Dermatology Practical & Conceptual

Dermoscopic Features of Anogenital Verrucous Carcinoma

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Introduction

Anogenital verrucous carcinoma (aVC) represents a rare subtype of well-differentiated mucocutaneous squamous cell carcinoma often related to human papillomavirus infection. It manifests as a slow-growing, warty lesion, usually showing ulceration [1]. Due to similarities in clinical presentation, aVC can be misdiagnosed as various lesions, such as seborrheic keratosis, genital wart, chancre (primary syphilis), or condyloma latum (secondary syphilis), leading to diagnostic delays. This retrospective observational monocentric study aims to characterize dermoscopic findings of aVC, comparing it with the main clinical mimickers.

Case Presentation

We selected consecutive patients histologically diagnosed with aVC for whom high-quality clinical and dermoscopic (polarized) iconography was available. All images were evaluated by 2 experienced dermoscopists (EE and EZ) in agreement for the presence of items defined according to the International Dermoscopy Society consensus documents [2].

A total of 6 patients (4 males and 2 females, mean age 65.3 years, range 45-80 years) were included, diagnosed with 6 aVCs, all appearing as poorly defined, verrucous lesions (mean diameter 23 mm, range: 8-40 mm), some of them also showing ulceration (Figure 1 A, C, and E). In general, the most common dermoscopic findings (Figure 1, B, D, and F) included white clods on a reddish/pinkish background (6/6; 100%), white structureless areas (5/6; 83%), and a polylobular appearance (5/6; 83%). In 2 cases, a white cerebriform pattern characterized by thick, curved, white lines on a red background was observed. Vessel morphology was mainly coiled/glomerular (6/6, 100%), followed by looped/hairpin (3/6, 50%) and dotted (2/6, 33%). In half of the cases, we observed polymorphous vessels (i.e., more than one vessel shape), while vascular distribution pattern was unspecific in all instances. Table 1 summarizes all analytical data.

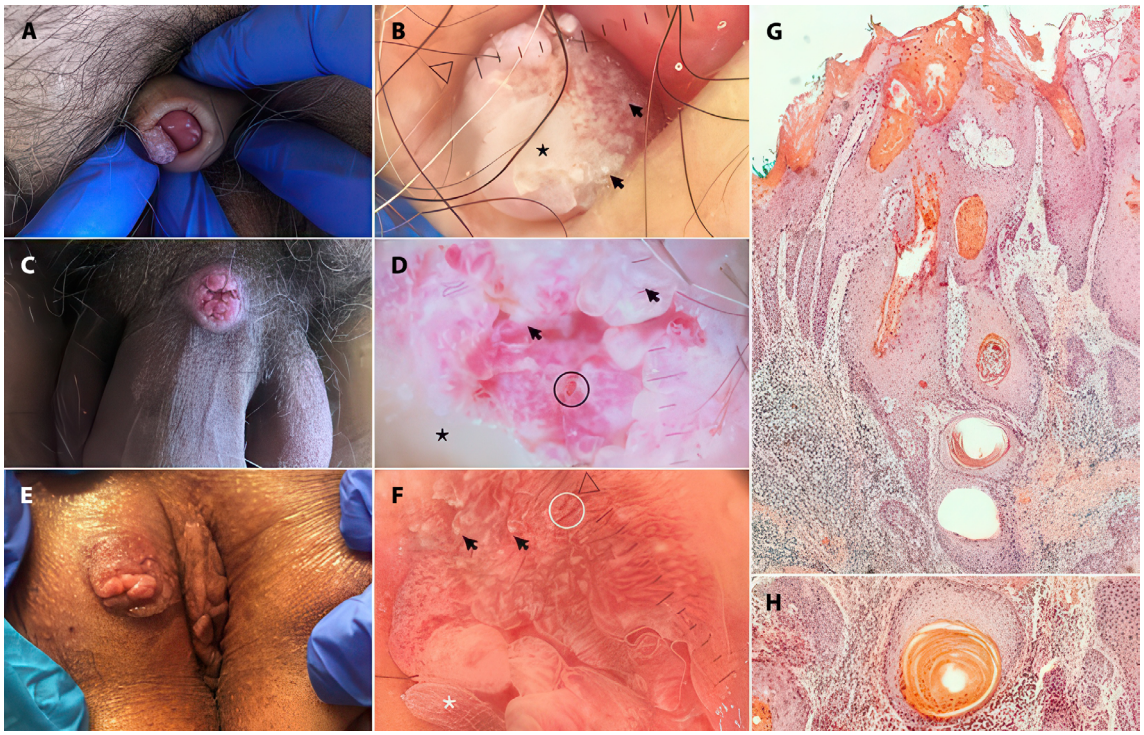

Figure 1. Clinical appearance of (A) penile and (E) vulvar verrucous carcinoma, with corresponding dermoscopic presentation and histopathologic picture. Polarized dermoscopy (×10 magnification) reveals a (B, D, F) polylobular appearance, white clods on a red/pinkish background (black arrows), white structureless areas (black stars [B, D]), white cerebriform pattern (white star [F]), coiled/glomerular vessels (black circles [D]), and looped/hairpin vessels (white circles [F]). Histopathology reveals a squamous cell carcinoma, showing a dysplastic epithelium with (G) abundant keratinization and (H) keratin pearls, (H&E, ×40 magnification).

Table 1. Dermoscopic features of anogenital verrucous carcinoma from our analysis (total number of lesions = 6), compared with its most common differential diagnoses: seborrheic keratosis, genital wart, chancre (primary syphilis), and condyloma latum (secondary syphilis).

	Anogenital Verrucous Carcinoma (N = 6)		Seborrheic Keratosis [3]	Genital Wart [3,4]	Chancre [5] (Primary Syphilis)	Condyloma Latum (Secondary Syphilis) [5,6]
Dermoscopic structures	White clods on a red/pink background	6 (100%)	Milia-like cysts (white clods), cerebriform pattern, fingerprint- like structures, sharp demarcation, moth eaten border	Polylobular appearance (mosaic, knob-like or finger-like pattern)	Reddish/whitish central area and peripheral whitish annular border	Follicular plugs (common); scales, white globules and focal white/brown structureless areas (less common)
	White structureless areas	5 (83%)				
	White thick lines on a red/pink background (white cerebriform pattern)	2 (33%)				
	Polylobular appearance	5 (83%)				
Vessels	Dotted	2 (33%)	Mostly looped (hairpin), coiled (glomerular), dotted, linear irregular, and comma vessels	Mostly coiled (glomerular), looped (hairpin), and dotted	Different morphologies (mostly linear irregular / serpentine)	Dotted or glomerular
	Coiled/glomerular	6 (100%)				
	Looped/hairpin	3 (50%)				
	Polymorphous vessels	3 (50%)				
	Unspecific distribution	6 (100%)	Uniform distribution	Uniform or unspecific distribution	Unspecific distribution	Uniform or clustered distribution

Conclusions

In analyzing the main differential diagnoses, some morphological features are helpful to distinguish them from aVC. Indeed, anogenital seborrheic keratoses can present milia-like cysts (bright gray clods), but are generally characterized by a sharply demarcated border, while aVC is usually poorly defined [3]. Genital warts classically present a polylobular appearance, with each lobule containing a dotted, coiled, or hairpin vessel; conversely, in aVC, vessels are generally located around white clods [3,4]. Syphilitic chancre typically shows a reddish or whitish central area (erosion) with a peripheral whitish annular border and vessels of various morphologies (mostly linear irregular/serpentine), thus being rather different from aVC on dermoscopy [5]. On the other hand, condyloma lata share some dermoscopic features with aVC (dotted or glomerular vessels, white structureless areas, and less commonly white clods corresponding to follicular plugs) [5,6]. However, condyloma lata are often multiple and accompanied by positive syphilitic laboratory tests.

Our study highlights that a polylobular appearance and "white findings" resulting from keratinization (ie, white structureless areas and white clods histologically corresponding to hyperkeratosis and 'keratin pearls', respectively (Figure 1, G and H) are the most prominent dermoscopic indicators of aVC, as they are not typically seen in its mimickers. The main limitations of this study include the small sample size, resulting from the rarity of aVC, the retrospective design, and the lack of control group. Therefore, further analyses are needed to confirm our preliminary observations.

Ethics Statement: The patients in this manuscript have given written informed consent to publication of their case details.

References

1. Fawaz B, Vieira C, Decker A, Lawrence N. Surgical treatment of verrucous carcinoma: a review. *J Dermatolog Treat*. 2022;33(4):1811-5. DOI:10.1080/09546634.2021.1914312. PMID: 33849379.
2. Kittler H, Marghoob AA, Argenziano G, et al. Standardization of terminology in dermoscopy/dermatoscopy: Results of the third consensus conference of the International Society of Dermoscopy. *J Am Acad Dermatol*. 2016;74(6):1093-106. DOI:10.1016/j.jaad.2015.12.038. PMID: 26896294.
3. Maatouk I, Apalla Z, Errichetti E, Lallas A. Dermoscopy for venereologists: an update on patterns of tumors, inflammatory and infectious diseases of the genitalia, and tips for differential diagnosis. *Int J Dermatol*. 2021;60(10):1211-8. DOI:10.1111/ijd.15333. PMID: 33448049.
4. Dong H, Shu D, Campbell TM, Frühauf J, Soyer P, Hofmann-Wellenhof R. Dermatoscopy of genital warts. *J Am Acad Dermatol*. 2011;64(5):859-64. DOI:10.1016/j.jaad.2010.03.028. PMID: 21429619.
5. Lallas A, Errichetti E, Ioannides D. *Dermoscopy in General Dermatology*. Boca Raton, FL: CRC Press, Taylor & Francis Group; 2019.
6. Errichetti E, Lallas A, Galvan A. Dermoscopy of condyloma lata: An observational controlled study. *Australas J Dermatol*. 2023;64(4):381-3. DOI:10.1111/ajd.14155. PMID: 37706598.