

## CASE REPORT

# A RARE DISEASE OF THE BREAST: BOWEN'S DISEASE

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## ABSTRACT

Bowen's disease (BD) or in situ squamous cell carcinoma of skin is a malign lesion restricted to the epidermis without evidence of dermal invasion. Etiological factors for BD include ultraviolet light, human papillomavirus, immunosuppression and carcinogen agents such as arsenic. It's frequently seen in sun-exposed areas of skin such as head, body and extremity, but other sites for example genital areas can also be affected. Bowen's disease of the nipple is extremely rare. We report a case with Bowen's disease of nipple and discuss therapeutic implications and the importance of immunohistochemistry in the diagnosis of Bowen's disease.

**Keywords:** Bowen's disease, breast

## INTRODUCTION

Bowen's disease (BD) or in situ squamous cell carcinoma of skin, is a malign lesion restricted to the epidermis without evidence of dermal invasion.<sup>1</sup> Etiological factors for BD include ultraviolet light, human papillomavirus, immunosuppression and carcinogen agents such as arsenic.<sup>2</sup> It's frequently seen in sun-exposed areas of skin such as head, body and extremity, but other sites for example genital areas can also be affected. Bowen's disease of the nipple is extremely rare.<sup>3</sup>

## CASE REPORT

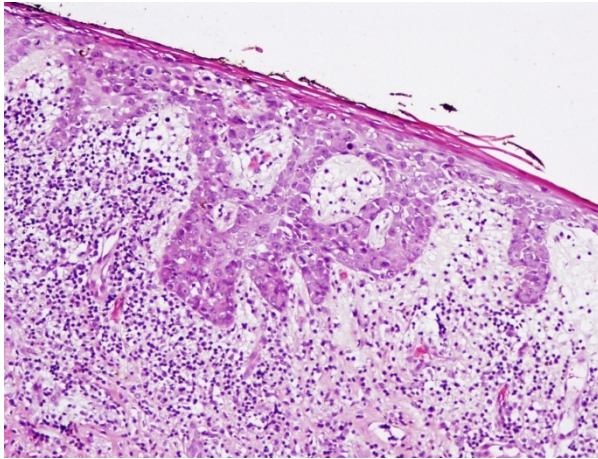
A 77-year old women, described pain and infection on her left breast. The only significant medical history included hypertension and diabetes mellitus. She had no surgical operation before. There was no palpable mass in the breast and no significant axillary lymphadenopathy. The lesion was characterized by excoriation and occasional bleeding. Mammography and ultrasound of the breast was normal. We decided this lesion as Paget's or inflammatory diseases of breast and plan to make wedge biopsy from the lesion. The patient said that this lesion occurred before and initially treated with antibiotics. So we began topical antibiotics and intravenous 1 gram ceftriaxone 2 times a day. She underwent local incisional wedge biopsy and patologic examination was reported as histomorphological appearance of the lesion suggests that Paget's diseases of breast however for the differential diagnosis of the lesion should be examined with immunohistochemical staining. So these sections were sent to Afyon Kocatepe University Department of Pathology. During this time patient was hospitalized and local wound care was done. With this treatment, a dramatic improvement was observed. Immunohistochemical staining was reported as Bowen's diseases of

breast. The patient was referred to Afyon Kocatepe University Department of Dermatology for cryotherapy.

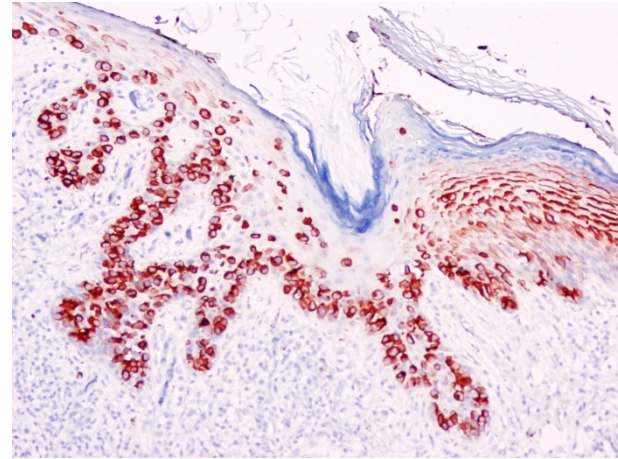
## DISCUSSION

Bowen's disease is an intra epidermal squamous cell carcinoma (carcinoma in situ)<sup>4</sup>. Bowen's disease was first described in 1912 by JT Bowen. The classic clinical presentation is a slowly enlarging, sharply demarcated erythematous plaque associated with hyperkeratosis, scaling, and itching<sup>1</sup>. The first reported case was 51 year old woman who had eczematous type change of the nipple for a year's duration<sup>1</sup>. All other cases were post menopausal women ranging in age from 69 to 84 years<sup>3</sup>. Our case was also in this age group. Pathologically, the distinctive features are full-thickness epidermal atypical with disordered architecture, abnormal mitoses, and dyskercatosis that does not penetrate into the dermis<sup>2</sup>. [Our case, the sections which containing skin-subcutaneous tissue, the epidermis adjacent to the ulceration area is infiltrated with large, round atypical cells was observed. Under the epidermis intense chronic inflammatory cell infiltration are seen (picture 1). Appearance of atypical cells nucleus are vesicular and prominent. Numerous mitotic figures in the lesion are noteworthy (picture 2). Same cell infiltration is extending to follicular in findibuluma (picture 3). After the application of immunohistochemical staining atypical cells in the epidermis stained positively with cytokeratin and EMA (picture 4). No staining with CEA, S-100 and HMB-45 was observed.

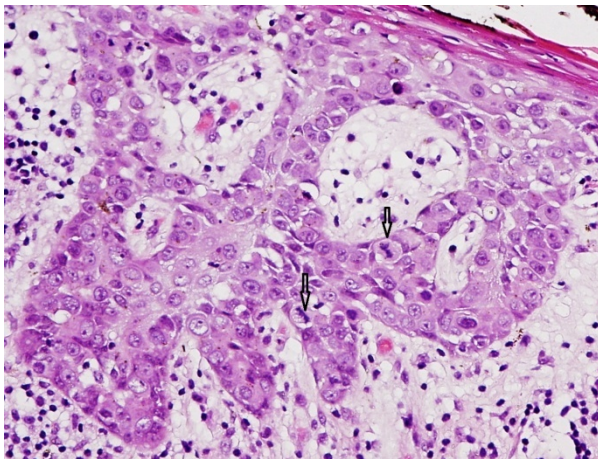
The macroscopic and histomorphological appearance of Bowen's disease of the nipple can be confused with Paget's diseases of breast. As in our case, differential diagnosis of the lesion can be done with immunohistochemical staining.



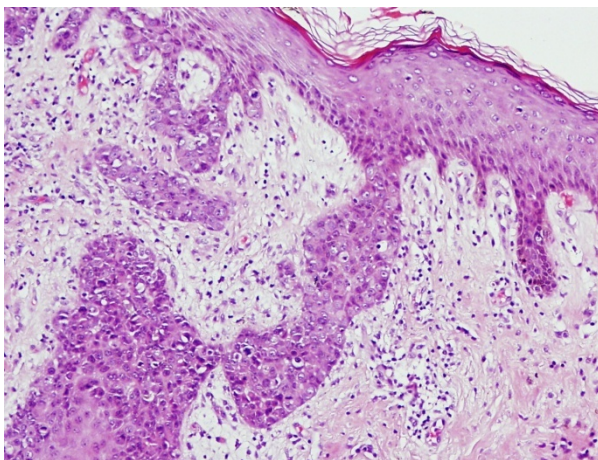
Picture I: The epidermis is infiltrated with large, round atypical cells. There is intense chronic inflammatory cell under the epidermis. (HE x 100)



Picture IV: EMA positive untypical cells (x100)



Picture II. Atypical cells in the epidermis in a larger up-sizing. The appearance of cell nucleus is vesicular and is prominent nucleoli. Draws attention to the large number of mitotic figures in the lesion (arrows). (HE x 200).



Picture III: Atypical cells infiltration which also extended to the follicular infundibulum (HE x 100).

There are many treatment options including topical application of liquid nitrogen, 5-fluorouracil, cryotherapy, and topical photo dynamic therapy. Surgical resection of lesion is accepted as gold standard, with the documentation of negative excision margin. This might correlate with lower recurrence rates<sup>5</sup>. Wide local excision to negative margins was reported in 3 of the 4 cases<sup>3</sup>. It can be a treatment of choice but close follow-up should be done. Our patient refused the surgical resection. We could not suggest wide local excision because the lesion was not local to the nipple. It was surrounded the nipple. So that we referred the patient for cryotherapy.

## CONCLUSION

Bowen's disease of nipple is a very rare entity. The risk of Bowen's disease to progress into invasive squamous cell carcinoma is reported to be approximately 3%<sup>6</sup>. This progression has been linked to the altered immune status of the patient<sup>2</sup>. Immunohistochemical staining of the lesion is useful for differential diagnosis of Bowen's disease of nipple.

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