

Non-Invasive Imaging Techniques (Dermoscopy, Reflectance Confocal Microscopy and Line-Field Confocal Optical Coherence Tomography) for the Diagnosis of Warty Dyskeratoma

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Introduction

Acanthomas are benign tumors arising from epidermal keratinocytes. Warty dyskeratoma (or papular acantholytic dyskeratoma) is an uncommon type of acanthoma mainly localized on the head or neck of adults and histologically characterized by acantholysis with dyskeratosis [1].

Case Presentation

A 47-year-old man presented for the evaluation of tender, cup-shaped, small papules with an umbilicated center on the left side of his abdomen (Figure 1A). They appeared six months earlier and clinically resembled much molluscum

contagiosum. He had no personal history of atopic dermatitis or viral skin infections, nor declared non-marital sexual intercourse. Dermoscopy showed a pinkish papule with a central yellowish area (Figure 1B). Reflectance confocal microscopy (RCM; Vivascope® 3000 MAVIG GmbH) showed medium refractive discohesive keratinocytes in the center of the lesion that were smaller and less refractive than molluscum contagiosum bodies or others infectious diseases (Figure 2A) [2-4]. Line-field confocal optical coherence tomography (LC-OCT; DeepLive®, DAMAE Médical) revealed mild hyperkeratosis and acanthosis, suprabasal epidermal clefting, and a central crateriform invagination in the stratum corneum less defined than that one of molluscum contagiosum or other viral or infective



Figure 1. (A-D) On the left small, cup-shaped, papules with an umbilicated center, and on the right pinkish papular lesions with a central yellowish area; they represent clinic (A,C) and dermoscopic (B,D) images of two different (A-D) warty dyskeratomas.

infections (Figure 2, C and D) [3,5]. The histopathological examination revealed mild hyperkeratosis and acanthosis and suprabasal acantholysis and focal dyskeratosis suggestive of acantholytic dyskeratoma (Figure 2F). His personal or family history was negative for keratosis follicularis (Darier disease) and transient acantholytic dermatosis (Grover disease). A similar presentation, with a less evident umbilicated center, was seen in a younger patient (Figure 1, C and D) with comparable RCM (Figure 2B) and LC-OCT (Figure 2E) images.

Conclusions

Warty dyskeratoma is histologically characterized by parakeratotic hyperkeratosis, acantholytic dyskeratosis at all levels of the epidermis, and focal suprabasal clefts.

Clinically, it is frequently diagnosed as molluscum contagiosum, seborrheic keratosis, or basal cell carcinoma. Dermoscopy is not specific, even if a brown star-like pattern (tan to brown, star-like shapes consisting of surface scale or superficial indentations ‘micro-fissures’) can be found [6]. Besides the diagnosis remains essentially histological, RCM and LC-OCT can represent further tools for the non-invasive assessment of these lesions, allowing identifying hyperkeratosis, acanthosis, and dis cohesive keratinocytes that can guide to suggest a correct diagnosis, excluding other neoplastic or infective diseases that can present with papules. To validate these non-invasive imaging techniques for the differential diagnosis of warty dyskeratoma, further studies with a wider sample of patients are needed, to avoid useless biopsies for benign tumors that can be removed with less invasive surgical techniques.

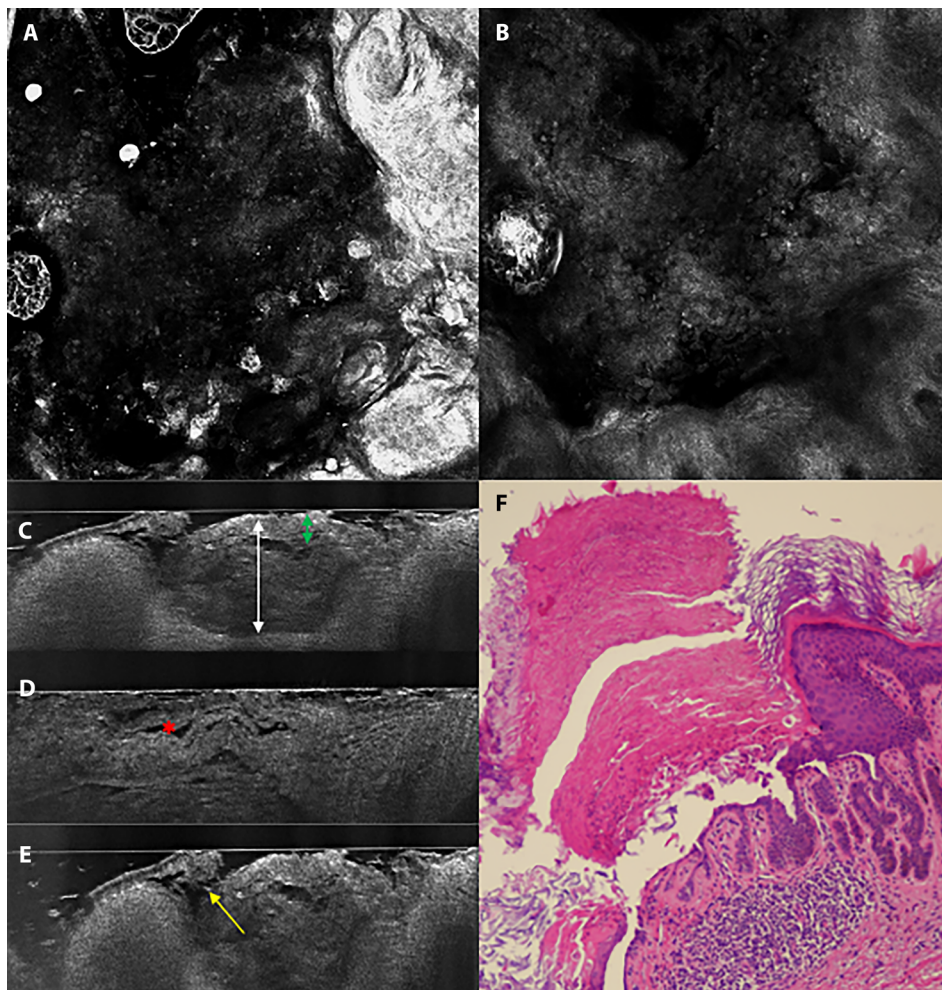


Figure 2. (A,B) Medium refractive dis cohesive keratinocytes in the center of the lesion in e ffectance confocal microscopy; (C-E) Mild hyperkeratosis (double-headed green arrow) and acanthosis (double-headed white arrow), suprabasal epidermal clefting (red asterisk), and a central crateriform invagination in the stratum corneum (single-headed yellow arrow) in Line-field confocal optical coherence tomography; (F) Mild hyperkeratosis and acanthosis and suprabasal acantholysis and focal dyskeratosis in histological examination. (A-E) They are images of two different warty dyskeratomas.

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