Dermoscopy and reflectance confocal microscopy features of two cases of vulvar basal cell carcinoma

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ABSTRACT Basal cell carcinoma (BCC) is the most common malignant skin cancer. Its genital localization is rare, and the diagnosis in this site could be challenging. Here, we report two patients with vulvar BCC and describe their clinical, dermoscopic and in vivo and ex vivo reflectance confocal microscopic (RCM) features. Dermoscopy and RCM can be useful tools for helping the clinical diagnosis of vulvar BCC and for identifying the correct surgical margins.

Learning Points

• Dermoscopy can help the clinical diagnosis of vulvar basal cell carcinoma showing linear and arborizing telangiectasia, pinkish background, blue ovoid nests, blue globules, white shiny structures and brown dots.
• Reflectance confocal microscopy can be used to confirm the clinical diagnosis of vulvar basal cell carcinoma and to identify its surgical margins.

Case Presentations

Case 1
An 82-year-old woman was referred to our clinic with complaints of itching and of bleeding from the vulva. She was otherwise healthy and denied a personal history of skin cancers, sexually transmitted diseases, and irradiation. A physical examination revealed a 3 x 2 cm ulcerated plaque involving the anterior vulvar commissure (Figure 1A). The rest of the genital and pelvic examination did not reveal any other pathological findings. Dermoscopic examination performed with DermLite Foto System (DermLite, 3 Gen, San Juan Capistrano, CA, USA) coupled with a camera (Sony Cyber-Shot digital still camera 7.2 megapixels, Sony Corporation, Tokyo, Japan) and applying a disposable sterile transparent film (Visulin; Paul Hartmann AG, Heidenheim, Germany) on the tip of the instrument, showed the presence of reddish and well-focused arborizing vessels on a pinkish background associated with whitish homogeneous areas (Figure 1B,C). These features suggested the diagnosis of ulcerated BCC and


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control of the surgical margins (Figure 4D) that resulted in being tumor-free. The histopathologic examination showed a nodular subtype (Figure 2). No relapse was observed during the maximum follow-up of 6 months.

Case 2
A 79-year-old woman presented with a history of an itchy lesion of the vulva. On clinical examination, an erythematous-whitish plaque with focal erosions was found on the right labium major. The periphery of the plaque had an irregular gray-blue pigmentation (Figure 3A). Dermoscopy performed with the high-definition dermoscope (DermLite; 3 Gen, San Juan Capistrano, CA, USA) coupled with Canon PowerShot G10 camera (Canon Inc., Tokyo, Japan) revealed fine linear telangiectasia, blue ovoid nests, a blue globule and white shiny structures on a pinkish background (Figure 3B, C). Areas of brown dots surrounded by a grayish pigmentation were also seen (Figure 3D). All these features were strongly suggestive of nodular BCC. For hygienic purposes, a disposable sterile transparent film (Visulin; Paul Hartmann AG, Heidenheim, Germany) was applied on the tip of the camera. In vivo RCM performed with Vivascope 3000 (Caliber, New York, NY, USA, distributed in Europe by MAVIG GmbH, Munchen, Germany) showed dark silhouettes corresponding to tumor islands and numerous medium reflective large cells corresponding to melanophages in the papillary dermis (Figure 4A-C). The lesion was excised with a 3 mm margin previously identified by the dermoscopic and in vivo RCM examination. Ex vivo RCM (VivaScope 2500, Generation 3, Caliber, New York, USA, distributed in Europe by MAVIG GmbH, Munich, Germany) with a horizontal scanning of the fresh surgical specimen without prior preparation (“en face” technique) [1] was also performed for the perioperative control of the surgical margins (Figure 4D) that resulted in being tumor-free. The histopathologic examination showed a nodular BCC and confirmed that the margins were free of disease (Figure 5A and B). No relapse was observed during the maximum follow-up of 48 months.

Discussion
Basal cell carcinoma (BCC) is the most common malignant skin cancer, and in almost 85% of cases it is located in head and neck areas [2]. Its genital localization is rare: vulvar BCC accounts for less than 1% of all BCCs and represents only 2-5% of all vulvar cancers [3-7]. Usually, a single vulgar lesion is observed, although bilateral, multifocal or disseminated forms are possible [5]. Vulvar BCC may present with superficial, nodular, infiltrative, vegetating, ulcerated and pedunculated lesions [5]. The tumor usually appears as a pink or flesh-colored lesion with a pearly and translucent sheen [7]. Pigmentation of vulvar BCC has been detected in only 3% of Caucasian patients and in up to 81% of Chinese...
patients [2]. The tumor is usually larger than 1 cm at presentation indicating a late diagnosis [2]. Subjective symptoms and clinical signs are often present for a prolonged period before the diagnosis. They include itching, irritation, discomfort, palpable vulvar mass, pain, and bleeding [2,4,5]. The last sign is related to ulcerated lesions, which represent 28% of all vulvar BCCs [2,5]. Vulvar BCC can mimic inflammatory diseases such as eczema, psoriasis, and infections (chronic candidiasis). It can also simulate Bowen disease, Paget disease, squamous cell carcinoma, leukoplakia, lichen ruber planus, lichen sclerosus, melanocytic nevus, melanoma, seborrheic keratosis, angioma, and other pigmented and non-pigmented tumors [6]. Therefore, the diagnosis is frequently delayed and it is usually performed after inappropriate treatment [2,3].

Dermoscopic features of vulvar BCC have been reported in only two cases, but RCM features have not been reported yet [6,8]. Non-invasive imaging techniques, such as dermoscopy and RCM, are of great interest since they orient the diagnosis of this rare tumor in this sensitive area. The dermoscopic features of our cases and of the previously reported two patients with vulvar BCC [6,8] showed blue ovoid nests and telangiectasia as extragenital BCC. The previously published cases were both pigmented [6,8], whereas one of our cases was a non-pigmented BCC. In the case of pigmented BCC, ovoid nests allow for diagnosis of this tumor easily. Non-pigmented lesions can be more difficult to identify because they can mimic inflammatory and infectious diseases. In the cases presented here, the presence of reddish and well-focused arborizing telangiectasia was a relevant clue to the diagnosis. Interestingly, both of our cases and one previously reported [6] showed prominent homogeneous whitish areas, which could be an additional clue for vulvar BCC. We hypothesize that these whitish areas could correlate with a peritumoral fibrosis that could
confirm that the excision was complete. In vivo and ex vivo RCM have been reported to have a good diagnostic accuracy for cutaneous BCC [1,10], and our case suggests that they could also be used for genital BCC.

In conclusion, vulvar BCC should be considered in the differential diagnosis of both pigmented and non-pigmented vulvar lesions. Dermoscopy and RCM can be useful tools for its diagnosis and treatment and for the identification of its surgical margins. Also, ex vivo RCM could be used in the perioperative setting of genital BCC. In our two cases, dermoscopic and RMC features were similar to extragenital BCC, except for the peculiar aspect of brown dots surrounded by grayish pigmentation that was observed on dermoscopic examination (Figure 2C).

References