

## Bowen's Disease of the Penis Shaft Mimicking Contact Dermatitis

Zennure Takçı,<sup>1</sup> MD, Ayşe Serap Karadağ,<sup>2</sup> MD, Gülçin Güler Şimşek,<sup>3</sup> MD

Address: <sup>1</sup>Gaziosmanpasa University, School of Medicine, Department of Dermatology, Tokat, <sup>2</sup>Istanbul Medeniyet University, School of Medicine, Department of Dermatology, Istanbul, <sup>3</sup>Kecioren Research and Training Hospital, Department of Pathology, Ankara, Turkey

E-mail: drzennure80@yahoo.com

\* Corresponding Author: Dr. Zennure Takci, Gaziosmanpasa University, School of Medicine Department of Dermatology 60100 Tokat, Turkey.

Published:

J Turk Acad Dermatol 2016; 10 (3): 16103c2

This article is available from: <http://www.jtad.org/2016/3/jtad16103c2.pdf>

**Keywords:** Bowen disease, contact dermatitis, penile shaft

### Abstract

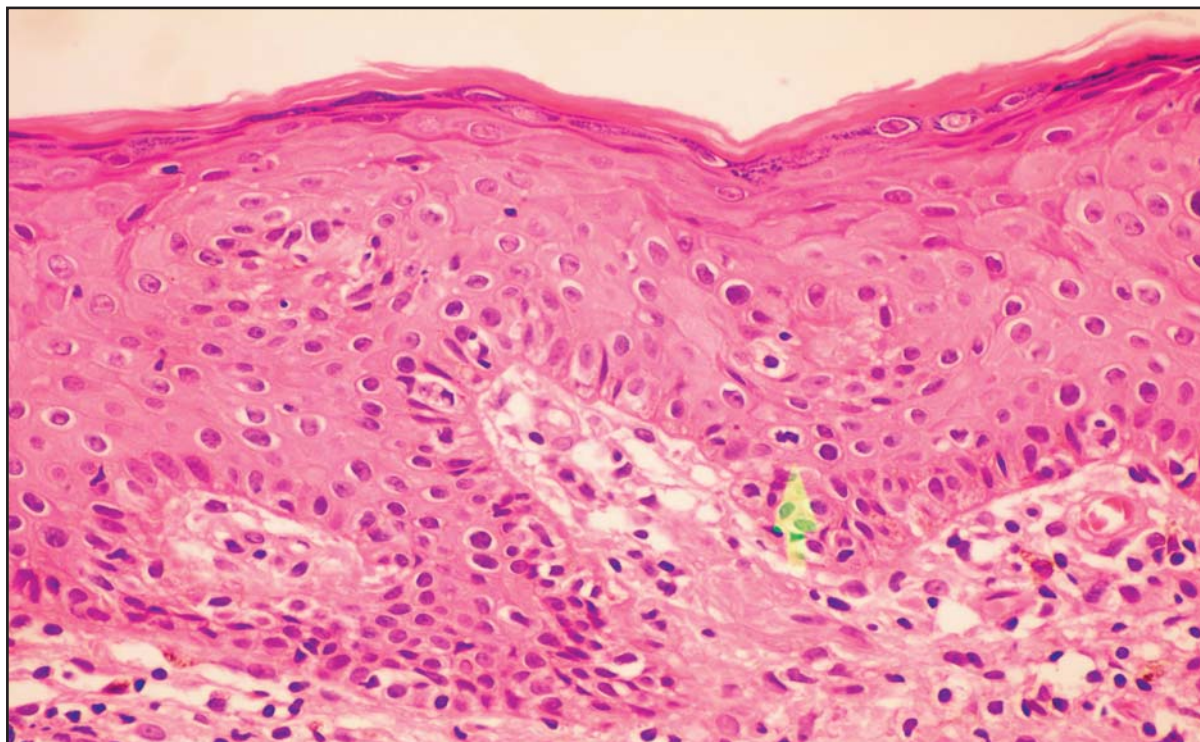
**Observation:** Bowen's disease (BD) is an intraepidermal neoplasia considering as preinvasive types of penile squamous-cell carcinoma (SCC). This carcinoma is relatively uncommon malignancy of the anogenital skin with the highest incidence in patients older than age 60 years. Malign evolution of BD into invasive SCC is approximately 5% to 10% for genital lesions. Therefore an early diagnosis is very important in order to avoid tumoral spread and mutilating surgery. The case submitted herein was a 30 year-old nonsmoker circumcised man with good hygiene and without any risk factor for anogenital malignancy presented with a penile lesion mimicking contact dermatitis. This case is presented to reinforce that penile BD should be considered in the differential diagnosis of steroid unresponsive dermatoses of the penis.

### Introduction

Bowen's disease (BD) first described by *John T. Bowen* in 1912 as squamous cell carcinoma (SCC) in situ, histopathologically characterized with localized neoplastic degeneration limited to the epidermis [1]. Typically the lesions appear as isolated, well-demarcated slowly growing psoriasiform macules, papules or plaques with an erythematous base. While the sun-exposed areas are the most common locations, lesions of BD can also be seen on any mucocutaneous surface, including the anogenitalia, periungual tissue and nail bed [2]. BD of the penile shaft is an uncommon disorder of the anogenital region that may be confused with



**Figure 1.** A well-demarcated pale erythematous, slightly raised solitar plaque with minimal dry adherent scale, located on the left side of the distal shaft of the penis



**Figure 2.** Squamous epithelial hyperplasia, dysplasia, vacuolisation and discrete atypical keratinocytes with hyperchromatic irregular nuclei in the epidermis with a dense lymphohistiocytic infiltrate and melanophages in the upper dermis without atypical cell invasion (Haematoxylin and eosin X 20)

a variety of other lesions. The current case displays BD as chronic plaque on the penile shaft mimicking contact dermatitis in a 30-year-old man.

### Case Report

An otherwise healthy 30-year-old nonsmoker circumcised man presented with an occasionally itchy, erythematous plaque on his penis. The lesion had arisen spontaneously one year ago and had been slowly growing for the last six months. There was no pain on the lesion or on urination. He denied any sexual contact outside of his marriage. The patient or his wife did not have any history of genital viral warts or other sexually transmitted diseases. The patient had no history of condom use. The patient had no identifiable exposure to carcinogens such as arsenic, phototherapy, or pelvic irradiation. He indicated that he had seen 3 other doctors about it and had been previously treated with topical antifungals and corticosteroid-containing creams without any benefit. Dermatological examination revealed a 2-cm diameter, well-demarcated pale erythematous, slightly raised solitary plaque with minimal dry adherent scale, located on the left side of the distal shaft of the penis (**Figure 1**). There was no induration, erosion or ulceration. There was no

lymphadenopathy in the inguinal region. Laboratory tests including hepatitis B, hepatitis C and human immunodeficiency virus were normal. The histopathological examination of an incisional biopsy specimen revealed squamous epithelial hyperplasia, dysplasia, vacuolisation and discrete atypical keratinocytes with hyperchromatic irregular nuclei in the epidermis (**Figure 2**). A dense lymphohistiocytic infiltrate and melanophages were seen in the upper dermis without atypical cell invasion. The patient was diagnosed as BD based on the clinical and histopathological features. No human papilloma virus (HPV) was detected with polymerase chain reaction amplification of DNA from a paraffin-embedded skin sample. Examination of anogenital area and cervix of his wife were normal and there was no atypical cell on cervical cytology. Topical therapy initiated with the immune response modifier imiquimod as three times weekly in the evening. After the third application, the patient complained of severe itching and pain in the treated area. Imiquimod was ceased for a period of two weeks, but the patient did not in our follow-up anymore.

### Discussion

Bowen's disease is an intraepidermal neoplasia considering as preinvasive types of penile

SCC. This carcinoma is relatively uncommon malignancy of the anogenital skin with the highest incidence in patients older than age 60 years [3]. The etiology of BD of the penis is unknown but lack of circumcision, HPV infection especially with oncogenic HPV types 16 and 33, immunosuppression, smoking and chronic inflammation of the penile skin are important risk factors for developing this disease [4,5].

Malign evolution of BD into invasive SCC is approximately 5% to 10% for genital lesions [4,6]. Thus an early diagnosis is very important in order to avoid tumoral spread and mutilating surgery. BD of the penis is usually arise as red, sometimes slightly pigmented, scaly, moist, velvety patches and plaques [3,4]. But SCC in situ of the penile shaft may arise in different clinical appearances and anatomic locations, that may be confused with a variety of other lesions leading to a delay in diagnosis.

When BD involves mucous membranes mostly glans penis presenting as sharply demarcated, slightly raised, erythematous moist and velvety patch or plaque is clinically called as erythroplasia of Queyrat which may be confused with plasma cell balanitis, candidiasis, fixed drug eruption, psoriasis and lichen planus [7]. The differentiation of erythroplasia of Queyrat from the mentioned benign disorders is very important because the rate of transformation into invasive SCC of this condition has been reported as being up to 33% [8].

When the lesions of BD emerge as sharply demarcated, pigmented, plaque with a scaly or crusted surface generally on intertriginous and genital areas are referred to as pigmented Bowen's disease which should be differentiated from malign melanom [9]. Bowenoid papulosis is one of the clinical variant of SCC in situ usually presenting with multiple, small, well-demarcated, grey-brown, red or skin-colored papillomatous papules on the penile shaft, glans, foreskin, or perianal area. Although BP is often associated with HPV 16, its behaviour is usually benign [4,10].

Because of the clinical variety, BD may initially be misdiagnosed and not directed to suitable therapy and follow-up occur that are highly indicative of being potentially invasive.

Differentiation from dermatitis, psoriasis or lichen simplex chronicus may be difficult. A delay in diagnosis of BD often is experienced because the lesion is usually asymptomatic. We should promote an awake approach for histopathological evaluation whenever any clinical diagnostic uncertainty or BD can not be excluded clinically. In this wise late diagnosis and/or misdiagnosis leading to destructive treatment processes causing deformity or impaired function can be prevented. Potential treatments for BD include surgical excision or physical destruction using electrocautery, cryotherapy, curettage, laser therapy, intralésional interferon alpha or bleomycin and noninvasive methods like photodynamic therapy, topical 5-fluorouracil or imiquimod. Surgery and destructive treatment modalities have a significant risk of scarring, deformity and impaired function [11].

The case submitted herein was a 30 year-old nonsmoker circumcised man with good hygiene and without any risk factor for anogenital malignancy presented with a penile lesion mimicking contact dermatitis. This case is presented to reinforce that penile BD should be considered in the differential diagnosis of non-steroid responsive dermatosis of the penis. A cutaneous biopsy should be kept in mind to exclude the malign or premalign lesions of the penis for all persistent, treatment resistant, ambiguous cutaneous lesions of the penile shaft.

## References

1. Bowen JT. Precancerous dermatoses: a study of two cases of chronic atypical epithelial proliferation. Arch Dermatol 1983; 119: 243-260. PMID: 6297414
2. Kossard S, Rosen R. Cutaneous Bowen's disease. An analysis of 1001 cases according to age, sex, and site. J Am Acad Dermatol 1992; 27: 406-410. PMID: 1401276
3. Kutlubay Z, Engin B, Zara T, Tüzün Y. Anogenital malignancies and premalignancies: facts and controversies. Clin Dermatol 2013; 31: 362-373. PMID: 23806153
4. Henquet CJ. Anogenital malignancies and pre-malignancies. J Eur Acad Dermatol Venereol 2011; 25: 885-895. PMID: 21272092
5. Schroeder TL, Sengelmann RD. Squamous cell carcinoma in situ of the penis successfully treated with imiquimod 5% cream. J Am Acad Dermatol 2002; 46: 545-548. PMID: 11907505
6. Neubert T, Lehmann P. Bowen's disease - review of newer treatment options. Ther Clin Risk Manag 2008; 4: 1085-1095. PMID: 19209288

7. Trüeb RM. Exudative discoid and lichenoid chronic dermatitis (Sulzberger-Garbe): presentation with a puzzling penile plaque. Report of two cases of Sulzberger-Garbe dermatosis with typical penile lesions. *J Eur Acad Dermatol Venerol* 1994; 3: 411-417.
8. Stables GI, Stringer MR, Robinson DJ, Ash DV. Erythroplasia of Queyrat treated by topical aminolaevulinic acid photodynamic therapy. *Br J Dermatol* 1999; 140: 514-517. PMID: 10233277
9. Papageorgiou PP, Koumariou AA, Chu AC. Pigmented Bowen's disease. *Br J Dermatol* 1998; 138: 515-518. PMID: 9580811
10. Ahmed AM, Madkan V, Tyring SK. Human papillomaviruses and genital disease. *Dermatol Clin* 2006; 24: 157-165. PMID: 16677964
11. Cox NH, Eedy DJ, Morton CA. Guidelines for the management of Bowen's Disease. *Br J Dermatol* 1999; 141: 633-641. PMID: 10583109