Introduction

Warts are common benign epidermal proliferations caused by various strains of human papillomavirus [1]. Although their diagnosis is usually based on typical clinical features, clinicians may sometimes be confronted with features that overlap with other lesions. Dermoscopic examination of these lesions may help to distinguish them [2]. Our aim was to describe dermoscopic aspects of the different types of warts: vulgaris, plane, palmoplantar and genital.

Materials and methods

We conducted a prospective study including 250 warts diagnosed between January 2016 and May 2018 in the dermatology department of Hassan II University Hospital in Fez. Dermoscopy (DermLite DL3N) was performed in all patients, gathering the various dermoscopic signs. We classified them according to the clinical pattern in vulgaris, flat, palmo-plantar and genital, in order to make a correlation between the dermoscopic signs and the clinical subtype. The data was saved on Excel and analyzed on the SPSS Statistics version 20 software.

Results

We had 150 patients, the average age was 32.8 years (10-65) and the sex ratio (M/F) was 2.21. There were 99 Verruca Vulgaris (VV), 66 Palmoplantar Warts (PPW), 49 Plane Warts (PW), 34 Genital Warts (GW) and two histologically confirmed Corneiform Warts (CW).

The dermoscopic aspects found in VV were the presence of multiple dense papillae (100%), centered by red loops surrounded by whitish halos (64.4%) and irregularly distributed blackheads giving a so-called frogspawn appearance (64.4%) (Figures 1 and 2). In PPWs, a well-defined yellowish papilliform surface with interrupted plantar lines and multiple punctate haemorrhages (100%) was observed (Figures 3 and 4). Whereas for PW, a light brown background (100%) and red dots with regular distribution (86%) (Figures 5A and 5B). GWs were characterized by glomerular vessels (65%), multiple irregular projections with tapered ends from a common base (45%), a mosaic appearance (40%), hairpin vessels (30%), a finger aspect (30%), and a button aspect (25%) (Figures 6 and 7). Linear and irregular hairpin vessels surrounded by a whitish halo and punctate haemorrhages were objectified in both CWs (Figure 8).
Discussion

Dermoscopy is a non-invasive technique that has been used for the diagnosis of pigmented and non-pigmented skin tumors because it could improve the diagnostic accuracy in comparison to the naked eye examination [3]. The dermoscope, a modified magnifying lens, makes the stratum corneum translucent and allows the visualization...
whereas more advanced and raised or papillomatous warts frequently clinically flat lesions showing a mosaic pattern dermoscopically, related alteration of dermoscopic characteristics, with early and morphologies were detected. The investigators suggested a time-

single wart: unspecific, fingerlike, mosaic, and knoblike patterns identified 4 different dermoscopic patterns that may also coexist in [10]. More recently, a study including a large number of patients surrounding central small islands of unaffected mucosal skin described as a mosaic pattern consisting of a white reticular network opening [10]. The dermoscopic pattern of genital warts was initially pore corresponding with the comedo or pus within the hair follicle from acne or folliculitis, which display a central white to yellow brown to yellow background. These findings allow differentiation to bluish structureless pigmentation [11,12,15]. Dermoscopy of plane callus, which lacks blood spots, but instead displays central reddish structureless pigmentation [11,12,15]. Dermoscopy of plane warts typically reveals regularly distributed, tiny red dots on a light brown to yellow background. These findings allow differentiation from acne or folliculitis, which display a central white to yellow pore corresponding with the comedo or pus within the hair follicle opening [10]. The dermoscopic pattern of genital warts was initially described as a mosaic pattern consisting of a white reticular network surrounding central small islands of unaffected mucosal skin [10]. More recently, a study including a large number of patients identified 4 different dermoscopic patterns that may also coexist in a single wart: unspecific, fingerlike, mosaic, and knoblike patterns [16]. Glomerular, hairpin/dotted, and glomerular/dotted vessel morphologies were detected. The investigators suggested a time-related alteration of dermoscopic characteristics, with early and clinically flat lesions showing a mosaic pattern dermoscopically, whereas more advanced and raised or papillomatous warts frequently had a fingerlike or knoblike pattern. In summary, dermoscopy might help to differentiate early genital warts from other clinically similar diseases, such as Vestibular Papillae (VP) and Pearly Penile Papules (PPP) [16-18]. VP dermoscopically display multiple transparent and cylindrical projections, containing irregular vascular structures, whose bases, however, remain separate [17]. PPP appears as whitish pink cobblestone or grape-like structures in a few rows with central dotted or comma-like vessels in each papule [18].

Conclusion

The diagnosis of viral warts is usually made clinically, but dermoscopy can be of aid when the diagnosis is uncertain or in differentiation from e.g. seborrheic keratoses, dermal nevi or comedones in acne. Dermoscopy can also be of great help in genital lesions to differentiate genital warts from physiological situations and thus prevent excessive and inappropriate treatment.

Ethics approval and consent to participate

The study has been approved by the ethics committee of faculty of medicine of fez.

An informed consent to participate in the study was obtained from the patient.

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