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Significance of dermatoscopy in genital dermatoses

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Abstract Dermatoscopy as a non-invasive technique has become an integrative part in the evaluation of pigmented and non-pigmented skin lesions, particularly for the early detections of melanoma. Although dermatoscopy improves diagnosis of pigmented and nonpigmented lesions of the skin, it is unknown if dermatoscopy improves the diagnostic accuracy of pigmented mucosal lesions. The "entodermatoscopy" is used for the dermatoscopy of skin infections and infestations and revised as entomodermatoscopy, as it connects the research fields of dermatology and entomology, with its roots being found in these two words. In genital dermatology along with the clinical examination, dermatoscopy is also used for the diagnosis and treatment follow-up of pediculosis pubis, genital warts, molluscum contagiosum, and scabies.

Introduction

Dermatoscopy as a non-invasive technique has become an integrative part in the evaluation of pigmented and non-pigmented skin lesions, particularly for the early detections of melanoma.[1] In addition, it is also employed as an adjunct to the clinical examination in general and genital dermatology for inflammatory and infectious diseases and diseases of the hair shaft.[2] Although dermatoscopy improves the diagnosis of pigmented and nonpigmented lesions of the skin, it is unknown if dermatoscopy improves the diagnostic accuracy of pigmented mucosal lesions.[3–5]

Pigmented lesions

Melanosis of genital mucosae is mainly found in phototype IV, V, and VI. Clinically, macules that are numerous, multifocal, confluenting, and have irregular borders and speckled brown pigmentation are seen. Dermatoscopically, there are aligned globular patterns with brown regular globules in parallel pattern with "finger print"; narrow parallel lines with thin lines, thick lines, or double lines.[6–8] Although these dermatoscopic findings may suggest a benign diagnosis, biopsy is usually recommended.

In contrast, melanocytic nevi are usually single, round/oval, brown macules or plaques with regular borders. Dermatoscopically, there is a globular or reticular pattern. Broadened pigment network and/or blue color raise the suspicion for a melanoma.[6–8]

Mucosal melanoma presents as macule, papule, nodule, or ulceration with multiple colors. Dermatoscopically, there are multiple colors and multiple structures with abrupt cut-off. Blue-whitish veil, atypical vascular pattern, and ulceration may be present.[6–8]

In order to better characterize dermatoscopic features of benign and malignant pigmented mucosal lesions, further studies are needed.[3–5] Dermatoscopic presence of blue, gray or white color is the strongest clue in differentiating between malignant and benign mucosal lesions along with the combination of at least 1 of the 3 colors and the presence of zones without structure.[3]

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Entodermatoscopy

The "entodermatoscopy" is used for the dermatoscopy of skin infections and infestations firstly introduced by Zalaudek et al. and revised as entomodermatoscopy, when it connects the research fields of dermatology and entomology and as its roots are found in those two words.[9,10] In genital dermatology along with the clinical examination, dermatoscopy is also used for the diagnosis and treatment follow-up of pediculosis pubis, genital warts, molluscum contagiosum, and scabies.[9–16]

Pediculosis pubis

Although *Pthirus pubis* can be seen with a simple magnification, dermatoscopy can be employed. In vivo dermatoscopic findings with noncontact handheld, dermatoscope of pediculosis capitis shows ovoid brown nits with nymphs, while empty cases are translucent with plane and fissured free ending.[12] Practical technique with examination of the hair on transparent adherent tape with contact handheld dermatoscope for the diagnosis of the pediculosis capitis has been described.[13] A live and moving lice can be seen in pediculosis pubis, performing digital dermatoscopy in real time projection on the monitor.[11] Dermatoscopy with a noncontact and contact handheld dermatoscope (DermLite Platinum and DermLite II PRO-HR, 3Gen, LLC) of affected hair shows nits containing unhatched nymphs (Figure 1), translucent empty cases and *Pthirus pubis* (Figure 2).

Molluscum contagiosum

Molluscum contagiosum dermatoscopically presents with a white-yellow polylobular pattern in the center with a central pore and with a surrounding crown of vessels that do not cross the centers of the lobules (Figure 3).[9,14] These vessels are also called "corrona-like" vessels.[9] This pattern is caused by inverted lobules of hyperplastic squamous epithelium that expands into the underlying dermis separated by fine septae of compressed dermis and by vessels in the dermis. Except for crown vessels, radial and punctiform patterns and a combination of vascular patterns can be present. A mixed crown and radial vascular pattern is described as having a flower pattern due to an appearance that resembles the petals of a flower.[14]

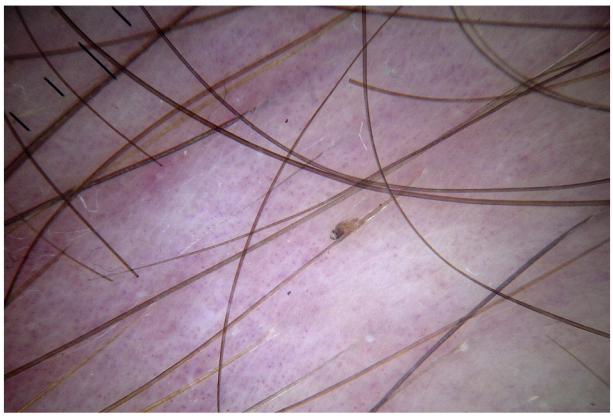

Fig. 1 A lice egg with nymphs attached to the pubic hair shaft (DermLite II PRO-HR, 3Gen, LLC; Sony DSC-P200; original magnification: ×10).

Fig. 2 A live *Pthirus pubis* seen under the handheld dermatoscope: typical crab-like appearance with a short oval body and prominent claws (DermLite II PRO-HR, 3Gen, LLC; Sony DSC-P200; original magnification: ×10).

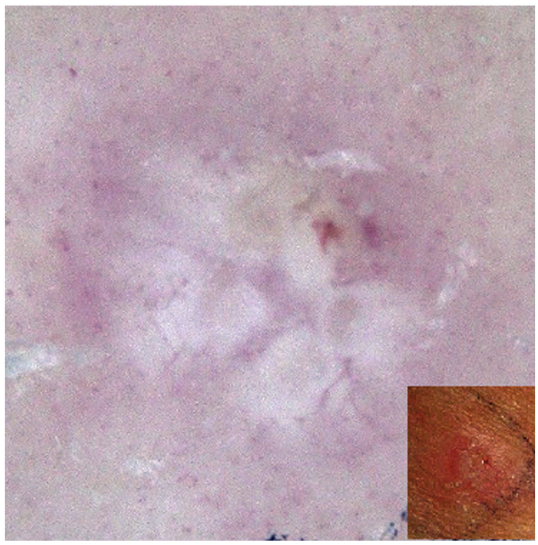

Fig. 3 Molluscum contagiosum: a white-yellow polylobular pattern in the center with a surrounding crown of vessels that do not cross the centers of the lobules. This pattern is caused by inverted lobules of hyperplastic squamous epithelium that expands into the underlying dermis separated by fine septae of compressed dermis and by vessels in dermis (DermLite II PRO-HR, 3Gen, LLC; Sony DSC-P200; original magnification: ×10).