Raised vulvar lesions: be aware!

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ABSTRACT Vulvar melanoma is a rare and deadly cancer in women, and the prognosis is often poor. There are limited studies on the dermoscopic features of vulvar melanoma. Described criteria include the presence of blue, gray, or white colors. Herein we present the clinical and dermoscopic characteristics of a hypopigmented and heavily pigmented nodule in a 92-year-old and an 80-year-old woman. Dermoscopy in the former revealed structureless milky-red to white areas, remnants of brown pigmentation at the base and polymorphic vessels, while the latter displayed structureless blue-gray areas with black dots and peripheral lines at the base. In both cases, histopathology revealed a stage III melanoma. Our two cases along with a review of the literature suggest that the dermoscopic features described for diagnosing cutaneous nodular melanoma, apply also for vulvar melanoma. Clinicians should always raise the suspicion if observing plaques or nodules with a dermoscopic polymorphic vascular pattern and blue-black color on the genitals of postmenopausal women.

Introduction

Vulvar melanoma (VM) is the second most common vulvar malignancy, but represents less than 1% of all melanomas and 1.0% to 2.3% of all melanomas in women [1]. It typically affects postmenopausal women with a peak incidence in the seventh decade of life [1,2]. VM is associated with a poor prognosis. The reported five-year survival rates are less than 60% [3].

It is unclear if the poor prognosis of VM is due to delayed detection or a highly aggressive biological behavior, but early identification and intervention may improve patient outcomes.

Dermoscopy improved the early diagnosis of melanoma, but little is known about the dermoscopy features of melanoma of the vulva [4]. Given the low incidence of VM, most of the information is derived from small retrospective case series and single case reports [1,5].
Discussion

Our findings are consistent with the current literature suggesting that VM typically affects women after the seventh decade of life, is often detected at late stage and has a poor prognosis and outcome (Table 1). Among the clinical features of VM, the data consistently report a nodular polypoid shape and lack of pigmentation in up to 27% of cases [6]. This underlines the need for careful evaluation of both pigmented and non-pigmented vulvar lesions, especially if raised.

Dermoscopy is proven to increase early melanoma detection compared to the naked eye, but its impact on early diagnosis of VM remains to be defined.

A review of the literature revealed a dermoscopic description of 22 cases of VM [4,6,7-15]. In the majority of cases, patterns of advanced melanoma such as a multicomponent pattern composed by a blue-white veil, atypical network, irregular streaks, dots and atypical vessels were described (Table 2) [6,7-10].

In a study by the International Dermoscopy Society, the dermoscopic patterns of a large series of mucosal lesions were analyzed. In that study, the presence of blue, gray, or white colors with or without structureless areas yielded a 100% diagnostic sensitivity for mucosal melanoma, only two cases of VM were included [7]. Among those two, was one amelanotic and revealed polymorphous vessels [8].

Clinically, VM can present as a flat or raised lesion with irregular borders and multiple colors [4,6,7] (Table 2). A 2004 review that included 20 cases of VM demonstrated median Breslow thickness at diagnosis of 3.1 mm and the clitoris or periclitoris as the common location and reported the superficial spreading and nodular as the most common histological subtypes.
In conclusion, our cases highlight the importance of an inspection of the genital areas especially in postmenopausal woman. The dermoscopic patterns of VM do not differ from melanomas at other body sites. Any pigmented or non-pigmented nodule, dermoscopically exhibiting blue and black or blue-white colors or polymorphic vessels should be carefully evaluated with a very low threshold for biopsy [9].

Based on this data, it appears that the majority of melanomas were at advanced stage at diagnosis. Whether this was caused by delayed self-detection of patients, low frequency of genital inspections during skin examinations or the tumor biology itself, remains unclear. It is noteworthy that we observed in both of our patients a flat, pigmented area at the base of the nodular tumor, which points towards an at least initially, horizontal growth pattern.

### Tables

**Table 1.** Patient demographics and tumor characteristics of vulvar melanoma. Numbers of reported cases are shown in brackets.

| References             | N | Age | Location          | Size in mm     | Clinical feature | Tumor thickness in mm |
|------------------------|---|-----|-------------------|----------------|------------------|-----------------------|
| Stolz et al. 2002      | 1 | n.a.| n.a.              | n.a.           | n.a.             | n.a.                  |
| Virgili et al. 2004    | 2 | **79** | Lab. Min. (2)   | > 10 mm (1)    | Nodular (1)      | 0.25 mm (1)           |
| De Giorgi et al. 2005  | 1 | 68  | Lab. min. & maj. | 10 mm          | Flat             | 0.5 mm                |
| Lin et al. 2009        | 2 | n.a.| n.a.              | n.a.           | n.a.             | n.a.                  |
| Blum et al. 2011       | 2 | n.a.| n.a.              | n.a.           | n.a.             | n.a.                  |
| Ferrari et al. 2011    | 5 | 36  | Lab. min. (3)    | > 10 mm (4)    | Nodular (4)      | 0.6 mm (range 0.5 to 4 mm) * |
| Ronger-Savle et al. 2011 | 5 | n.a.| n.a.              | < 10 mm (3)    | Papule (1)       | n.a. (1)              |
| Rogers et al. 2016     | 1 | 50  | Lab. min. & clitoris | > 10 mm        | Flat             | MIS                   |
| Oakley A 2016          | 3 | 62  | Lab. maj. (2)    | > 10 mm        | Nodular          | 7.2 mm (1)            |
| Blum et al. 2016       | 1 | 70  | Lab. min.        | <10 mm         | Papule           | n.a.                  |

*mean tumor thickness; ** mean age, MIS: melanoma in situ; n.a.: not applicable; Lab. min.: Labia minora; Lab. maj.: Labia majorum

**Table 2.** Dermoscopy of vulvar melanoma

| Reference             | n | Dermoscopy Patterns                                                                 |
|-----------------------|---|-------------------------------------------------------------------------------------|
| Stolz et al. 2002     | 1 | Polymorphous pattern, large blue-gray areas, irregular dots and globules           |
| Virgili et al. 2004   | 2 | Asymmetric darkening, whitish gray area, irregular globules, linear irregular vessels |
| De Giorgi et al. 2005 | 1 | Nonhomogeneous lesion, central blue-gray area, whitish veil                        |
| Lin et al. 2009       | 2 | Multiple colors, homogeneous regions, irregular network, blue-white veil, irregular vessels |
| Blum et al. 2011      | 2 | Blue, gray, white color, structureless zones                                       |
| Ferrari et al. 2011   | 5 | Irregular brown black dots, blue-white veil, atypical vessels, reticular depigmentation |
| Ronger-Savle et al. 2011 | 5 | Irregular-reticular or irregular-polycircular, blue-whitish veil, white veil, regression structures, irregular globules, irregular vessels, milky-red areas |
| Rogers et al. 2016    | 1 | Asymmetric darkening, structureless areas, central blue and pink colors             |
| Oakley A 2016         | 3 | Asymmetry of color and structure, blue-gray structures, polymorphous vessels       |
| Blum et al. 2016      | 1 | Polymorphous vessels (linear, curved, hairpin-like with different diameter)         |

In conclusion, our cases highlight the importance of an inspection of the genital areas especially in postmenopausal woman. The dermoscopic patterns of VM do not differ from melanomas at other body sites. Any pigmented or non-pigmented nodule, dermoscopically exhibiting blue and black or blue-white colors or polymorphic vessels should be carefully evaluated with a very low threshold for biopsy [9].
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