

Dermoscopy of Rare Pigmented Variant of Bowen's Disease

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INTRODUCTION

Bowen's disease (BD) is a form of squamous cell carcinoma *in situ*, which was described by John T Bowen in 1912.¹ It usually presents as an asymptomatic, slowly growing erythematous scaly patch or plaque with well-demarcated irregular border.² It may be pigmented or nonpigmented. The most common sites affected include the head and neck followed by the extremities.³

Several dermoscopic features of BD have been described, which include atypical vascular pattern (glomerular vessels), pigmented pseudonetwork, irregularly distributed patches of pigmentation, homogeneous grayish-brown pigmentation, patchy distribution of dots and globules, areas of hypopigmentation, scaly/verruccous surface, superficial erosions, and crusting.⁴⁻⁷

We present here a case of rare variant of BD diagnosed by dermoscopy and confirmed by histopathology.

CASE REPORT

A 75-year-old female, farmer by occupation presented to us with a painless raised lesion on the dorsum of right hand since the past 5 years. The lesion was asymptomatic with gradual increase in size over time. There was history of working in the farms for a long duration with exposure to pesticides as well. She had applied topical steroids over the lesion with no response. No systemic features like weight loss, fever, and malaise were present.

On cutaneous examination, a 3×4 cm multicolored pigmented crusted plaque with well-defined margins was

present on the dorsum of right hand (Fig. 1). Skin lesions were not present anywhere else on the body. No regional lymphadenopathy was present. We kept a differential diagnosis of BD and actinic keratosis.

Dermoscopic examination with Heine® NC1 handheld dermatoscope revealed a scaly and yellowish crusted surface, a sharp border, red homogeneous areas representing vessels, cluster of brown dots, keratin globules (candy floss keratosis), and multiple pigmented areas (Figs 2 to 5).

Dermoscopic features of actinic keratosis, such as enlarged follicular openings, perifollicular white dots, or strawberry pattern were not seen in our case.

Histopathological Examination

The stratum corneum revealed parakeratotic cells with atypical, hyperchromatic nuclei. Acanthosis with elongation



Figs 1A and B: Dorsum of the right hand showing a single 3 × 4 cm multicolored pigmented plaque with well-defined margins and crusting

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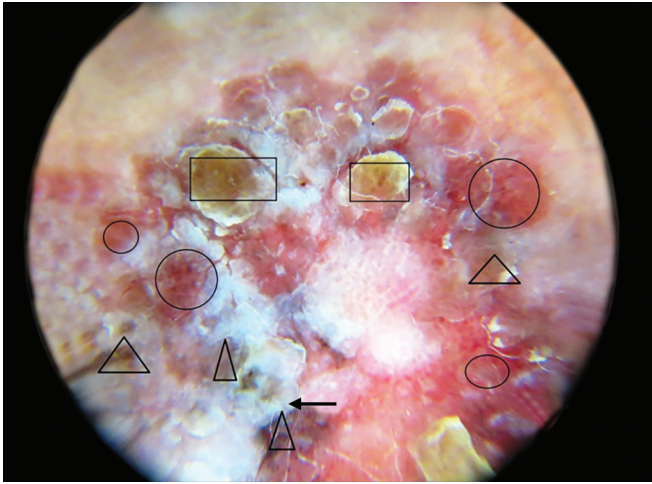


Fig. 2: Black arrow: scaly surface; black circle: red homogeneous areas with vessels; black square: crusted areas; black triangles: pigmented areas

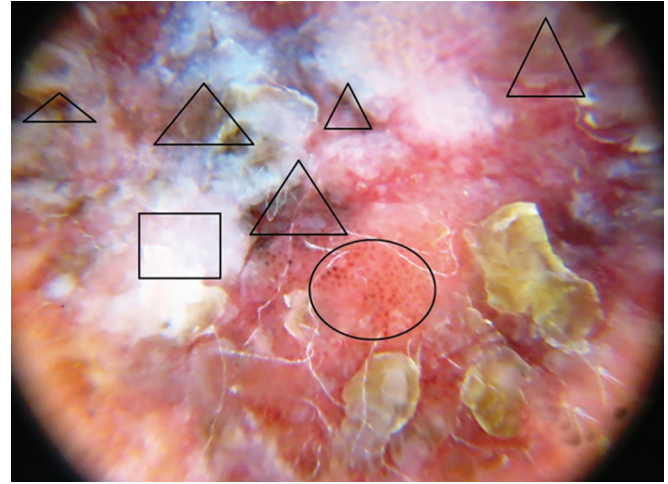


Fig. 3: Black circle: Patchy distribution of brown dots; black square: keratin globules (candy floss keratosis); black triangles: pigmented areas

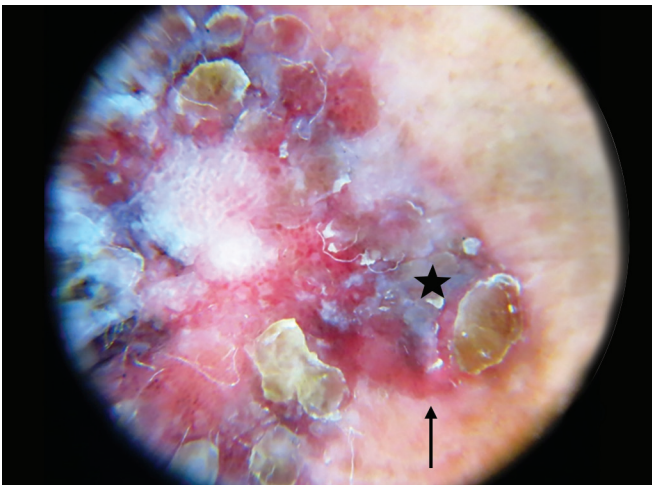


Fig. 4: Black arrow: sharp border; black star: homogeneous blue areas

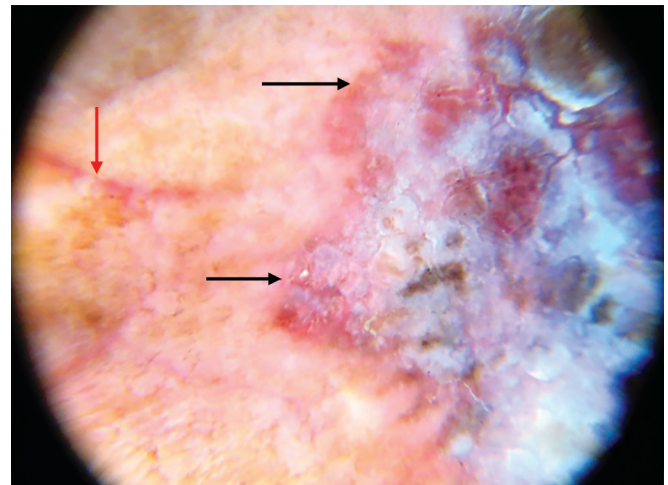


Fig. 5: Red arrow: telangiectasia; black arrow: sharp border

and thickening of the rete ridges was present. Throughout the epidermis, the cells were in complete disorder, resulting in a “windblown” appearance. On higher magnification, cells appeared highly atypical, showing large, hyperchromatic nuclei confirming the diagnosis of BD (Figs 6 to 8).

Thus, our final diagnosis based on clinical, dermoscopic, and histopathological examination was BD (pigmented variant). A complete excision of the lesion was done.

DISCUSSION

Bowen disease is a relatively common tumor that is considered to be an intraepidermal squamous cell carcinoma.⁸

The etiological causes are chronic ultraviolet radiation exposure, human papillomavirus infection, arsenic exposure, previous radiation, immunosuppression, trauma, and genetic factors.³ Its prognosis is usually favorable.

Clinically, BD is a slowly enlarging well-demarcated erythematous patch or plaque with scaling and crusting.

The pigmented forms of this tumor are uncommon (less than 2% of cases).⁹ It is commonly located on the head and neck and extremities. The risk of progression into an invasive carcinoma is 3 to 5% in extragenital lesions and about 10% in genital lesions.¹⁰

Various dermoscopic features of BD have been described, which include irregular, arborizing, tortuous, or dotted vessels, termed as *glomerular vessels* (90%) due to their particular morphology resemblance to vessels of the renal glomerulus, scaly surface (90%), areas of hypopigmentation, squamous/verrucous surface, sharp borders, homogeneous blue areas, well-demarcated borders, superficial erosions, and crusting.⁴⁻⁷ Zalaudek et al⁷ described scaly surface and glomerular vessels as specific criteria for BD on dermoscopy.

In addition, in pigmented BD small brown globules regularly packed in a patchy distribution (90%), and structureless gray to brown pigmentation (80%) are observed.⁴

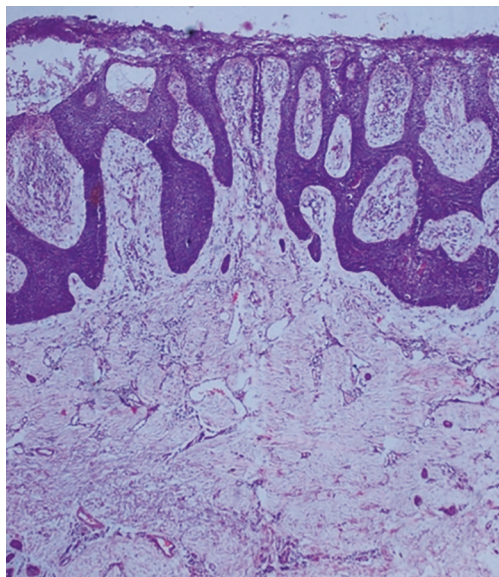


Fig. 6: The 4× view of hematoxylin and eosin-stained section shows acanthosis in epidermis with elongation of rete ridges

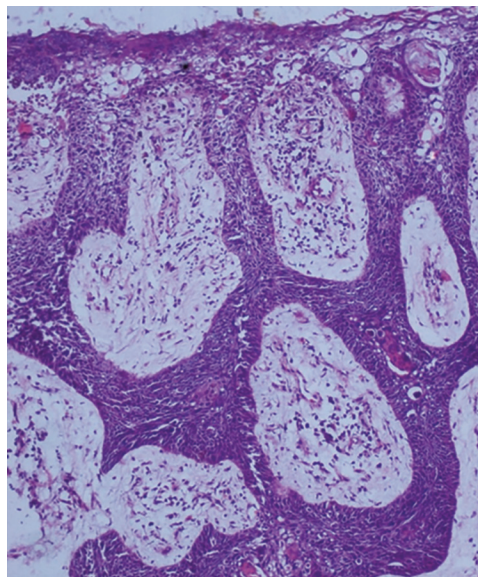


Fig. 7: The 10× view showing cells in complete disorder in the epidermis, resulting in a “wind-blown” appearance

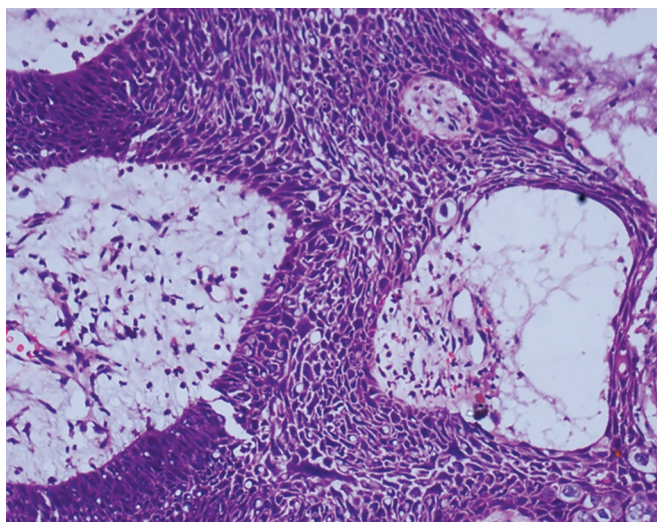


Fig. 8: On magnification 40×, atypical cells with hyperchromatic nuclei are seen

Pigmented BD has to be differentiated from other pigmented lesions. In our case, actinic keratosis was the closest differential, which was ruled out by dermoscopy (Table 1).

Kittisak et al¹¹ categorized BD into three clinical types and compared their dermoscopic features. Clinical categorization was as follows:

1. Classical Bowen's disease (CBD) is an erythematous patch or plaques with or without scaling
2. Partial pigmented Bowen's disease (PPBD) is characterized by any patch or plaque with pigmentation less than 50%
3. Pigmented Bowen's disease (PBD) shows prominently hyperpigmented patches or plaques and more than 50% of the lesion being pigmented

The characteristic dermoscopic findings of each type are glomerular vessels, whitish scale, and a pinkish-white

Table 1: Dermoscopic differentiation of BD and actinic keratosis

BD	Actinic keratosis
Brown dots and blue areas present	Brown dots and blue areas absent
Sharp borders	Not well-defined borders
Strawberry appearance absent	Strawberry appearance present
No perifollicular or follicular involvement	Perifollicular or follicular involvement present
Glomerular vessels seen	Glomerular vessels not seen

network in CBD. Structureless pigmentation in addition to findings of CBD was seen in PPBD and pigmented streaks in PBD.¹¹

Our case falls in the pigmented variant of BD as per the clinical and dermoscopic features. Kittisak et al¹¹ reported just 8% of cases as PBD and Cameron et al¹² have reported only 6% of PBD cases. We report this case in view of rarity of PBD and also describe its dermoscopic features.

CONCLUSION

Bowen's disease is an intraepidermal carcinoma; it is to be differentiated from actinic keratosis, seborrheic keratosis, and invasive squamous cell carcinoma. A thorough knowledge of the dermoscopic features and subtypes of BD may go a long way in its diagnosis.

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