AN UNUSUAL CASE OF BOWEN DISEASE

CORINA IOANA IONESCU*, IOANA DUMITRESCU***, IRINA SALEM AHMED****,
TIBERIU TEBEICĂ*****, BOGDAN DIMA*, CĂLIN GIURCĂNEANU*,**, ANCA OLGUȚA ORZAN*,**

Summary

Bowen disease is a specific form of squamous cell carcinoma in situ with a slow evolution and potentially invasive evolution. The lesion often occurs in people over 60 who present chronic risk factors such as sun or arsenic exposure, immunosuppression, HPV infection and, last but not least, repeated local trauma. There are currently multiple treatment options, but its choice should be guided by efficacy, patient compliance, location and lesion size.

We report the case of a 67-year-old male caucasian patient, who presented for a unique, asymptomatic, erythematosus patch, with pigmented edges and well-defined margins, irregular surface, 3.5/8 cm dimension, located on the hypogastric region, slowly-growing, evolving for 3-years. Dermoscopy showed point-shaped vascular structures, brown-blue pigmented areas, brown globules in the periphery, squamous appearance with cracked surface and peripheral crust. For the certain diagnosis a punch biopsy was taken from the periphery of the lesion, and the histopathological examination confirmed pigmented Bowen disease. The patient was referred to the plastic surgery clinic where the excision of the whole lesion was performed. Localization of the lesion on the lower abdomen, a sun-protected area, as well as the extensive tumour size, are the peculiarities of the case. The patient falls under the 2% cases of pigmented Bowen disease.

Key words: *Bowen disease, squamous cell carcinoma, non-melanoma skin cancer.*

Received: 5.10.2018 *Accepted:20.11.2018*

Introduction

Non-melanoma skin cancer, basal cell carcinoma and squamous cell carcinoma are the most common malignancy among caucasian race. In light skinned patients, 75–80% of these are basal cell carcinomas (BCC), and 25% are squamous cell carcinomas (SCC), with an increasing incidence [1]. More commonly found in men than in women (3: 1), Bowen's disease is a specific form of squamous cell carcinoma in situ with a slowly but potentially invasive evolution. The lesion often occurs in people with white skin over 60 years [2] who present with chronic risk factors such as sun exposure, ionizing radiation or various chemicals, immunosuppression, HPV infection and, last but not least, repeated local trauma. The lesions occur typically on the head, neck, upper extremities or calves. Pigmented Bowen disease, more common in dark skinned patients, is characterized by an increase amount of melanin pigment in the epidermis or reticular dermis, in addition to typical changes.

* Department of Dermatology, „Elias" Emergency University Hospital, Bucharest.
** Department of Dermatology, „Carol Davila" University of Medicine and Pharmacy, Bucharest.
*** Department of Plastic Surgery, „Elias" Emergency University Hospital, Bucharest.
**** Department of Pathology, Elias Emergency University Hospital, Bucharest.
***** Dr. Leventer Center, Bucharest.

Case report

We report the case of a 67-year-old caucasian patient who presented in the clinic for a unique asymptomatic, erythematosus plaque (fig. 1), with pigmented edges, well-defined margins, elevated, irregular surface, 3,5/8 cm dimension, located on the hypogastric region, slowly-growing, evolving for 3-years, without any improvement with topical corticosteroids.

Pigmented Bowen disease has a characteristic dermatoscopic pattern [3], consisting of multiple elements. Atypical vascular structures are observed: point-shaped vessels of various shapes and sizes (A), tortuous capillaries distributed in groups that mimic the appearance of renal glomerular capillaries (B). Pigmentation is irregular and diffuse (A) or in the form of pigment spots (B, C) as well as hypopigmented focal areas (A, C). The surface is squamous, irregular, with multiple crevices, scales and peripheral crusts with small hemorrhagic areas (fig. 2) [4].

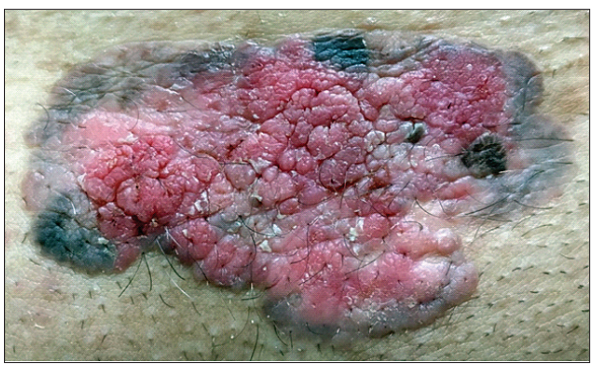

Fig. 1. Erythematosus patch, pigmented edges, well-defined margins, slightly elevated, irregular surface, 3.5 / 5/8 cm, hypogastric region

From the clinical point of view, the differential diagnosis of the disease includes actinic keratosis, eczema, superficial basal cell carcinoma, psoriasis or cutaneous Paget's disease [5]. In general, actinic keratosis lesions are smaller, and basal cell carcinoma has characteristic dermatoscopic features. When psoriasis coexists with diffuse actinic lesions, the diagnosis is difficult because papules and plaques can clinically resemble actinic keratosis or Bowen's disease. Arsenic induced squamous cell carcinoma tends to be multifocal and appears on sun-protected areas, often associated with palmoplanar ketatosis and hypopigmented areas superimposed over hyperpigmentation areas.

For the diagnostic certainty a punch biopsy was taken from the periphery of the lesion with the observation of irregular epidermal dysplasia with atypical pleomorphic keratinocytes throughout the epidermal thickness and rare apoptotic cells. Keratinocytes have irregular, hyperchromatic nuclei with numerous mitoses and abundant cytoplasm (fig. 4). Hyperkeratosis, diffuse confluent parakeratosis, moderate acanthosis with disorganization of epidermal architecture, loss of maturation and cellular polarity (fig. 3). The epidermal basal layer is usually spared and consists of small basal cells disposed in the palisade. No dermal invasion is observed. There is chronic peritumoral inflammation.

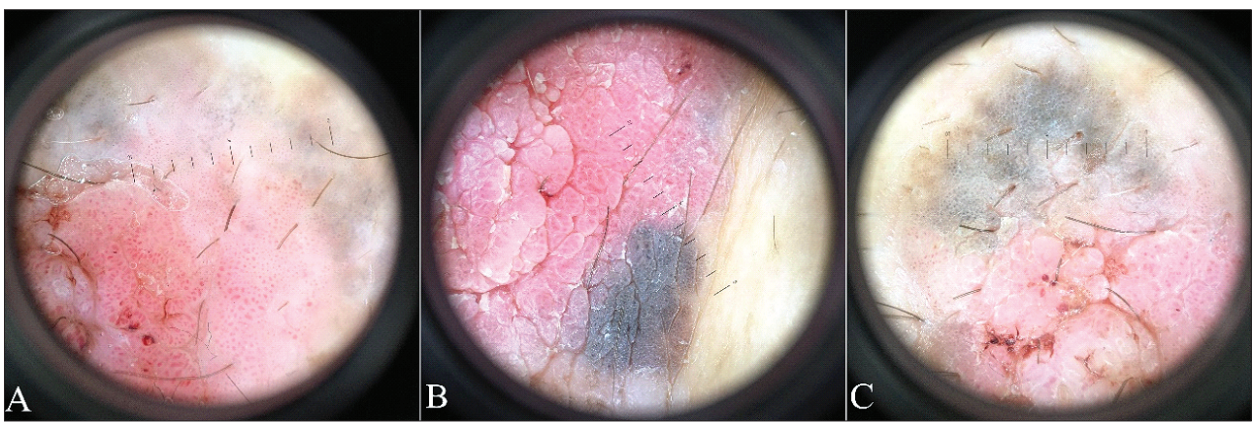

Fig. 2. Glomerular and point-shaped vascular structures, brown-blue pigmented areas, brown globules in the periphery, squamous aspect of the surface with multiple cracks, scales and crusts

The histopathological examination confirms pigmented Bowen disease. The patient was referred to the plastic surgery clinic where the entire lesion was excised with safety margins.

Discussions

The patient falls under the 2% cases of pigmented Bowen disease. Localization of the lesion on the lower abdomen, a sun-protected area, more prone to chronic eczema of contact with lichenification, as well as the giant size of the tumor, are the peculiarities of the case. Prominent areas of the tumor raised suspicion of an aggressive and invasive squamous cell epithelioma, which is why the biopsy was taken from the area with the highest clinical risk. Due to the increased tumour size, topical treatment could not be an option, surgical excision representing the best method of treatment in this case.

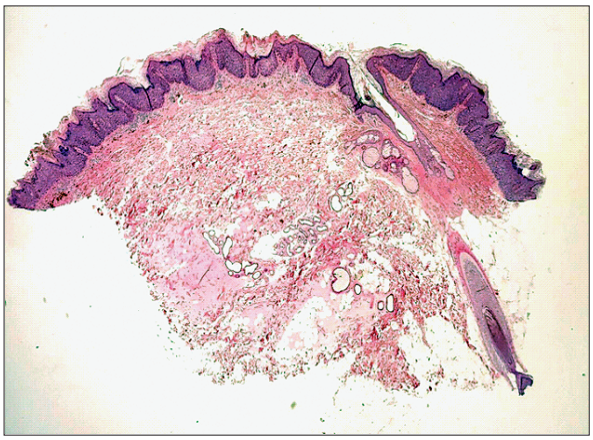

Fig. 3. Histopathology – hematoxylin & eosin stain magnification x4 – cutaneous fragment with hyperkeratosis, parakeratosis and acanthosis

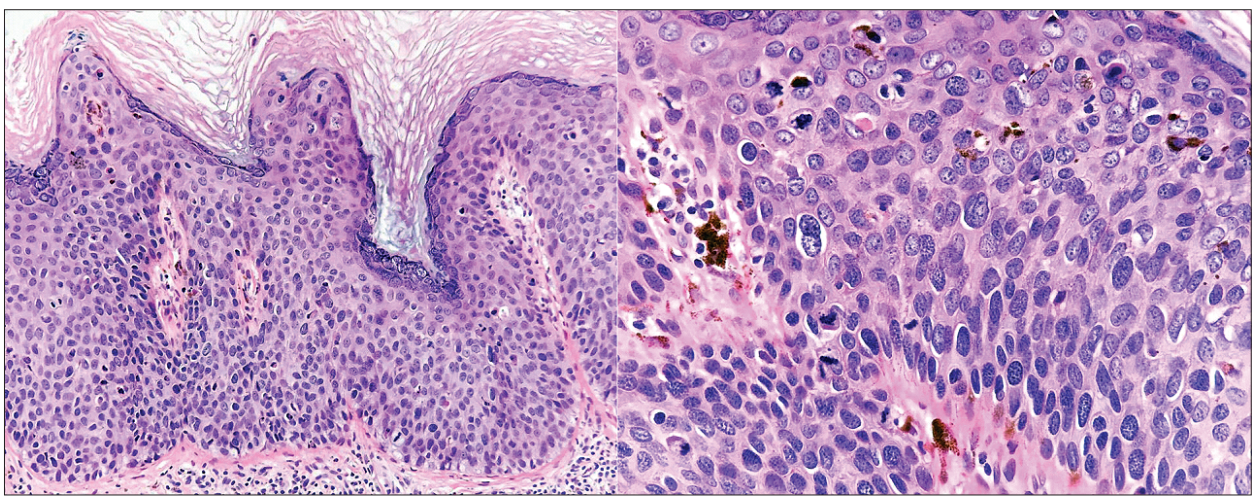

Fig. 4. Histopathology – hematoxylin & eosin stain, magnification x10, x40: pleomorphism and hyperchromatism nuclear, occasional mitosis, individual keratinization and absence of maturation, typical changes for a spinocellular carcinoma in situ

In the past, Bowen's disease appeared on the covered skin was considered to be associated with an increased risk of internal malignancy [6]. Recent studies suggest that there is no significant association between these two diseases [7]. Generally, it is not necessary for these patients to undergo further investigation. Rarely, however, skin lesions may indicate a systemic carcinogen (for example arsenic), and then a malignant base condition would not be unexpected.

Conclusions

Multiple locations and different clinical forms that Bowen disease can wear may sometimes cause diagnostic errors. Therefore, the utility of dermoscopy should be reassessed for the therapeutic orientation, but the certain diagnosis can only be based on the histopathological findings. It should not be neglected that chronic inflammation or scarring can cause squamous cell carcinomas and a slowly healing ulcer raises the suspicion of developing a tumour [8].

Bibliography

1. Jean L. Bolognia, MD, Julie V. Schaffer M and LC. Bolognia. 4th ed. Elsevier Saunders, editor. 2018.
2. Harris RB, Griffith K, Moon TE. Trends in the incidence of nonmelanoma skin cancers in southeastern Arizona, 1985-1996. *J Am Acad Dermatol.* 2001 Oct; 45 (4): 528–36.
3. Bugatti L, Filosa G, De Angelis R. Dermoscopic observation of Bowen's disease. *J Eur Acad Dermatol Venereol.* 2004 Sep; 18 (5): 572–4.
4. Zalaudek I, Argenziano G, Leinweber B, Citarella L, Hofmann-Wellenhof R, Malvehy J, Puig S, Pizzichetta MA, Thomas L, Soyer HP, Kerl H. Dermoscopy of Bowen's disease. *Br J Dermatol.* 2004 Jun; 150 (6): 1112–6.
5. J. Eduardo Calonje, Thomas Brenn, Alexander Lazar PM. McKee's Pathology of the Skin. 4th ed. 2011. 1110-1114 p.
6. Chute CG, Chuang TY, Bergstralh EJ, Su WP. The subsequent risk of internal cancer with Bowen's disease. A population-based study. *JAMA.* 1991 Aug; 266 (6): 816–9.
7. Lycka BA. Bowen's disease and internal malignancy. A meta-analysis. Int J Dermatol. 1989 Oct; 28 (8): 531–3.
8. Pekarek B, Buck S, Osher L. A Comprehensive Review on Marjolin's Ulcers: Diagnosis and Treatment. *J Am Col Certif Wound Spec.* 2011 Sep; 3 (3): 60–4.

Conflict of interest
NONE DECLARED

Correspondence address: Corina Ioana Ionescu
Department of Dermatology, „Elias" Emergency University Hospital
No. 17 Mărăști Blvd., Bucharest, Romania
E-mail: xc_corina@yahoo.com