Dermatology Practical & Conceptual

Basal Cell Carcinomas Presenting as Flat Pigmented Macules on the Face Mimicking Lentigo Maligna on Dermoscopy: A Case Series.

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Introduction

Basal cell carcinoma (BCC), the most common type of skin cancer, can usually be diagnosed with dermoscopy with high accuracy [1]. We noted, however, that certain pigmented BCCs (pBCCs) are more difficult to diagnose than others. These challenging pBCCs usually appear as flat, pigmented lesions on the face and mimic lentigo maligna (LM). To better characterize these types of pBCCs, we retrospectively collected typical cases of this clinical presentation and re-evaluated the dermoscopic findings.

Case Presentation

Cases were selected retrospectively from databases from Austria, Chile, and the United States. Cases were included if they were clinically pigmented and flat. Most cases were submitted for biopsy with LM in the differential diagnosis. We analyzed both pBCC and LM dermoscopic criteria by two independent investigators (CND and HK). A third reviewer helped solving disagreements (PU or .AA). For reflectance confocal microscopy (RCM) images, we used a wide-probe RCM (Vivascope 1500). Biopsy reports were obtained from clinical records and reviewed by expert dermatopathologists. Finally, we analyzed the dermoscopic images with a previously validated convolutional neural network (CNN) (https://dermonaut.meduniwien.ac.at/ypsono) and recorded the top-1 and top-3 accuracy rates [2].

We found 10 cases of BCCs that mimicked LMs. The mean age at diagnosis was 73 years (range: 44-87 years) and 6 of the 10 patients were females. All BCCs presented as flat pigmented macules on sun-exposed areas of the face

(Table 1). On dermoscopy, the main feature was a pattern of angulated lines without obliteration of the follicular openings, in all cases (Figure 1 and 2). This pattern mimicked the rhomboidal or 'zig-zag' pattern of LM. Additionally, all cases had pink areas and lacked the typical vascular pattern of BCC. Shiny white blotches and strands were seen in 4 out of 10 (40%). One case was examined by RCM and showed classic BCC features such as tumor nodules and cords with

Table 1. Demographic and tumor characteristics of included cases.

Case #	Age (y)	Gender	Subtype	Location
1	45	F	Superficial	Nose
2	72	M	Superficial	Forehead
3	44	F	Superficial	Nose
4	54	M	Superficial	Forehead
5	83	M	Infiltrative	Cheek
6	74	F	Superficial	Cheek
7	87	F	Superficial and nodular	Nose
8	77	F	Superficial and nodular	Forehead
9	83	F	Nodular, multifocal	Nose
10	42	M	Superficial	Cheek

M = male; F = female.

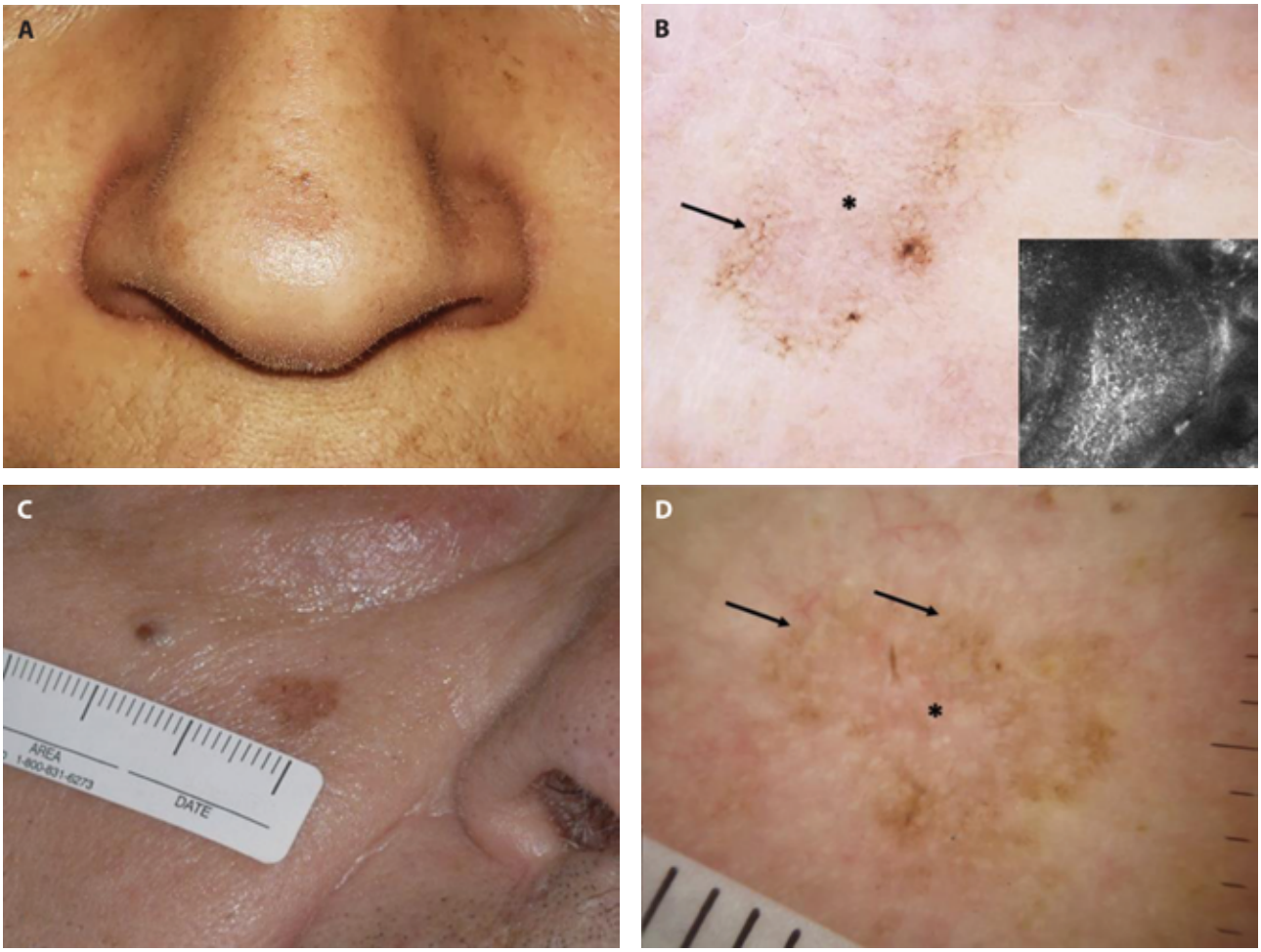

Figure 1. Basal cell carcinoma presenting as flat pigmented macules. (A) Clinical features of a flat pigmented macule on the nasal supratip. (B) Dermoscopic features showing rhomboidal structures (arrow) and a pink background (asterisk) (polarized light dermoscopy, original magnification x10). Inset shows reflectance confocal microscopy features showing tumor nodules with palisading and clefting (original magnification x30). (C) Clinical features of a flat pigmented macule on the right cheek. (D) Dermoscopic features showing rhomboidal structures (arrow), pink background, and shiny white blotches and strands (asterisk) (polarized light dermoscopy, original magnification x10).

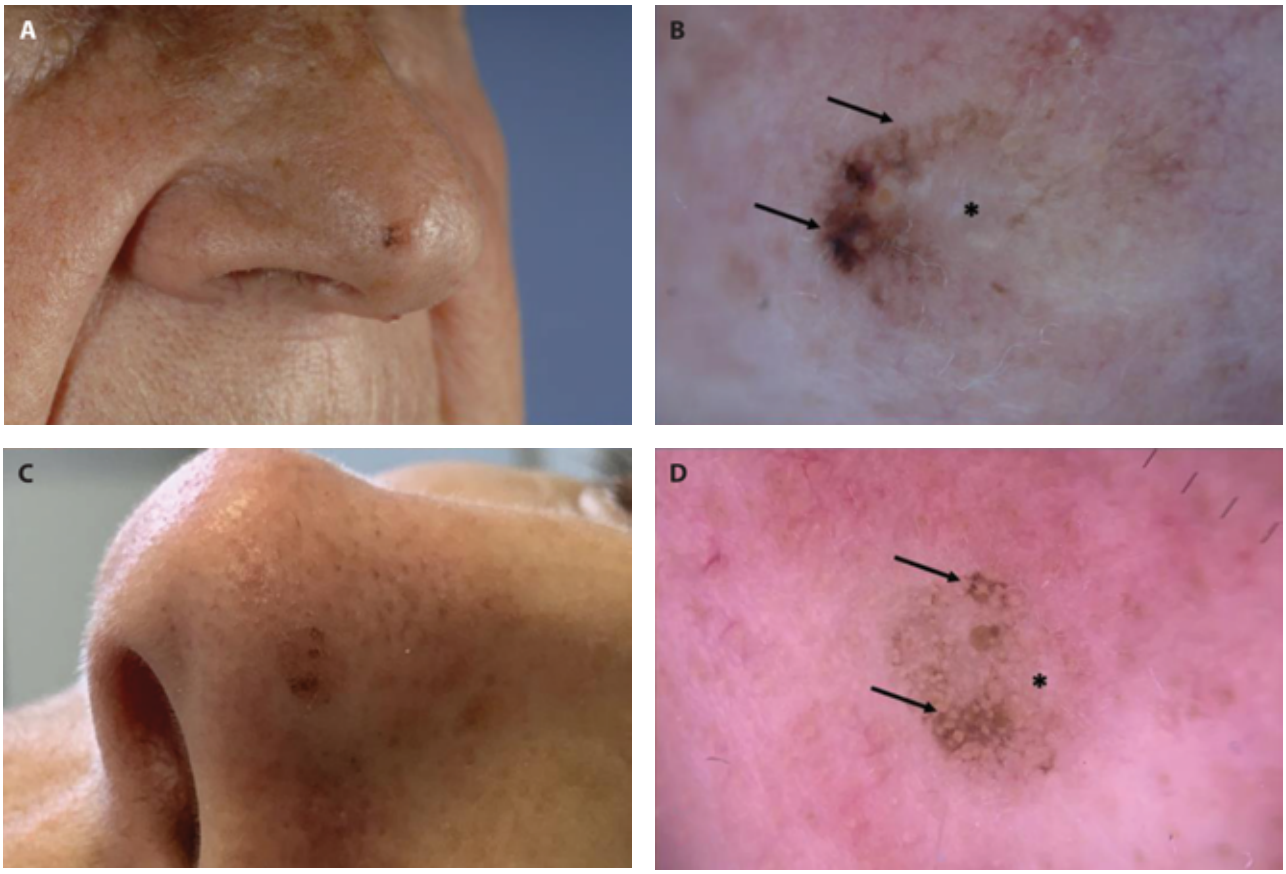

Figure 2. Basal cell carcinoma presenting as flat pigmented macules. (A) Clinical features of a flat pigmented macule on the right nasal tip. (B) Dermoscopic features showing rhomboidal structures (black arrow) and a pink background with shiny white blotches and strands (asterisk) (Polarized light dermoscopy, original magnification x10). (C) Clinical features of a flat pigmented macule on the left nasal tip. **D.** Dermoscopic features showing rhomboidal structures (black arrow) and a pink background (asterisk) (Polarized light dermoscopy, original magnification x10).

palisading and clefting. With regard to histopathologic subtype, six were superficial, two mixed (superficial and nodular), one had an infiltrative component, and one was nodular BCC. The top-1 and top-3 accuracy rates of the CNN were 0% (0 out of 10) and 60% (6 out of 10), respectively. The most common top-1 predictions of the CNN were pigmented actinic keratosis (pAK), melanoma, and solar lentigo.

The patients in this manuscript have given written informed consent to publication of their case details.

Conclusions

We characterized a previously undescribed presentation of facial pBCCs mimicking LM. The common confounding feature seen in all cases was angulated lines (ie 'rhomboidal', 'zig-zag') without involvement of hair follicles. Although all cases were typified by pink structureless areas, none displayed the typical serpentine and branching vessels of BCC. In our experience, LM only rarely displays pink areas, which could be a clue for the correct diagnosis of BCC. Shiny white blotches and strands also rarely appear on LMs [3]. The poor performance of a previously validated CNN underlines that these pBCCs are difficult to diagnose [2]. Limitations of this study are (1) that we were not able to estimate the frequency of this type of pBCC in clinical practice, (2) that we did not include a control group of other flat pigmented lesions such as pAK or LM, which is the main mimicker, (3) cases were not consecutive and there might be selection and recall bias, (4) no histopathological correlation of the angulated lines in BCCs was available, and (5) no pathology slides review was performed for BCC histopathological subtypes; however, all cases were initially signed by expert dermatopathologists.

In summary, when evaluating flat pigmented lesions on the face, pBCC should be included in the differential diagnosis [4]; especially when seeing angulated lines amidst pink areas with or without shiny white blotches and strands.

References

1. Reiter O, Mimouni I, Gdalevich M, et al. The diagnostic accuracy of dermoscopy for basal cell carcinoma: A systematic review and meta-analysis. *J Am Acad Dermatol*. 2019;;80(5):1380-1388. DOI: 10.1016/j.jaad.2018.12.026. PMID: 30582991.

2. Tschandl P, Codella N, Akay BN, et al. Comparison of the accuracy of human readers versus machine-learning algorithms for pigmented skin lesion classification: an open, web-based, international, diagnostic study. *Lancet Oncol*. 2019;20(7):938-947. DOI: 10.1016/S1470-2045(19)30333-X. PMID: 31201137. PMCID: PMC8237239.
3. Navarrete-Dechent C, Bajaj S, Marchetti MA, Rabinovitz H, Dusza SW, Marghoob AA. Association of Shiny White Blotches and Strands With Nonpigmented Basal Cell Carcinoma: Evaluation of an Additional Dermoscopic Diagnostic Criterion. *JAMA Dermatol*. 2016;;152(5):546-552. DOI: 10.1001/jamadermatol.2015.5731. PMID: 26792406. PMCID: PMC5037958.
4. Tschandl P, Rosendahl C, Kittler H. Dermatoscopy of flat pigmented facial lesions. *J Eur Acad Dermatol Venereol*. 2015;29(1):120-127. DOI: 10.1111/jdv.12483. PMID: 24661420.