CASE REPORT

Pigmented extramammary Paget's disease: a potential pitfall of misdiagnosis

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ABSTRACT

Introduction: Extramammary Paget's disease (EMPD) is a rare cutaneous slow growing tumor seen in areas rich in apocrine glands such as the anogenital region while ectopic EMPD is defined as EMPD arising on non-apocrine areas. The pigmented variant of EMPD is a very rare finding, with only a few reported cases, and can be misdiagnosed as melanoma.

Case report: We report a case of a 74-year-old woman who presented with a four-year history of pruritic, non-healing erythematous plaques located on the right axilla and left lower abdomen. Histopathology revealed acanthotic epidermis with atypical keratinocytes that was negative for anti S-100 and Melan-A and was positive for carcinoembryonic antigen (CEA), cytokeratin (CK), CK 7 and epithelial membrane antigen (EMA). Patient was managed as pigmented and ectopic variant of extramammary Paget's disease. Several tests and imaging were done to rule out malignancy. Wide excision with axillary node dissection, bilateral inguinal node dissection, frozen section biopsy and reconstruction using right pectoralis major musculocutaneous flap, split thickness skin graft with left inguinohypogastric drain were done by reconstructive surgery. Frozen section biopsy was negative for S-100, MELAN-A and HMB-45, ruling out malignant melanoma. Patient followed up every month for 6 months after the procedure with no recurrence and lymphadenopathy.

Conclusion: This case emphasizes that extramammary Paget's disease is not a preventable disease and early diagnosis is the key to a favorable diagnosis. Any unilateral eczematous lesion that does not respond to an appropriate course of topical treatment warrants a skin biopsy.

Keywords: *extramammary Paget's disease, melanoma, immunohistochemistry*

INTRODUCTION

Extramammary Paget's disease (EMPD) is a rare cutaneous slow growing tumor seen in areas rich in apocrine glands such as the anogenital region.[1] This was originally described by Crocker in 1889 who reported lesions located on the scrotum and penis, with similar clinical and histopathologic findings to Paget's disease.[1] Ectopic EMPD is defined as EMPD arising on non-apocrine areas.[2]

The pigmented variant of EMPD is a very rare finding, with only a few reported cases, and can be misdiagnosed as melanoma.[3] We report a rare case of extramammary Paget's disease presenting as a pigmented and ectopic variant located on the right axilla and abdomen.

CASE REPORT

A 74-year-old Filipino woman presented with a four-year history of pruritic, non-healing erythematous plaques located on the axilla and left hypogastric area. Consultations were done, and was unresponsive to antibiotics and corticosteroids. Physical examination showed a solitary, erythematous, moist plaque measuring 11 x 6 cm with hyperpigmented to black well-demarcated border topped with whitish exudates and with areas of erosions located at the right axilla (Figure 1A) and a solitary, well defined, moist, erythematous 21 x 16 cm plaque, located at the left lower abdomen. At the center of the plaque there is a solitary, erythematous tumor approximately 5 x 6 cm in size, round, firm consistency, smooth surface and movable (Figure 1B). There was a soft, non-tender approximately 0.5 cm lymphadenopathy located on the right axilla.

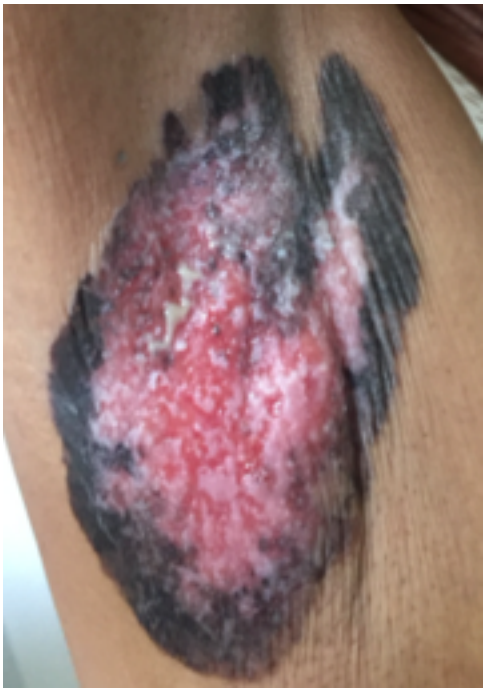

Figure 1A. Solitary, erythematous, moist plaque measuring 11 x 6 cm with hyperpigmented to black well-demarcated border topped with whitish exudates with areas of erosions located at the right axilla.

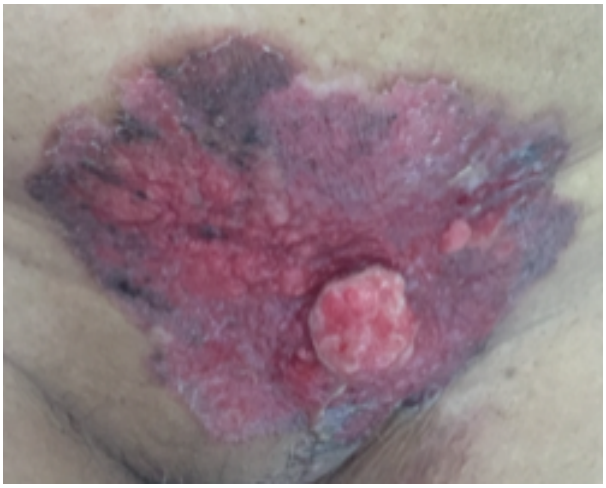

Figure 1B. Solitary, well defined, moist, erythematous 21 x 16 cm plaque, located at the left hypogastric area. At the center of the plaque there is a solitary, erythematous tumor approximately 5 x 6 cm in size, round, firm consistency, smooth surface and movable.

A 4-mm skin punch biopsy was taken from 2 sites. The first site was from the right axilla which revealed an acanthotic epidermis with atypical keratinocytes, intraepidermal villi-like formation due to acantholytic cells as well as dysplasia (Figure 2A). The second site was from the left lower abdomen revealed acanthotic epidermis with scattered numerous atypical cells with clear cytoplasm (Figure 2B). Immunohistochemistry were negative for anti S-100 and Melan-A; and was positive for carcinoembryonic antigen (CEA), cytokeratin (CK), CK 7 and epithelial membrane antigen (EMA). These findings were consistent with pigmented extramammary Paget's disease.

Hematologic, biochemical tests and tuberculosis screening were unremarkable. Gynecological examination was normal. Chest radiograph, electrocardiography, abdominal and pelvic ultrasound, abdominal CT scan, transvaginal ultrasound and colonoscopy were negative for malignancy. Mammography revealed category 3 on right breast and category 1 on left breast. No family history of malignancy was reported.

The patient was referred to plastics and reconstructive surgery for wide excision with axillary node dissection, bilateral inguinal node dissection and frozen section biopsy. Reconstruction was done with right pectoralis major musculocutaneous flap and split thickness skin graft with left inguinal and hypogastric drain (Figure 3A and 3B). Frozen section biopsy was negative for S-100, MELAN-A and HMB-45, ruling out malignant melanoma. Patient followed up every month for 6 months after procedure with no recurrence of lesions and lymphadenopathy.

DISCUSSION

EMPD usually occurs in the genital, axillary or perianal regions, and occurrence to other sites is very rare.[4] There are two different forms of EMPD, primary develops within the epidermis and presents as carcinoma in situ while secondary develops as intraepithelial spread of the primary tumor.[5] The etiology is unknown however the hallmark is continuous progression despite topical therapy.[6] Pigmented EMPD is a rare variant and its hyperpigmentation is due to colonization of benign melanocytes in the epidermis found among the tumour

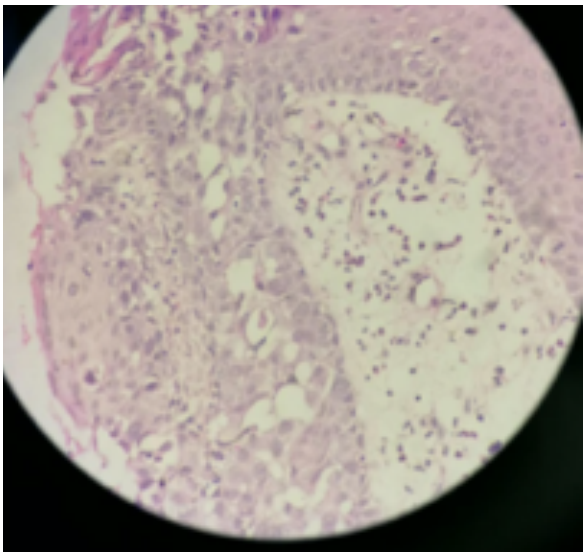

Figure 2A. Skin biopsy taken from the right axilla revealed an acanthotic epidermis with atypical keratinocytes, intraepidermal villi-like formation due to acantholytic cells as well as dysplasia (H & E stain; x 400)

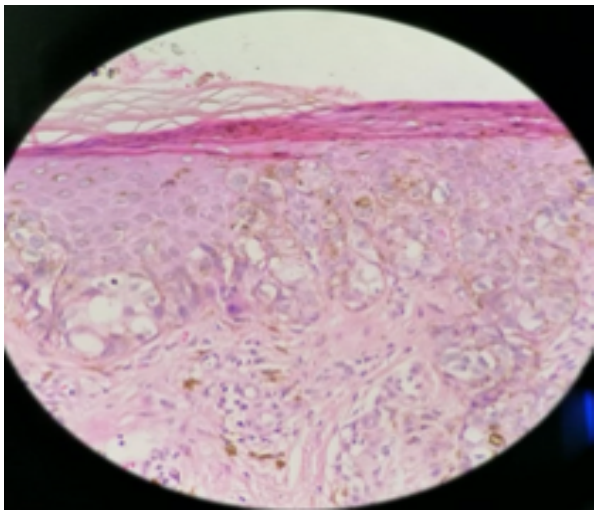

Figure 2B. Skin biopsy taken from the left lower abdomen revealed acanthotic epidermis with scattered numerous atypical cells with clear cytoplasm. (H & E x 400)

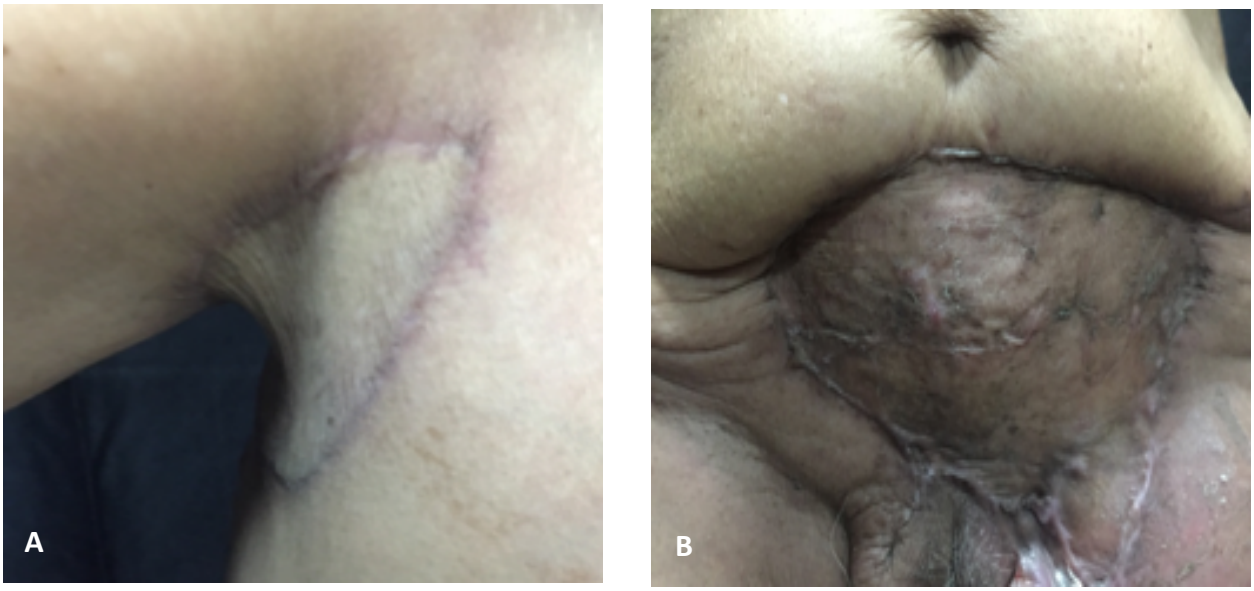

Figure 3. (A) Right axilla after wide excision with axillary node dissection. (B) Left lower abdomen after wide excision with bilateral inguinal node dissection.

cells, accumulation of cytoplasmic melanin pigment in Paget's cells and the presence of melanophages in the dermis.[7] Clinically it presents as a hyper or hypopigmented patch or plaque and can be associated with a mass in the subcutaneous tissue.[8]

The histopathologic findings of pigmented EMPD shows epithelioid neoplastic cells with prominent nucleoli containing melanin pigment and most common differential diagnosis is melanoma.[9] However, this can be differentiated with use of immunohistochemical stains wherein EMPD is positive with CEA, low and high molecular weight cytokeratin, EMA and negative with melanocytic markers such as S-100, MART-1, MITF and HMB-45.[9,10] This is important because EMPD may be associated with genitourinary, gastrointestinal and breast malignancy.[11] The standard of care for EMPD is surgical resection, although other modalities like imiquimod 5% cream, radiation and phototherapy can also be done.[12]

CONCLUSION

Extramammary Paget's disease is not a preventable disease. Early diagnosis is the key to a favorable diagnosis. Any unilateral eczematous lesion that does not respond to an appropriate course of topical treatment warrants a skin biopsy.

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