

# Lichen planus verrucosa: A challenging clinical and histologic subset of hypertrophic lichen planus



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**Key words:** hypertrophic lichen planus; intralesional triamcinolone; lichen planus verrucosa; lichen planus verrucosus; mimic; verruca; refractory.

## INTRODUCTION

Lichen planus (LP) is a mucocutaneous disorder characterized by pruritic violaceous geometric flat-topped plaques that develop most commonly in middle-aged individuals. Cutaneous variants include hypertrophic, annular, bullous, actinic, inverse, atrophic, pigmented, and follicular forms. The hypertrophic variant is intensely pruritic with a predilection for the anterior aspect of the lower portion of the legs. The clinical and histologic resemblance of hypertrophic LP to other clinical entities renders its diagnosis challenging. We present the case of a 75-year-old woman with hypertrophic LP that evaded diagnosis for years.

## CASE REPORT

A 75-year-old woman presented with intermittently pruritic pink scaly plaques on the bilateral shins for almost 2 years. She had been diagnosed by dermatologists with guttate psoriasis, verruca vulgaris, irritated seborrheic keratoses, LP-like keratoses, and concern for nonmelanoma skin cancer. Multiple biopsies were reported either descriptively or as verruca vulgaris. Lesion persistence despite treatment of psoriasis (with triamcinolone 0.1% ointment) and warts (with topical salicylic acid or fluorouracil and cryotherapy) prompted 7 biopsies over the preceding year, some of which demonstrated classic features of verruca vulgaris (Fig 1), whereas others were less specific. Importantly,

### Abbreviation used:

LP: lichen planus

empiric treatment of verruca vulgaris was not only ineffective but led to the formation of ulcers. The ulcers healed with wound care; however, primary scaly plaques persisted. Immunohistochemical staining and polymerase chain reaction studies for human papillomavirus were performed on 2 biopsies; all were negative. One of the pathology reports suggested a differential diagnosis of hypertrophic LP. Additional history-taking revealed that the patient had been diagnosed with LP by a dentist several decades prior, and physical examination revealed oromucosal reticulate white patches (Fig 2). A clinical-pathologic diagnosis of hypertrophic LP with verrucous features was thus confirmed. Furthermore, previous exacerbation of lesions with local destructive treatments was retrospectively concerning for koebnerization phenomenon, which is known to be associated with LP. Intralesional triamcinolone 5 mg/mL injections administered at 2-month intervals for 2 total treatments and topical clobetasol 0.05% ointment application twice daily ultimately led to resolution of the lesions. At a recent clinic visit, physical examination of our patient's legs revealed predominantly residual postinflammatory hyperpigmentation of the shins

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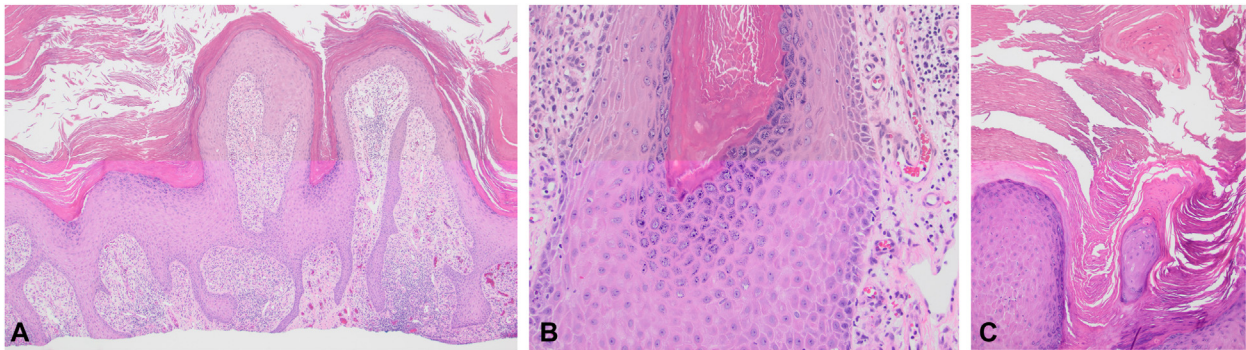
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**Fig 1.** **A, B,** Biopsy of left leg plaque with clinical impression of “irritated wart,” demonstrating digitate or papillated acanthosis with inward bending rete ridges, hypergranulosis with coarse keratohyalin granules and perinuclear retraction, dilated papillary dermal vessels, and sparse lichenoid host response. **C,** Biopsy of left shin plaque with clinical impression of “squamous cell carcinoma versus inflamed seborrheic keratosis,” additionally demonstrating a column of parakeratosis with crust above a papillation. (**A-C,** Hematoxylin-eosin stain; original magnifications: **A,**  $\times 40$ ; **B,**  $\times 200$ ; **C,**  $\times 100$ .)



**Fig 2.** Reticulated white patches of the buccal mucosa.

and scarring, with minimal focal areas of asymptomatic papular erythema (Fig 3).

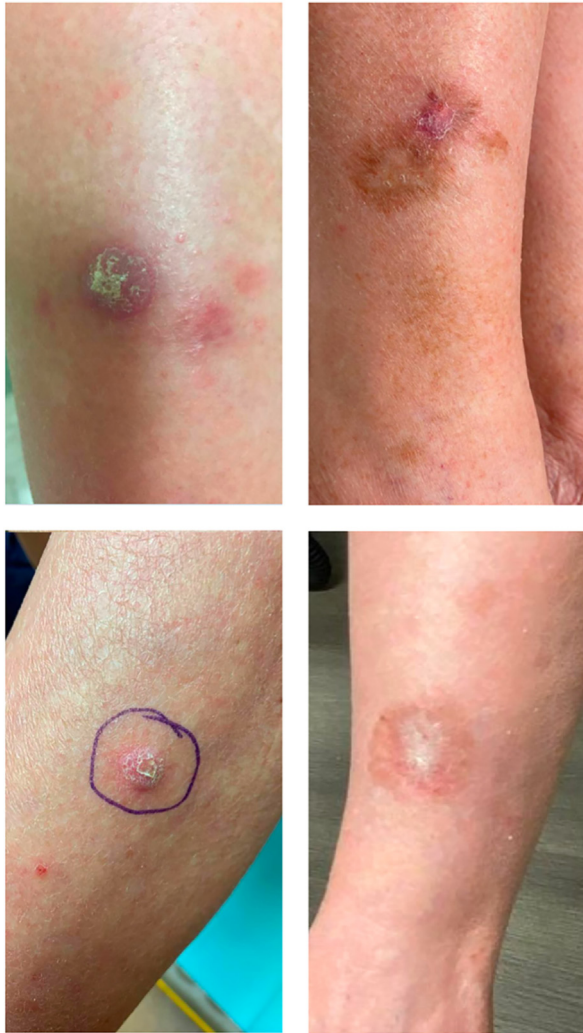
## DISCUSSION

Hypertrophic LP is a variant of LP with variable presentation that may mimic many other conditions, including verrucous and pseudoverrucous pathologies, psoriasis, pemphigoid nodularis, hypertrophic lupus erythematosus, scabietic nodules, persistent insect bite reactions, prurigo nodularis, lichen amyloidosis, lichen simplex chronicus, and squamous cell carcinomas.<sup>1</sup> Some infections, such as deep fungal and mycobacterial, may also imitate hypertrophic LP because of the presence of pseudoepitheliomatous

hyperplasia.<sup>2</sup> Hypertrophic lichenoid dermatitis as a complication of immune checkpoint inhibitors is an emerging entity, which may present abruptly with eruptive lesions.<sup>3</sup> Distinction of hypertrophic LP from squamous cell carcinoma is paramount to minimize associated morbidity and mortality. Although there are cases of LP misdiagnosed as squamous cell carcinoma, it is also important to note that squamous cell carcinoma may arise from hypertrophic LP.<sup>4</sup>

In our case, lack of expected clinical response to respective therapies for psoriasis, verruca vulgaris, and irritated LP-like keratoses prompted reconsideration of the diagnosis. Of interest, because of its potential clinical resemblance to verruca vulgaris, rare cases of hypertrophic LP have been reported as LP verrucosa.<sup>5</sup> In addition to the clinical resemblance, diagnosis may be further hampered by the presence of prominent papillomatosis, which is a variable feature within the histologic spectrum of hypertrophic LP.<sup>1</sup> In our case, verruca vulgaris was the favored clinical and histologic diagnosis in multiple biopsy specimens. Additionally and importantly, the dental history and physical examination findings of oral LP uncovered in our patient underscore the importance of thorough history-taking and complete physical examination at the time of initial evaluation to minimize delay in diagnosis.

Accurate early diagnosis is particularly important to prevent morbidity associated with therapeutic interventions for clinical mimics. In our patient, treatment with cryotherapy and repeated biopsies led to ulcerations on the lower extremities requiring wound care. Fortunately, our patient made a full recovery. However, lower extremity ulcerations are burdensome to patients and the health care system. In other patients, concern for nonmelanoma skin



**Fig 3.** Clinical photographs before (*left*) and after (*right*) treatment of the right shin (*top panel*) and left shin (*bottom panel*) verrucous plaques with topical clobetasol and intralesional triamcinolone.

cancer may lead to repeated biopsies, and misdiagnosis of squamous cell carcinoma may lead to unnecessary surgical intervention.

Once diagnosed, correct treatment leads to resolution or significant improvement. Treatment is tiered and includes topical corticosteroids, intralesional corticosteroid injections, phototherapy, and systemic agents (including corticosteroids, acitretin, methotrexate, mycophenolate, tofacitinib, and thalidomide).<sup>6</sup> In summary, a high index of suspicion is needed for accurate and timely diagnosis of hypertrophic LP given the numerous histologic and clinical imitators.

#### Conflicts of interest

None disclosed.

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