Case Report

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A Case of Infiltrative Basal Cell Carcinoma Sustaining the Necessity of the Thorough Clinicopathological Correlation

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Introduction

Dermatology is almost the only field in medicine where the diagnosis is "lying on the surface", and very often the only tools we need to make the right diagnosis are our own eyes and the tips of our fingers. Fortunately, in most cases it works well.

However, most of you would agree that each specialist, even the most experienced one, at some point of their career faces the situation when the diagnosis is very uncertain, and sometimes we are forced to acknowledge a mistake and assume the unpleasant consequences of misdiagnosing. What can be done to diminish the frequency of diagnostic mistakes? Today's medical technologies can provide us with amazing opportunities of using such modern and very promising non-invasive imaging techniques as dermoscopy, sonography, confocal microscopy, multiphoton and optical coherence tomographies. There is no doubt they could be very helpful in the process of defining the diagnosis, especially when used in combination, but all of them have their own list of limitations concerning their opportunities, potential practical applicability, and accessibility [1]. The possibility of clinical application of these novel non-invasive techniques depends on how well the personnel could be possibly trained, and it might appear a real challenge for some medical institutions. In addition, not many clinics can afford to buy this extremely expensive equipment today.

Considering the aforementioned facts, I would like to remind about the accessible, relatively cheap and extremely useful diagnostic method which should be used routinely in order to enhance diagnostic accuracy. I am talking about histological study and the necessity of clinicopathological correlation.

Unfortunately, a case I am going to report is just the one among the countless similar cases, when the right decision of performing early pathomorphological study was not made. As a result, definite unpleasant consequences arose. Dermatologists should not be overconfident about their ability to make a precise diagnosis relying solely on their own clinical experience and intuition. This overconfidence very often leads to the delays in making the correct diagnosis, and our patients and their relatives are the people who harvest the results of these delays.

Case report

A 52-year-old Caucasian woman presented to the City Clinical Skin and Venereal Diseases Dispensary (Minsk, Belarus) in May 2015 with a two year history of persisting skin lesion in the left temporal area which has never resolved since the onset. A detailed anamnesis had been taken from the patient and the collected data revealed the next findings. The skin changes first appeared in February 2013. The patient could not recall any cause which could have triggered the onset of the disease, including an excessive sun exposure or sunburns, and denied any occupational hazards. Her past medical and family histories were also non-contributory. During her first visit the skin lesion presented a solitary asymptomatic well-defined patch in the left temporal area about 1 cm in diameter with slight erythema in peripheral zone. The hair was absent within the skin affection. However, there were no signs of evident atrophy, scarring or transparent follicular hyperkeratosis. Even though there was no full triad which can usually be observed in patients with Chronic Discoid Lupus Erythematosus (CDLE), the skin eruption was clinically highly suggestive of this diagnosis. Thus, after the performance of some routine laboratory tests which did not reveal any relevant changes, and based on the clinical findings, the patient was diagnosed with CDLE and consulted by a rheumatologist and an ophthalmologist. The pathomorphological study was not performed at that time since the diagnosis seemed obvious to the dermatologist.

Since then, the woman has received several treatment courses for CDLE, including hydroxychloroquine, vitamins and various topical agents, such as different-strength topical corticosteroids and photo protectors. However, these treatment courses had showed no efficacy and the skin affection had been gradually progressing and increasing in size by peripheral extension over the course of two years, although, remaining asymptomatic. In May 2015, during the patient's visit to our clinic, her general health was unimpaired and she had no complaints apart from the skin lesion on her scalp. She looked rather asthenic, denying however any episodes of weight loss. On palpation no lymphadenopathy was revealed.

In the left temporal area there was a solitary lesion which presented a slightly depressed, quite extensive whitish-pink plaque with poorly demarcated clinical margins, 5x6 cm in diameter,

without characteristic rolled border. It showed slight tenderness to palpation and palpably was felt as dense, infiltrated and tethered to the underlying tissues plaque, and to the definite extent resembled a scar. Though its surface was not obviously translucent, stretching the skin under a bright light revealed some translucency, and a few teleangiectatic vessels became evident. There were a few tiny superficial erosions on the lesion's surface covered with thin hemorrhagic crusts (Figure 1).

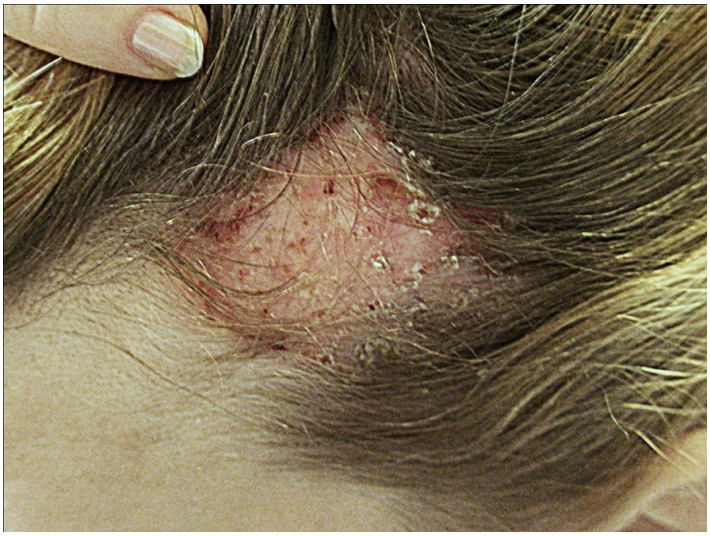

Figure 1: Whitish-pink plaque in the left temporal area with poorly demarcated margins and microerosions on its surface covered with thin hemorrhagic crusts.

Based on the clinical findings at that moment and taking into consideration the past medical history, including the absence of any positive dynamic despite the presence of adequate treatment, we were inclined to regard the lesion as one of the types of skin cancer, presumably basal cell carcinoma, and in particular, its infiltrative or morpheaform variant. To confirm the assumed diagnosis we obtained a punch biopsy specimen from the margin of the representative area, which then was processed according to the conventional techniques and colored with hematoxylin-eosin.

The performed pathomorphological study revealed slightly thinned epidermis with mild hyperkeratosis and focal parakeratosis. There were well delineated clusters of tumor cells with jagged irregular borders, varying in shape and size, and invading the dermis (Figure 2). They were composed of basaloid cells with relatively uniform darkly stained nuclei and scanty cytoplasm. Some of these clusters had the connection with the overlying epidermis, thus, confirming the tumor's origin from its basal layer (Figure 3).

The nests and strands of the tumor cells showed very limited peripheral palisading, characteristic to varying degree for most forms of basal cell carcinoma (Figure 4). The surrounding stroma varied in quality, but mostly looked rather loose and mucinous. Some tumor nests exhibited retraction artifact (Figure 5). Taking into consideration all the above information the diagnosis of infiltrative basal cell carcinoma was confirmed and the patient was referred to oncologist.

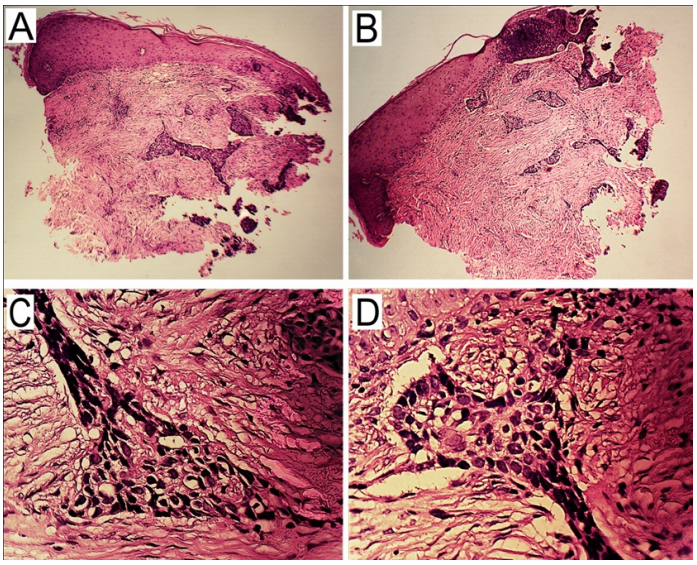

Figure 2: Nests and thin strands of basaloid cells invading the dermis (A,B: H&E, x64; C,D: H&E, x640).

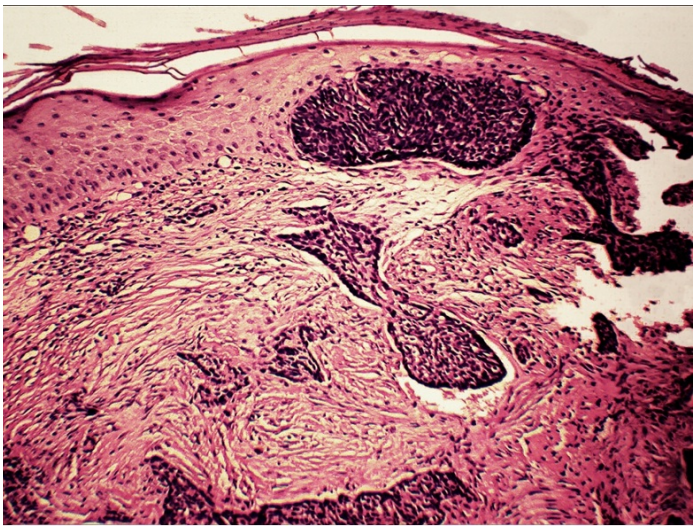

Figure 3: Some of the tumor cell clusters had connection with the overlying epidermis, indicating the origin of the tumor from its basal layer (H&E, x160).

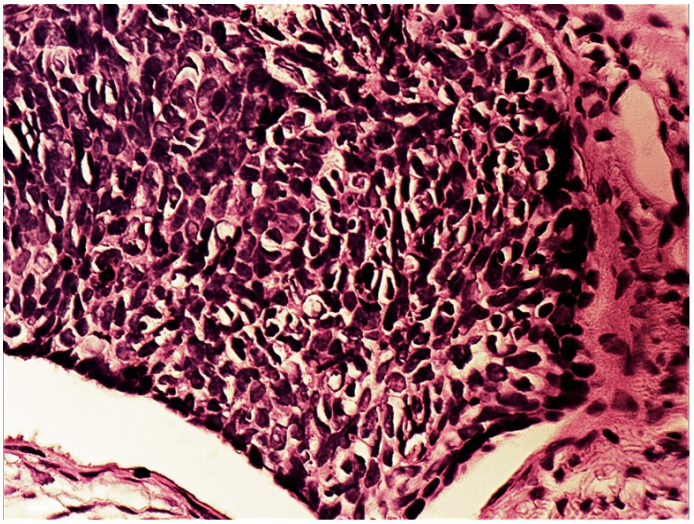

Figure 4: Periferal palisading was not as prominent as in the other forms of basal cell carcinoma (H&E, x640).

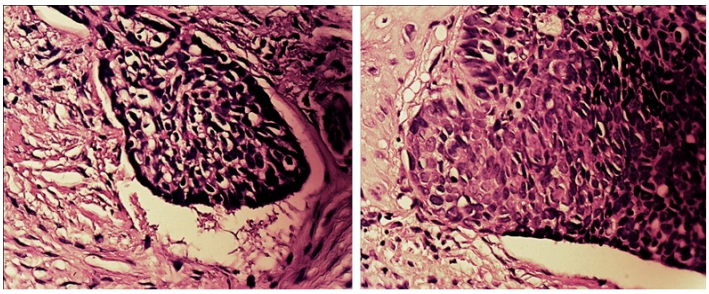

Figure 5: Retraction artifact, a cleft between the tumor nests and surrounding tissuesresulted from the shrinkage of the mucinous stroma during fixation, is a very characteristic feature of the basal cell carcinoma (H&E, x640).

Discussion

The lack of the early pathological study in this case gave rise to some questions. Was the first diagnosis of CDLE correct, and we indeed faced a case of malignant transformation of the preexisting lupus lesion, or could there have been a different scenario?

Even though we cannot completely deny the possibility of malignant transformation of CDLE lesion, misdiagnosing seems the most likely and obvious option. However, neither of these suppositions can be proved or refuted. It is impossible to make any inferences about the origin of this patient's skin lesion since the pathomorphological study had not been performed during her first visits, prior to prescribing any treatment. We can only suppose some probable ways of the development of events.

Firstly, this really could have been a case of CDLE which later transformed into infiltrative basal cell carcinoma. It is a scientifically substantiated fact that chronic inflammation is one of the tumor promoting factors [2,3]. Therefore, discoid lupus erythematosus, being a chronic skin disorder causing persistent inflammation, can eventually result in the development of skin cancer. Nowadays the malignant transformation is considered a well-recognized remote complication of CDLE [4,5]. Cutaneous squamous cell carcinoma and less often basal cell carcinoma may arise in patients with discoid lupus erythematosus [3,4].

Although, dozens of years usually elapse between the initiation of CDLE and the appearance of the first signs of the non-melanoma skin cancer, the rare cases with much more rapid transformation were also described in scientific literature. The distinction between these two clinically similar diagnoses and determination of the exact moment of transformation may sometimes pose significant practical dilemma, which might be possibly solved by histological examination. Thus, this case could have probably presented one of these extremely rare cases of the rapid transformation of chronic discoid lupus erythematosus into infiltrative basal cell carcinoma, one of the most aggressive types, but, unfortunately, this is only one of the possible explanations.

The second variant is more trivial and supposes misdiagnosis. In that case the patient's initial lesion diagnosed as CDLE might have had the typical histological changes characteristic of basal cell carcinoma from the very beginning, but they were overlooked because of the absence of pathomorphological examination.

Anyway, this case as many others suggests the necessity of the early histological study not only in cases where we suspect malignancy, but in every case where we have any minute doubts about the diagnosis at all. Such cases remind us that it is better to perform the study, even if you are pretty confident about a diagnosis and when supplementary examinations may seem inexpedient waste of time and money, than to yield the results of misdiagnosing.

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