally described by Menzies et al. [7], is based on the absence of a pigmented network and the presence of at least one of six positive morphological signs of BCSC:

- ulceration,
- accumulation of pigment in the form of a maple leaf,
- blue-gray globules,
- blue-ovoid nests (blue-blue ovoid structures),

- branching "tree-like" telangiectasias
- spoked wheel areas

According to authoritative authors (Sawyer G. Peter, Zalaudek Iris, Hoffmann-Wellengof Rainer and others), mastering the knowledge of these dermatoscopic criteria will help both to avoid cases of false-positive diagnosis of melanoma and improve early recognition of BCSC.

Materials and methods: The basis for studying the state of diagnostics and the incidence rate of the pigment form of BCSC was the data of the Cancer Registry of the city of Tashkent, the data of the pathomorphological laboratories of the Tashkent city branch of the RSPMC Oncology and Radiology, as well as the Republican Dermatovenerologic Clinical Hospital of the Ministry of Health of the Republic of Uzbekistan.

As mentioned above, the second clinical base for research was a dermatological diagnostic and treatment institution - the Republican Dermatovenerologic Clinical Hospital, where, based on an analysis of patient visits to a dermatologist's office for 4 years (2018-2021) with various skin neoplasms. After a complex clinical, anamnestic and dermatoscopic examination, a group of patients (n = 50) was selected, with a histologically verified diagnosis of the pigmented form of BCSC. From this group, the fate of five patients was tracked - both at the clinical diagnostic stage and at the stage of the final pathomorphological diagnosis of the removed pigmented neoplasm. In the above clinical cases (2 men, 3 women), the patients had pigmented skin neoplasms, clinically suspicious for the diagnosis - the pigmented type of BCSC. The author, an officially trained dermatoscopist, carried out a dermatoscopic examination, followed by a scoring assessment of a pigmented neoplasm of the skin, according to generally accepted modern criteria (Menzies dermatoscopic model for diagnosing a pigmented version of BCSC) [7]. Digital photographs of the lesions were taken using a Dermlite DL 1 dermatoscopic apparatus (3Gen, San Jose, CA, USA). Clinical and dermatoscopic findings were compared with the results of histopathological interpretation of the obtained biopsy material in all five cases. An incisional method of sampling was used for skin biopsy. Staining of histopreparations according to the standard hematoxillin-eosin. The author evaluated and systematized the results of pathomorphological studies in accordance with the International Histological Classification of Skin Tumors (WHO Skin tumors, 2018, ICD-O).

Figure 1. Patient A, clinical presentation, dermatoscopic features, histopathological presentation.

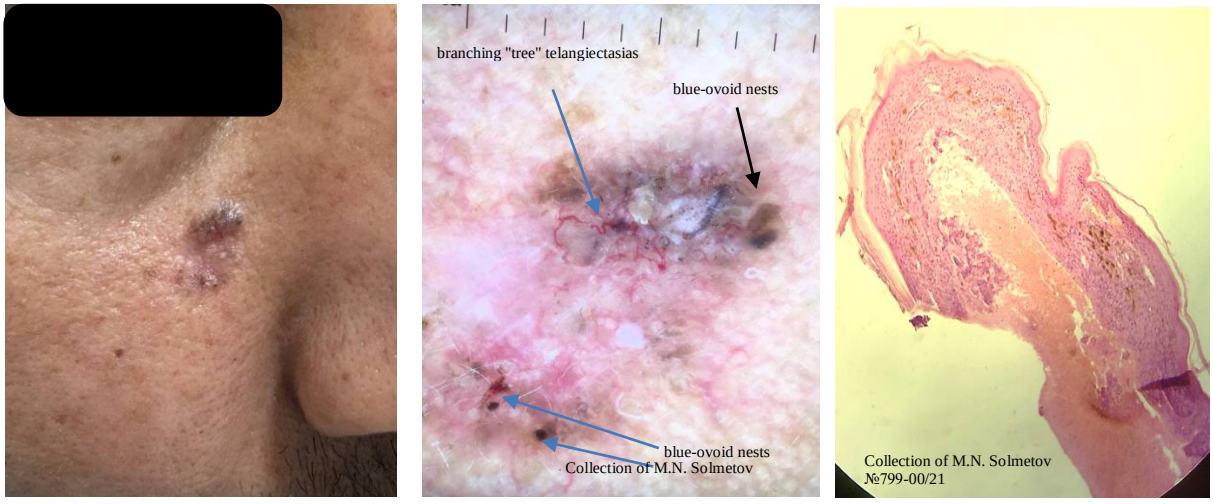


Figure 2. Patient B, clinical presentation, dermatoscopic features, pathological presentation.

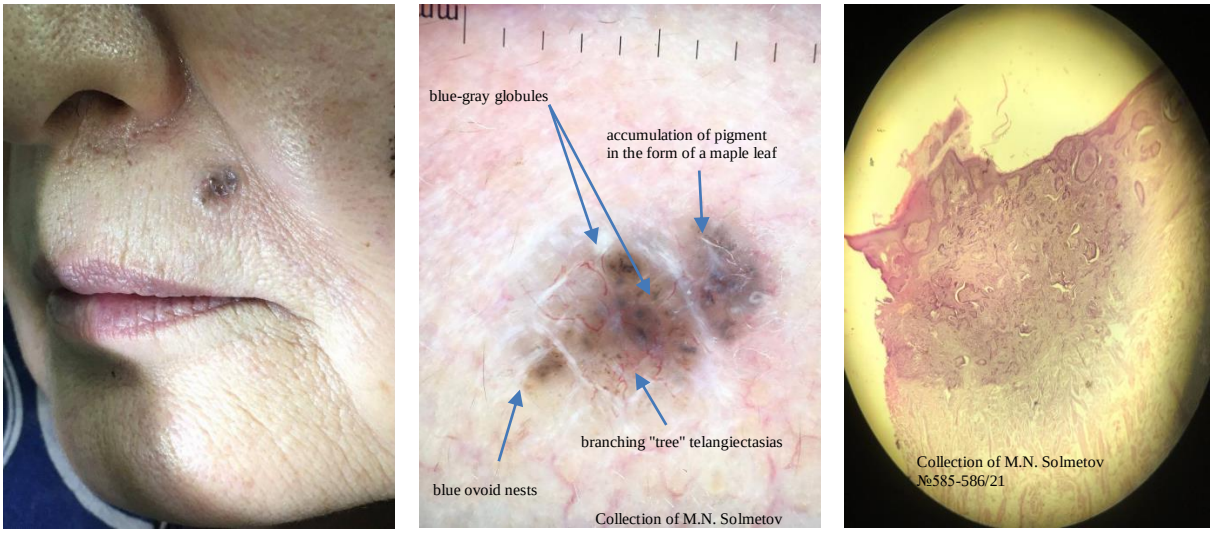


Figure 3. Patient C, clinical presentation, dermatoscopic features, histopathological presentation.

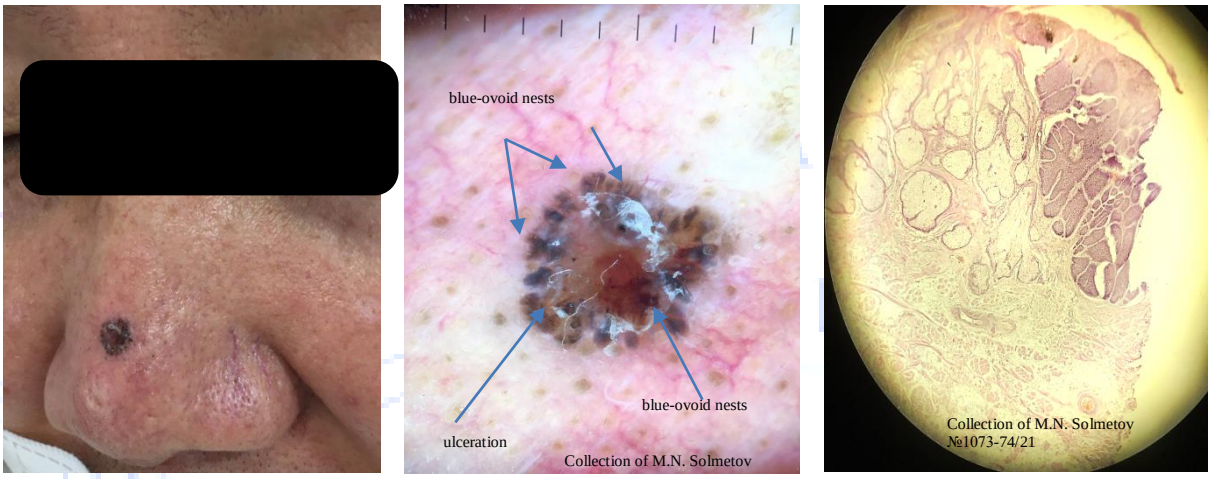


Figure 4. Patient D, clinical presentation, dermatoscopic features, pathological presentation.

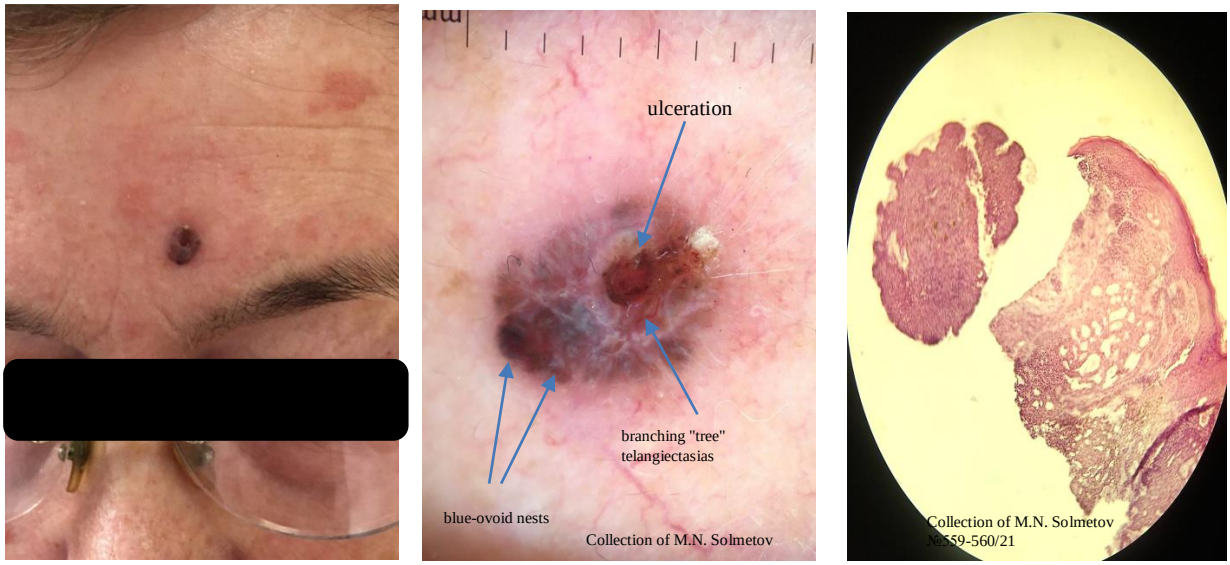


Figure 5. Patient E, clinical presentation, dermatoscopic features, pathological presentation.

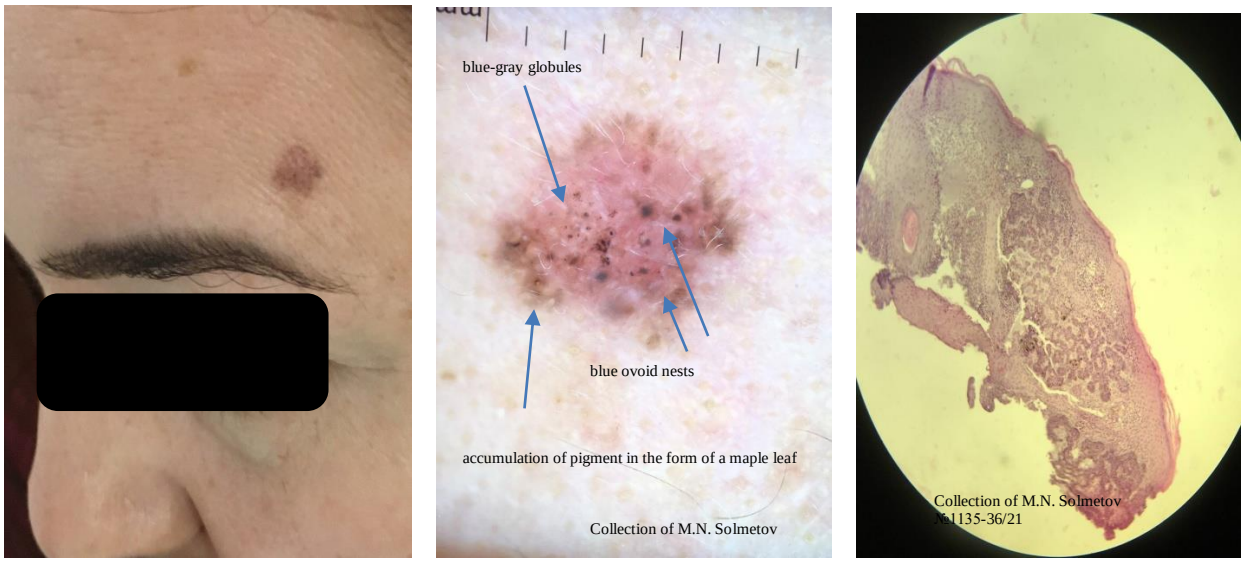
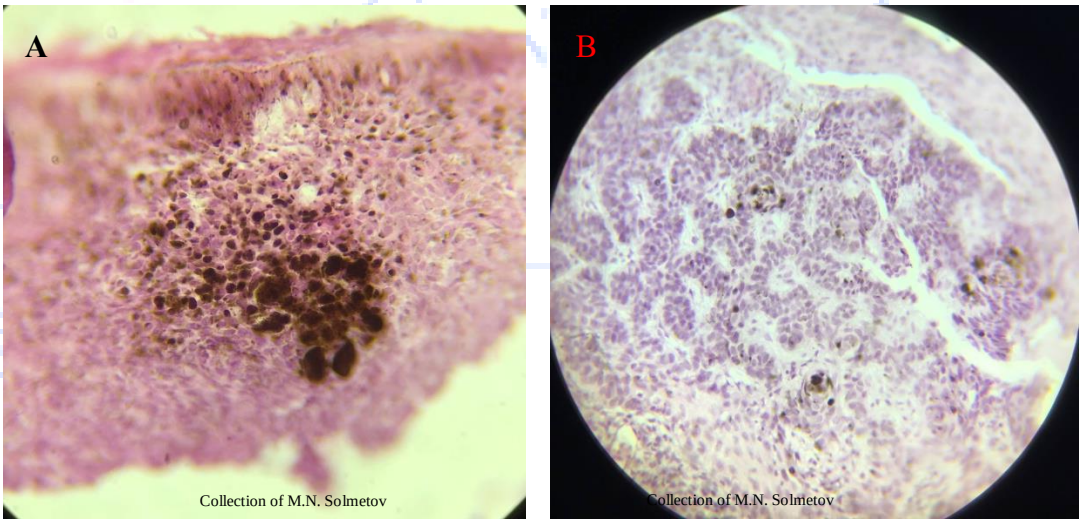


Figure 6. Pathohistological features of the pigment form of BCSC

(2 patients) Image A was taken from patient 3, while image B was taken from patient 5. Hematoxillin-eosin staining, 100x magnification, a nested accumulation of basaloid cells with palisade peripheral cells is noted, an accumulation of pigment is noted in tumor infiltrates.



Results

For 2018-2019, in the city of Tashkent, 89 cases (table № 1) of skin melanoma and 727 cases of skin cancer (including lips and vulva) were initially registered. Thus, the approximate ratio of the initial registration of skin cancer and melanoma is 8: 1. In skin cancer (n = 727), morphologically in 16.8% (n = 122) cases, squamous cell carcinoma was established, in the remaining 83.2% (n = 605) cases, BCSC was established, in some of which - 358 cases, histological preparations were available for post-facto histotyping.

Statistical analysis of the data of the Cancer-Register of Tashkent city confirmed the world data on the leadership of basal cell skin cancer, and in our study it amounted to 72.5% of cases in the total onco-dermatological morbidity.

Table № 1. Primarily registered skin diseases in the city of Tashkent for 2018-2019 according to the Cancer Registry of the Tashkent branch of the RSPMCO&R

Malignant skin formations	ABC	%
BCSC	605	72,5
Dermatofibrosarcoma	4	0,5
SARCOMA KAPOSHI	15	1,8
MELANOMA	89	10,7
SCSC	122	14,6
TOTAL	835	100,0

Note: BCSC-basal cell skin cancer, SCSC-squamous cell skin cancer/

In the analysis (table 2) of progistotyped cases of BCSC, the bulk was solid histotype - 44.7%, and the most rare form of histotype was pigment histotype - 5.3%, which somewhat correlates with the literature data on the frequency of occurrence of pigmentary basalioma - 6%.

Table № 2. The result of BCSC histotyping (out of 605 cases, BCSC histotyping is available n = 358)

NAME OF BCSC HISTOTYPE*	АБС	%
PIGMENTAL	19	5,3
SURFACE	19	5,3
MORPHEA	49	13,7
METATYPICAL CANCER	37	10,3
MICRONODULAR	25	7,0
SOLID	160	44,7
SOLID-ADENOID BASALIOM	49	13,7
TOTAL	358	100,0%

* *Note: WHO Skin tumors, 2018, ICD-O classification was used*

The histopathological picture was relatively the same (Figure 6): in all cases, an accumulation of a large number of melanophages with a high content of melanin granules was found, tumor cells consist of undifferentiated basaloid cells with peripherally often elongated cells, in places there are retraction gaps around the tumor infiltrate.

The clinical and dermatoscopic picture was characterized by some variability:

Table № 3. Clinical and dermatoscopic evaluation of the pigment form of BCSC

Table № 3. Clinical and dermatoscopic evaluation of the pigment form of BCSC			
A patient	Localization of education	Clinical characteristics	Dermatoscopic features
A. Male, born in 1981, Uzbek	Face, right cheek	0.7x1.0 cm ovoid, dark, brown papule with a zone of regression (fibrosis)	-Blue-ovoid nests (blue-blue ovoid structures), - blue-gray globules, -branching "tree-like" telangiectasias
B. Woman, born in 1960, Uzbek	Face, below the left nostril	0.5x0.7 cm, round-shaped pigmented papule	- accumulation of pigment in the form of a maple leaf, - blue-gray globules, -blue-ovoid nests (blue-blue ovoid structures), -branching "tree-like"

			telangiectasias
C. Male, born in 1965, Korean	Face, nose	0.4x0.5 cm, round-shaped pigmented papule with ulceration	-blue-ovoid nests (blue-blue ovoid structures), - ulceration
D. Woman, born in 1957, Tatar	Face, forehead	0.5 * 0.7cm, pigmented papule with ulceration	-blue-ovoid nests (blue-blue ovoid structures), - ulceration -branching "tree-like" telangiectasias
E. Woman, born in 1977, Tatar	Face, temple on the left	0.7 * 0.8cm, not uniform pigment spot	accumulation of pigment in the form of a maple leaf, - blue-gray globules, -blue-ovoid nests (blue-blue ovoid structures)

Note: cm is centimeter

This series of cases demonstrated 100% efficiency of dermatoscopy as a non-invasive diagnostic method that allows clinicians at the preoperative stage to differentiate pigmented BCSC from other pigmented lesions (melanoma, seborrheic keratosis, benign melanocytic nevi). In these clinical cases, we were able to observe the classic dermatoscopic features of pigmented BCSCs, which corresponded to the description in the current literature and correlated well with their histopathological characteristics. Large blue-gray ovoid nests were consistently present in all five lesions, while there were fewer vascular structures such as branching telangiectasias (a, b, c, d). This is consistent with the findings of several researchers who reported a lower frequency of vascular structures in pigmented BCSCs compared to their non-pigmented counterparts [8,9]. In addition, large blue-gray ovoid nests represent pigmentation in the deeper layers of the dermis, which corresponds to the histopathological findings of large, well-delineated tumor nests with accumulated pigment, extending into the dermis proper, as shown in Figure 6 [10,11,12]. Maple leaf pigmentation was found in 2 cases (b, e), while ulceration (c, d) and blue-gray globules (a, b, e) in 3 cases. Dermoscopy facilitates visualization of superficial skin structures located within the epidermis, the dermo-epidermal junction and the papillary dermis, which are otherwise invisible to the naked eye [13,14]. This is achieved by combining the increased penetration of light into the lesion with magnification.

Currently, there are three types of dermatoscopic techniques: classical or standard contact, polarized contact and polarized non-contact, which together allow the doctor to evaluate the morphological structures of the skin with different refractive properties. In addition, the convenience, accessibility and high resolution of modern digital dermatoscopy, with the involvement of the large capabilities of cloud technologies (telemedicine, computer archiving, and so on), reduces the number of unnecessary biopsies (that is, the ratio of benign and malignant excised biopsies) by developing and implementing them into dermatological practice. differential diagnostic patterns allowing to establish the benign or malignant nature of the skin neoplasm [14,15].

The projected increase in the incidence of skin cancer and, accordingly, its economic burden, both among representatives of the Caucasian and Asian races, the global aging of the population, with an increase in the older population - more susceptible to malignant diseases [17,18,19], urgently require the introduction of dermatoscopy in routine medical practice to ensure comprehensive coverage of the growing flow of patients with complex dermato-oncological pathology.

Conclusions: Our study demonstrates the importance of modern digital dermatoscopy at the stages of clarifying the diagnosis of pigmented skin neoplasms, providing early detection of a rare but aggressive tumor - melanoma, which, according to our research, has a high frequency of occurrence

among the population of the city of Tashkent: 1 case of melanoma per 8 cases of skin cancer. At the same time, the more common and benign basal cell carcinoma, namely its pigmented histotype, is clinically indistinguishable from the formidable melanoma. According to our studies, the frequency of the pigment histotype of BCSC was 5.3%.

When analyzing the situation with regard to the state of the quality of histological studies in the daily practice of the oncology center, a sensitively high percentage of histological findings of the BCSC without histotyping was established, which indicates the need to introduce it into the routine practice of domestic dermato-oncology, in accordance with the world standards WHO Skin tumors, 2018, ICD-O.

Based on the example of the clinical cases of pigmented BCSCs described above, it has been proven that dermatoscopy in practice allows at the preoperative stage to differentiate the nature of the pigmentary neoplasm - it is melanoma or a pigmented BCSC histotype, and to ensure the development of effective therapeutic tactics in order to prevent the development of relapse or prolongation of the disease in the future.

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