

Verrucous Psoriasis: A Case Report

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ABSTRACT:

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Verrucous psoriasis is an extraordinary variant of psoriasis characterized by a wart-like appearance instead of its classical plaque presentation. The Histologic findings include orthohyperkeratosis, thinning or absent granular layer and koilocyte, papillomatosis, spongiosis with neutrophilic infiltration and superficial perivascular lymphohistiocytic infiltration. The overlapping of clinicopathologic features of both verruca vulgaris and psoriasis with the absence of human papilloma virus infection may lead to the diagnosis of verrucous psoriasis. We report a de novo case of verrucous psoriasis in an obese middle-aged Thai woman with some histologic features that differed from those reported previously.

Key words: Histologic feature, psoriasis, verrucous psoriasis

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Case

A 34-year-old Thai woman presented to our department with a complaint of pruritic hyperpigmented plaques on her legs for 1 year. She reported that the lesions initially began with an itchy small erythematous papule that gradually thickening and increasing in size and number due to scratching. Finally, the lesions spread to both sides of her legs over the

preceding 1 year. She denied pre-existing psoriasis or any previous dermatologic disease before. The physical examination revealed obesity (height 159 cm; weight 71 kg; and body mass index [BMI],28.08) and the multiple well-defined lichenified erythematous-brownish plaques covered with thick adherent scales located on her lower extremities (Figure 1)



Figure 1 Multiple well-defined lichenified erythematous-brownish plaques covered with thick adherent scales on lower extremities

She had been treated with unknown medication before but no improvement. On her first visit, she was given a diagnosis of lichen simplex chronicus and treated with topical potent corticosteroid and keratolytic agents (clobetasol cream, intralesional triamcinolone injection and salicylic acid). After 3 months, the lesions remained the same so an incisional

biopsy for H&E and culture for fungus and mycobacterium (TB, NTB) was performed. Histopathology showed psoriasiform epidermal hyperplasia, thinning suprapapillary plates, diminished granular layer, compact hyper orthokeratosis, papillomatosis, focal parakeratosis (Figure 2A) with viral cytopathic changes, dilated capillaries in dermal papillae,

and perivascular (mainly lymphohistiocytic) inflammatory infiltrate (Figure 2B). GMS, PAS, AFB, mAFB stains were negative for organisms and the tissue culture results were negative for fungus and mycobacterium. From clinical and histologic features, the patient's diagnosis was revised into verrucous psoriasis. The Polymerase

chain reaction (PCR) for human papilloma virus (HPV) was done later and the result was negative so we confirmed a diagnosis of verrucous psoriasis (VP). Calcipotriol 50 mcg/gm was described to our patient and the lesions were dramatically improved within 12 weeks (Figure 3).

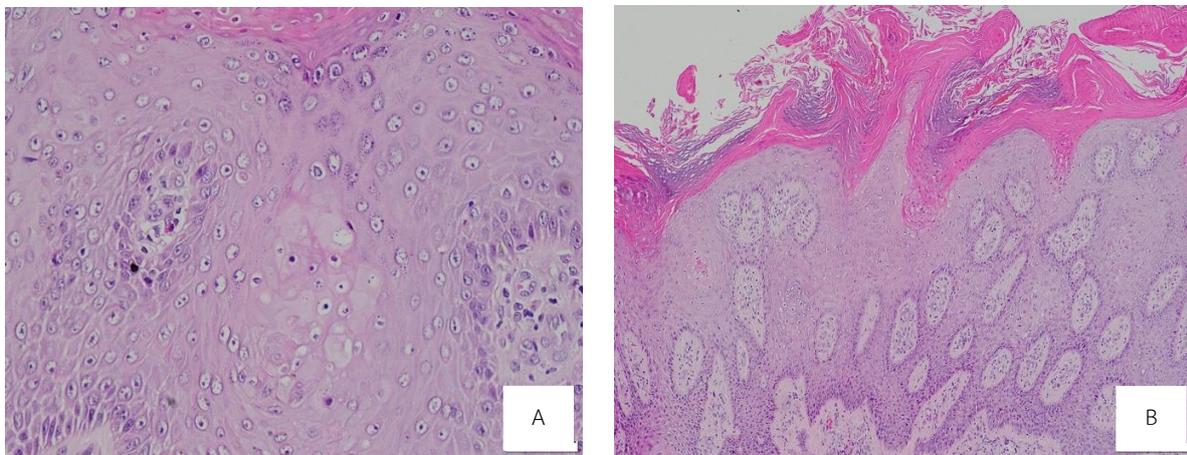


Figure 2

A) Psoriasiform epidermal hyperplasia, thinning suprapapillary plates, diminished granular layer, compact hyper orthokeratosis, papillomatosis, focal parakeratosis. (H&E X10)

B) Viral cytopathic changes, dilated capillaries in dermal papillae, and perivascular (mainly lymphohistiocytic) inflammatory infiltrate. (H&E X40)



Figure 3 After administration of topical calcipotriol, the thick verrucous plaque became flattened

Discussion

Psoriasis is a common, immunologically mediated, inflammatory disease that has several clinicopathologic variants and tend to appear symmetrically on both sides of the body. Verrucous psoriasis (VP) is considered to be one of the rare presentations of psoriasis which still has limited number of case reports.

Clinical presentation of VP is characterized by hypertrophic verrucous plaque (wart-like lesion) covered with thick adherent scales or an oyster-shell-like scales on erythematous base^{1,2}. The anatomical distribution of VP is commonly localized and located mainly at the friction areas including the extensor surfaces of upper and lower extremities³⁻⁷, trunk^{3,8-10}, scalp^{8,10} and

genital area^{6,8}. There are some unique presentations of VP which have been reported such as erythrodermic⁸, linear¹¹ and annular¹² variants.

Histologic features-are based on on several case reports. it is well-established that the histopathologic features of VP share an overlapping of verrucae vulgaris and psoriasis including acanthosis, parakeratosis, papillomatosis, spongiosis, hyperkeratosis, perivascular lymphohistocytic infiltration, dermal vascular dilatation, epidermal buttressing, Munro's micro abscess, epidermal neutrophilic inflammation, hyper orthokeratosis, thinning or absent granular layer with koilocytosis. All of these features were relevant to our case except

for the viral cytopathic changes in the upper stratum granulosum (Figure 2B) that was inconclusive with a previous report¹³.

True etiology of VP is presently unclear. Many theories have been raised, mostly believe in repeating trauma with pre-existing psoriasis^{6,10,13} but some found that it could be de novo. Possible predisposing risk factors for VP are primarily diabetes mellitus and obesity that induced micro-macroangiopathy and lymphatic disturbance, others postulated pulmonary dysfunction and phlebitis that led to disturbance of peripheral circulation resulting in local anoxia, all of these events resulting in collagen fibrosis and epidermal hyperplasia^{2,4-8}. Our patient is obese but has no pre-existing psoriasis or any mentioned predisposing risk factors so this may support the theory that VP can occur de novo.

Differential diagnosis- VP always be confused with other diseases that can cause hyperkeratosis² such as verrucous carcinoma¹⁴, lichen simplex chronicus, verruca vulgaris, deep fungal infection, leishmaniasis and acanthosis nigricans, etc. Distinction of verrucous carcinoma from others is crucial for avoiding unnecessary excisional treatment because the others are well responsive to medication¹⁴.

Investigation- Negative results for HPV and fungal infection should be proven in any cases suspected of VP for instance;

immunohistochemical staining^{2-5,13} and PCR^{2,8} for HPV, PAS^{4,11} and tissue culture for fungus¹⁴.

Treatment- To date, there's still no mainstay treatment for VP established. The treatment options based on previous case reports are topical therapies including corticosteroids¹³, keratolytic agents, calcipotriene^{9,15}, 5% liquor carbonis detergens cream¹⁶ and systemic therapies including methotrexate (MTX), acitretin, etretinate^{1,2}, etanercept, ustekinumab⁸, adalimumab⁵ and infliximab. Almost all cases seem to be resistant to conventional or monotherapy³. The combination therapies were used after treatment failure and showed more satisfying outcomes, for example; Topical or intralesional steroid plus keratolytic⁹, topical steroid plus coal tar^{12,16}, MTX plus triamcinolone¹⁰, and MTX plus acitretin¹⁷. Compression bandage was applied in some cases presuming that it may help prevent lymphatic congestion and protein leakage^{2,15}. Our patient appeared to be responded well with topical calcipotriene that we used as second-line treatment after minimal response from high potent topical steroid plus keratolytic agents.

Conclusion

We present a de novo case of verrucous psoriasis with some peculiar histopathologic features. VP is not a typical presentation of psoriasis with insufficiency case reports have been published. To our knowledge, delayed or

misdiagnosis is no doubt, and the treatment is supposed to be challenging. We conclude that recognition of the presentation and histopathology of VP is crucial, and the absence of HPV infection is authorized to help confirm the diagnosis. Treatment failure is frequent, so referring the case to the dermatologist should be considered.

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