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Dermoscopy of a single plaque on the finger

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Case Report

A 15-year-old boy presented with a single asymptomatic, mildly erythematous plaque on the palmar aspect of his right little finger of 2 years' duration. There was no history of bleeding or discharge. The patient denied any history of trauma. The plaque had multiple dark red papules in the center with surrounding erythema (Figure 1). A differential diagnosis of verruca, pyogenic granuloma, foreign body granuloma, and angiokeratoma was considered.

Dermoscopy (Dermlite, 3Gen, San Juan Capistrano, CA, 10X) of the lesion showed multiple sharply circumscribed red lacunae and dark lacunae covered with whitish veil in the center and scaling at the periphery of these lacunae (Figure 2A & B).

The histopathological examination showed hyperkeratosis, acanthosis, elongation and broadening of rete ridges with dilated thin-walled capillaries congested with red blood cells in the upper dermis (Figure 3).

A diagnosis of angiokeratoma was made.

The whitish veil corresponds to the hyperkeratosis and acanthosis, the red lacunae to dilated vascular spaces in the upper dermis, and dark lacunae to dilated vessels with thrombosis. The dark lacunae are the diagnostic sign for angiokeratoma.

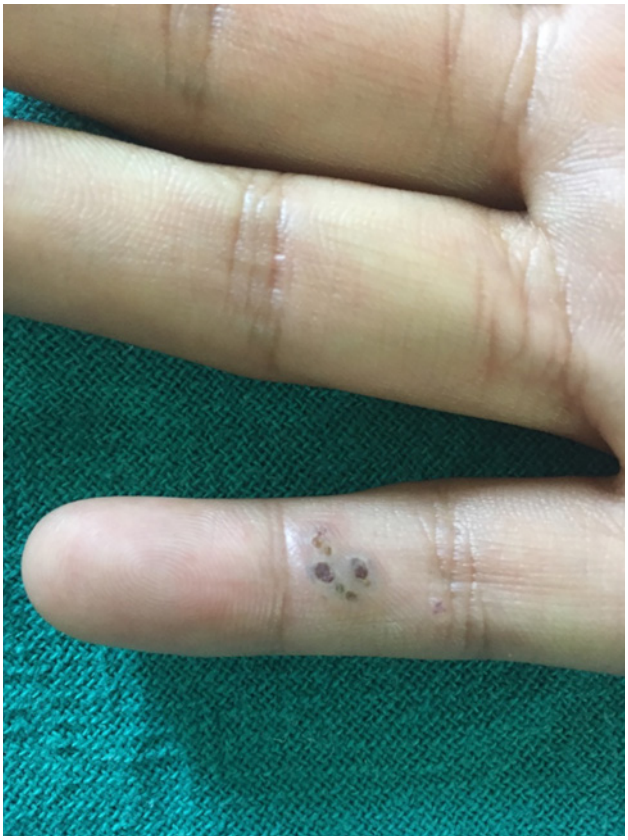

Figure 1. Single erythematous plaque with dark red papules in the center. [Copyright: ©2017 Bhat et al.]

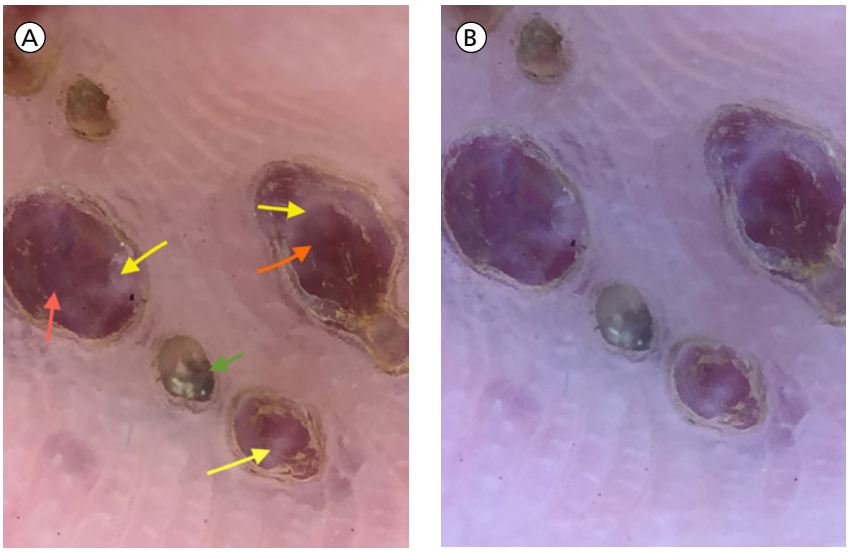

Figure 2. (A) Dermoscopy showing whitish veil with scales (yellow arrows), red lacunae (red arrows) and black lacunae (green arrows) [Dermlite , 3Gen, San Juan Capistrano, CA 10X polarized mode]. (B) Similar findings in non-polarized mode. [Copyright: ©2017 Bhat et al.]

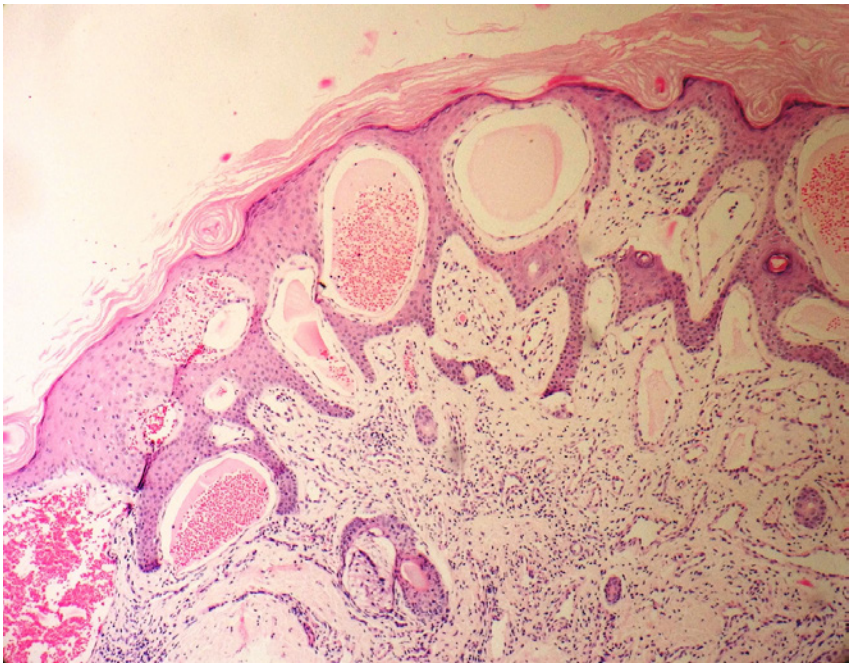

Figure 3. Photomicrograph showing hyperkeratosis, acanthosis, elongated rete ridges, dilated thin walled capillaries congested with red blood cells. (H&E,400X). [Copyright: ©2017 Bhat et al.]

Clinical Features and Types

Angiokeratomas are benign vascular lesions, characterized by ectasia of blood vessels in the upper third of the dermis, often associated with an epidermal reaction such as acanthosis and hyperkeratosis. Several clinical variants of angiokeratomas exist: the Mibelli type, the Fordyce type, the solitary and multiple (papular type), angiokeratoma circumscriptum, and angiokeratoma corporis diffusum [1]. Individual lesions are bright red-purple to black, round to oval hyperkeratotic papules [1]. These are usually asymptomatic but can occasionally cause bleeding with slight trauma, pruritus and pain [2]. Solitary angiokeratomas are the most common form of angiokeratomas, and the reported frequency varies from 70% to 83% of all angiokeratomas [3]. Solitary angiokeratomas are seen clinically as bright, soft, non-keratotic papules that grow larger and change to firm, blue-violaceous to black, keratotic papules with a diameter of 2 to 10 mm.

The etiopathogenesis of angiokeratomas remains unknown, but several factors have been involved like increased venous blood pressure or primary degeneration of vascular elastic tissue. The etiopathogenesis of angiokeratomas remains unknown, but several factors have been involved like increased venous blood pressure or primary degeneration of vascular elastic tissue.

Pathology

Angiokeratomas are histologically characterized by dilated subepidermal vessels congested with erythrocytes from large lacunae only in the papillary dermis, acanthosis, papillomatosis and hyperkeratosis. Histologically, differential diagnosis of angiokeratomas includes verrucous hemangiomas, lymphangiomas, angiomas and malignant melanomas [4].

Differential Diagnosis

The most common differential diagnosis involves melanocytic nevi, Spitz-Reed nevi, malignant melanomas, pigmented basal cell carcinomas, seborrheic keratoses, dermatofibromas, and other vascular lesions such as hemangiomas or pyogenic granulomas [5].

Etiology

The etiopathogenesis of angiokeratomas remains unknown, but several factors have been implicated, such as increased venous blood pressure or primary degeneration of vascular elastic tissue.

Dermoscopy

Recently, dermoscopy has become a very useful method for the preoperative diagnosis of vascular lesions including

angiokeratomas. In the dermoscopic view, Zaballos et al. [6] in their multicentric study revealed six dermoscopic patterns in at least 50% of the solitary angiokeratomas and included dark lacunae, whitish veil, erythema, peripheral erythema, red lacunae, and hemorrhagic crusts. Red lacunae were defined as sharply ovoid or round red or red-blue structures that corresponded histopathologically to wide and dilated vascular spaces located in the upper or middle dermis [6]. Dark lacunae represent dilated vascular spaces in the upper dermis, and their dark violaceous, dark blue, or black colors correspond to vascular spaces that are partially or completely thrombosed [6]. Whitish veil refers to an ill-defined structureless area with an overlying whitish "ground glass" film that corresponds to hyperkeratosis and acanthosis [6]. Hemorrhagic crusts correspond to bleeding that can occur in some of these lesions [6]. Finally, erythema and peripheral erythema are pinkish homogeneous areas that probably represent inflammation of the lesion and erythrocyte extravasation in the papillary dermis [6]. Dermoscopy is helpful in improving the diagnostic accuracy of solitary angiokeratomas and allows the observer to differentiate them from other cutaneous tumors such as malignant melanomas and pigmented basal cell carcinomas [6]. With dermoscopy, however, it is difficult to discriminate between verrucous hemangioma and angiokeratomas because of its difficulty in estimating the depth of lesions.

Treatment

Treatment of angiokeratomas depends on the site and size of the lesion and the availability of the surgical equipment like electrocautery, radiofrequency, cryotherapy or ablative lasers. Although several treatment options for the management of angiokeratomas have been reported, there is no established protocol for the management of angiokeratomas. Furthermore, treatment is not always necessary because angiokeratomas are often asymptomatic. Treatment options include cryotherapy, curettage, electrodesiccation, carbon dioxide laser, Nd-YAG laser, and pulsed dye laser [7].

Conclusion

Dermoscopy is helpful in improving the diagnostic accuracy of solitary angiokeratomas and allows the observer to differentiate them from other cutaneous tumors, such as malignant melanomas and pigmented basal cell carcinomas.

References

1. Keen MA, Hassan I. Eruptive angiokeratomas on the glans penis. *Indian J Dermatol.* 2014;59(4):424.
2. Taniguchi S, Inoue A, Hamada T. Angiokeratoma of Fordyce: A cause of scrotal bleeding. *Br J Urol.* 1994;73(5):589-590.
3. Schiller PI, Itin PH. Angiokeratomas: an update. *Dermatology.* 1996;193(4):275-282.
4. Naranjo Sintes R, Pereda Hernandez J, Delgado Florencio V, Linares Solano J. Angiokeratoma. Apropos of 93 cases. *Med Cutan Ibero Lat Am.* 1988;16(3):255–261.
5. Goldman L, Gibson SH, Richfield DF. Thrombotic angiokeratoma circumscriptum simulating melanoma. *Arch Dermatol.* 1981;117(3):138-139.
6. Zaballos P, Daufí C, Puig S, et al. Dermoscopy of solitary angiokeratomas: a morphological study. *Arch Dermatol.* 2007;143(3):318–325.
7. Saha M, Barlow R, Bunker CB. Angiokeratoma circumscriptum of the penis. *Br J Dermatol.* 2006;154(4):775-776.