Isolated Extragenital Bowenoid Papulosis of the Toe-webs

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Sir,

Bowenoid papulosis (BP) presents most frequently in sexually active young adults as multiple grouped small red-brown or violaceous papules with a verrucous or smooth surface, erythematous macules or papules on the genitalia and perianal area (1). Extragenital BP is usually associated with concomitant genital involvement, but there have been rare reports of isolated extragenital BP (2, 3). We report here a patient who presented with extragenital BP of the toe-webs caused by high-risk human papillomavirus (HPV)-16.

CASE REPORT

A 48-year-old Korean man presented with a 2-year history of gradually enlarging pigmented plaques on the second and third interdigital webs of the right foot. The lesions were not painful or pruritic. The patient had no family or personal history of skin cancer and had liver disease due to alcoholism. He did not have a history of arsenic or radiation exposure and denied a history of genital warts or other sexually transmitted diseases. On physical examination, a dark-hyperpigmented, verrucous plaque and a hyperpigmented flat-topped plaque were observed on the third and second interdigital webs of the right foot, respectively (Fig. 1). The lesions were not associated with concomitant genital or periungual involvement. A punch biopsy of the lesion on the third interdigital toe-web revealed atypical and dyskeratotic keratinocytes with atypical mitosis scattered throughout the thickened epidermis, accompanied by features consistent with verruca, such as koilocytic cells with hypergranulosis and hyperkeratosis (Fig. 2). The lesion of the second toe-web showed similar histopathological findings. There was no evidence of dermal invasion, and a direct smear of the scales around the lesion demonstrated hyphae. An HPV DNA chip, polymerase chain reaction (PCR)-based microarray system (MyGene Co., Seoul, South Korea) was used for HPV genotyping. HPV-16, a high-risk HPV, was identified from the DNA extracted from the punched-out tissue.

DISCUSSION

BP presents most frequently in sexually active young adults as multiple, small, red-brown or violaceous papules and coalescent plaques on the genitalia and perianal area. Histologically, BP closely resembles Bowen's disease (BD), with loss of orderly maturation and epithelial dysplasia; but BP may show acrotrichial sparing and more focal and less pronounced atypia and dysplasia (1). However, the distinction between BP and BD is histologically difficult, and a clinicopathological correlation should be made to elucidate differentiation. The diagnosis of BP was suggested by histology, the young age of the patient, and a lack of other factors, such as an immunocompromised condition and sun damage (2). Numerous HPV types have been associated with BP, and high-risk HPV types, including types 16, 18, 31 and 33, are commonly involved (3). Although BP is almost always caused by HPV infection, signs of viral infection, i.e. koilocytes, are not consistent findings (2, 4). Although our patient was not young and the lesions occurred on the extragenital toe-webs, histological findings such as prominent koilocytosis

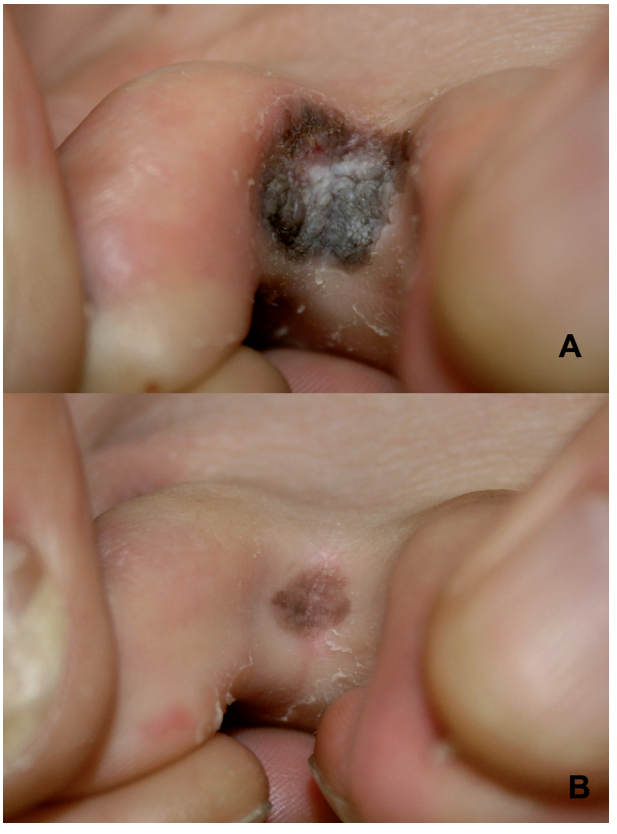

Fig. 1. (A) A dark-pigmented, 1.0 × 1.5 cm, verrucous plaque on the third interdigital web of the right foot. (B) A pigmented, 0.5 × 0.5 cm, flat-topped plaque on the second interdigital web of the right foot.

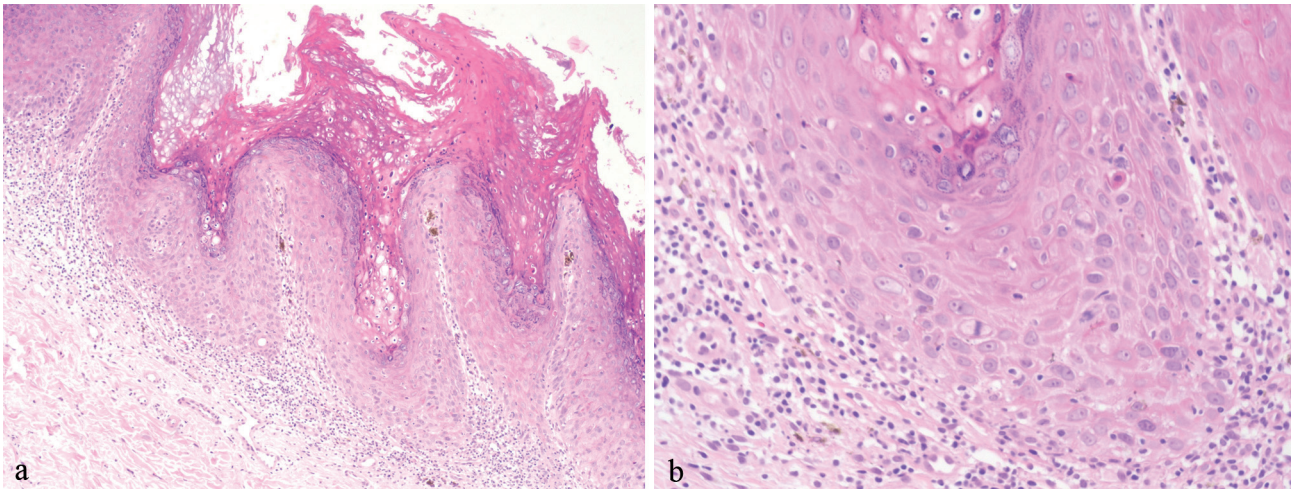

Fig. 2. Histopathological examination revealed: (a) hyperkeratosis, acanthosis, papillomatosis, and several melanophages and pigment particles on the papillary dermis with inflammatory cellular infiltration (haematoxylin and eosin (H&E); original magnification × 100); and (b) atypical and dyskeratotic keratinocytes with atypical mitosis scattered throughout the thickened epidermis in complete disorder (H&E; original magnification × 400). Additionally, features consistent with verruca, such as koilocytotic cells with hypergranulosis, hyperkeratosis, and dilated capillaries, were observed.

and full-thickness epithelial dysplasia were sufficient to diagnose extragenital BP rather than BD.

Cases of extragenital BP are uncommon and are usually associated with concomitant genital involvement (5). Extragenital BP may occur by autoinoculation from preceding genital BP. In isolated extragenital BP, as in our case, the possibility of inoculation of extragenital sites via contaminated implements or previous or subclinical genital infections has been suggested (4). Some cases of isolated extragenital BP have been reported, but most have occurred on exposed areas, such as the chin, neck, fingers and periungual areas, which are easy to inoculate from other sites (2, 3). By contrast, our case occurred on the toe-webs; an unusual, unexposed location. In addition, an immunocompromised status, such as low CD4 counts, may be associated with BP and high-risk HPV infections (2). In our patient, we found no immune dysfunction or medical problems except for liver disease caused by alcoholism. We presume that a cutaneous disease, such as tinea pedis, might be one of the susceptible factors of HPV infection and may subsequently induce extragenital BP, because dermatophytes were identified in the surrounding BP lesions in our patient.

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