

## Dermoscopic Features of Herpes Zoster: Case Series and Review of the Literature

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### Introduction

Herpes zoster (HZ) is a major health burden that affects individuals of any age. The typical skin manifestation is a painful and unilateral vesicular exanthema, limited to a single or contiguous dermatomes [1]. Diagnosis is usually easy and occurs with just clinical evaluation, however recognition of atypical HZ can be a challenge for clinicians. When clinical presentation is ambiguous, laboratory tests such as polymerase chain reaction (PCR), Tzanck preparation and histopathology are the gold standard for diagnosis. However, laboratory test usually takes at least one day to perform it and histopathology is an invasive procedure [1]. Thus, dermoscopy, a non-invasive rapid diagnostic tool, can be helpful for early diagnosis of HZ, but there are limited descriptions on dermoscopic patterns in the literature. The aim of this study was to compare a case series of HZ with the relevant literature, evaluating the role of dermoscopy as a useful tool able to provide an early diagnosis. Reviewing and comparing

the available data, we observed a new dermoscopic pattern only partially described in literature.

### Case Presentation

A group of patients with atypical HZ diagnosed within the last 6 months were retrospectively retrieved from our secondary referral centers. Dermoscopic evaluation was performed by a polarized handheld dermoscope with x10 magnification. The study included 14 patients (8 males, 6 females) aged between 29 and 84 (mean 54 years), skin phototype (Fitzpatrick) ranged from III (71%) to V/VI (29%). Clinical diagnosis of the atypical eruption was difficult for three main reasons: early stage of rash with only few and small lesions, in most cases (50%) (Figure 1); in 28,5% of cases HZ arose on skin of color and the erythema was less clear (Figure 2); in 21,5% there was a diffuse non-dermatomal eruption in immunocompromised hosts. Dermoscopically, according to the existing literature [2-4],

white polyglobular structures were the most common features (100%), followed by meliceric crusts (100%), and erythematous background (71%).

## Conclusions

In literature a total of 75 patients, irrespective of age and gender, with a clinical presentation suggestive of HZ were evaluated for dermoscopic features [2-4]. Erythematous background (increased vascularity) was the most common finding (100%), followed by round cloudy white polyglobular structures (grouped vesicles) 53%-80%, and central brown dots 50%-80% (Table 1).

Comparing the available data, one interesting finding arising from our study: the “Halo sign”. It was an annular white/yellowish structure, that was present in the total of the retrospectively cases analyzed. “Halo sign” was due to the contrast between the yellowish/brownish crusted center of vesicular lesions and the red color of the erythematous background which create an annular pattern around every element of the skin rash. It has been previously only partially described by Narkhede et al and it could be a significant and easy method to recognize dermoscopic clue [2].

The role of dermoscopy for the early diagnosis of HZ has previously been reported, it facilitated an earlier diagnosis by 1.62 days [2]. Form our data analysis there were three clinical situations in which dermoscopy demonstrated its utility:

(1) early-stage lesions (2) skin of color (Phototypes V/VI) and (3) immunocompromised host [5,6]. Limited data are available but dermoscopy is a useful tool to allow an early diagnosis and antiviral treatment when clinical presentation is uncommon. Due to the lack of literature, these observations need further confirmation on larger series of patients.

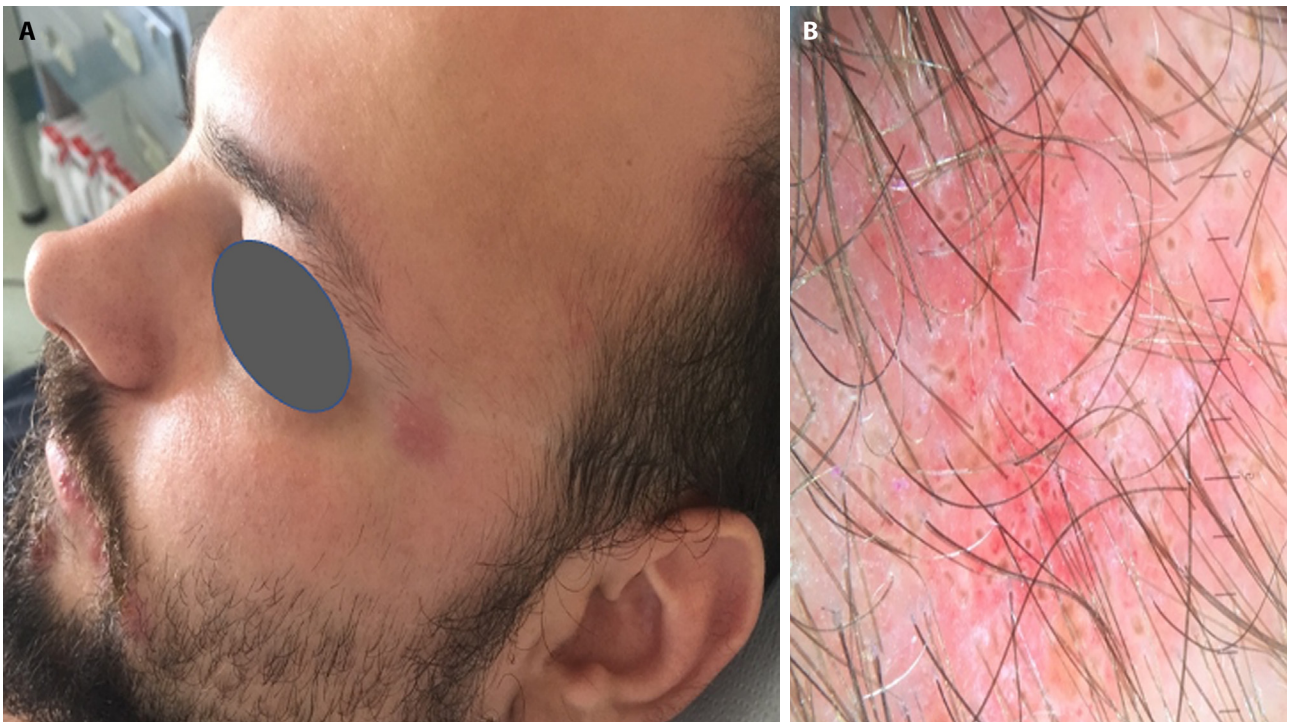
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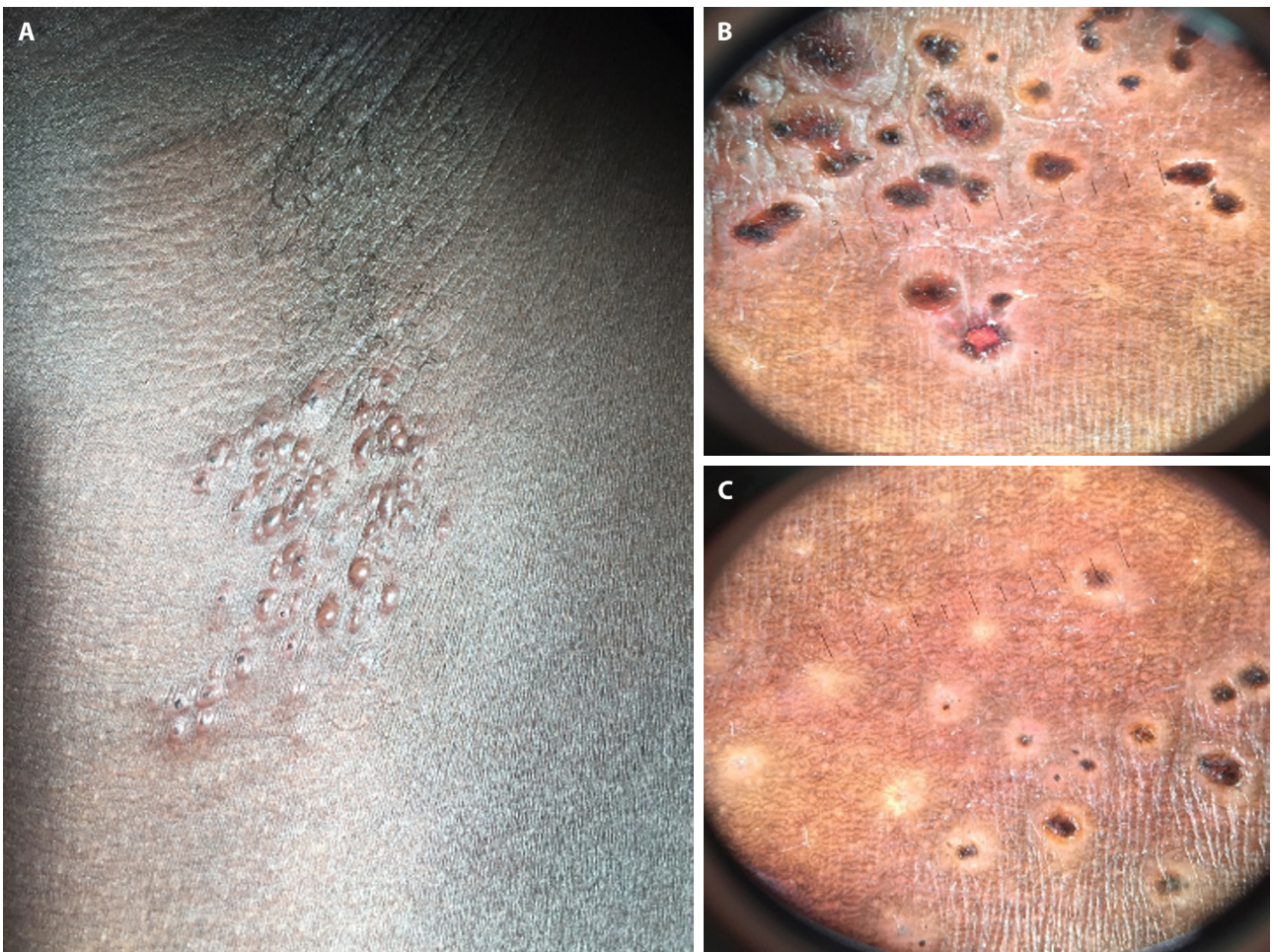
**Table 1.** Dermoscopic features of herpes zoster in literature references. The relevant literature was found by searching different databases: PubMed, Google Scholar. The following keywords alone or in combination were used: “Herpes”, “Zoster”, “Dermoscopy”, “Viral”, and “Infection”. A wide review of the bibliography of each of the selected article was performed.

References	Patients (N)	Dermoscopic features, Percentage (%)								Dermoscope employed
		Erythematous background	Cloudy white polyglobular structures	Central brown dots	White halos	Grey to black dots	Erosions	Grayish structureless areas	White globules	
Narkhede et al [2]	50	100%	+++	50%	+++	50%	NR	20%	20-80%	DermLite DL 4 dermatoscope
Rao et al [3]	10	100%	80%	80%	NR	30%	20%	NR	NR	Handheld contact dermatoscope, Derm Lite 4
Nayak et al [4]	15	+++	53%	53%	NR	NR	NR	NR	NR	Handheld pocket dermatoscope DermLite II Pro

NR = not reported; +++ = well represented.



**Figure 1.** (A) Clinical image of herpes zoster involving left mandibular branch of trigeminal nerve. (B) Dermoscopy shows millimetric brownish crusts on white polyglobular structures and an erythematous background (Halo sign).



**Figure 2.** (A) Clinical image of herpes zoster involving right axilla. (B,C) Dermoscopy shows brownish crusts that cover white polyglobular structures on skin of color (Halo sign).