

DR TUGBA KEYSER UZUNCAKMAK (Orcid ID : 0000-0001-8057-3463)

Article type : Research Letter

Corresponding author mail id: drtugbakevser@gmail.com

DIFFERENT DERMOSCOPIC FEATURES OF CLONAL SEBORRHEIC KERATOSES

T. Uzuncakmak^{1,*}, B. N. Akay², S. Ozkanli²

1. Istanbul Medeniyet University Medical Faculty - Dermatology

Dr. Erkin St. 34722 Kadıkoy , Istanbul 34722

Turkey

2. Ankara Universitesi Ringgold standard institution - Dermatology

Ankara, Ankara

Turkey

Dear Editor,

Clonal seborrheic keratosis (SK) is one of the rarest histological subtype of SK (1,2). The dermoscopic features of clonal SK have been reported in very few case reports and one case series in

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/bjd.17087

This article is protected by copyright. All rights reserved.

the literature (2-5). Our aim was to identify and clarify dermoscopic features of clonal SK which can lead to diagnostic pitfall both clinically and dermoscopically.

Dermoscopic images of a series of histopathologically proven clonal SK were retrospectively reviewed. A set of 9 cases was collected from the database of two research hospitals from 2014 through to 2017. Clinical data including patient's age and sex, anatomical site of the tumor were recorded. Dermoscopic pictures were taken using a DermLite Photo (3Gen LLC, Dana Point, CA, USA) or DermLite 3N dermoscope (polarizing mode) coupled to an iPad mini retina (Apple Inc, Cupertino, CA, USA). Two independent investigators separately reviewed the dermoscopic images of all selected lesions. Investigators evaluated the presence of dermoscopic criteria in consensus. Dermoscopic findings were analysed by pattern analysis (6).

Nine clonal SK (Seven women, two men; age range, 39-83; mean, 66) were included in the study.

Lesions were located predominantly on the abdomen (n:5), two on the scalp, two on the lower extremity. Clinically, all lesions were flat or mildly elevated, pigmented and sharply demarcated, ranging in colour from light brown to dark brown.

On dermoscopy, all lesions were pigmented and had sharp demarcated borders. Clod pattern was observed in 7 lesions and in 3 of these lesions; multiple, variously sized homogeneously distributed grey to dark brown clods were arranged either tightly or aggregated to form thick curved lines without accompanying dermoscopic findings (Figure 1a, 1c, 1d, 1f, 1g, 1h, 1i). In one lesion, some clods resemble concentric structures (clod within clod) of BCC (Figure 1g). Relatively small, multiple dark brown to black clods were arranged on a black structureless background in 3 lesions. While the classical dermoscopic patterns of SK including white clods (milia like cysts) and yellowish-orange clods (comedo like openings) were present in 4 of 9 lesions (Figures 1b, c, e, g), uncommon patterns for classic SK, was the presence of central white to whitish-pinkish structureless areas surrounded by either grey to black structureless areas or large grey clods, observed in 3 lesions (Figures 1a, c, e). In one of these lesions peripheral arrangement of large bluish greyish clods gave rise to the impression of ovoid nests of pigmented BCC (Figure 1e). One lesion was featureless, composed of haemorrhagic

scale crusts on a light brown to grey structureless area (Figure 1b). Vessels mainly looped were observed in only one lesion (Figure 1a).

Clonal SK is differentiated from other subtypes of SK by the proliferation of sharply demarcated intraepithelial nests of large basaloid or pale cells building conspicuous intercellular bridges and are separated by strands of cells with small dark nuclei, which is also called as Borst-Jadassohn appearance. In all of our patients several intraepidermal nests and intraepidermal nest of heavily pigmented keratinocytes have been detected which gave rise to the dermoscopic clod pattern observed in 7 lesions (Figure 1j).

SK is usually easily diagnosed by its characteristic clinical and dermoscopic appearance without any need to histological confirmation. Typically, multiple white clods, yellow-orange clods, curved lines and sharply demarcated borders are the main dermoscopic features of SK (7).

In clonal SK overall architecture usually represents a dermoscopic clod pattern which is more commonly seen in congenital nevi, Spitz nevi and melanoma (3,8). In some challenging cases, differential diagnosis of pigmented BCC should be also considered for the presence of large blue-gray clods resembling large blue-gray ovoid nests which is generally considered dermoscopic hallmark of BCC (4).

Vascular structures are reported to be usually less prominent in clonal SK (5). Although looped vessels with a white halo are a specific clue for keratinizing tumors, we observed looped vessels in only one lesion. Different from the reported cases in the literature, we have observed central white to whitish pinkish structureless areas surrounded by either grey to black structureless areas or large grey clods in 3 lesions. All of the lesions had sharp demarcated borders. Sparse white clods, and yellowish-orange clods were present in 4 of 9 lesions.

In the present study, differential diagnosis was difficult in most cases due to some overlapping dermoscopic features including Spitz nevus (n:3, Figures 1a, c, e), melanoma (n:6, Figures 1a, c, d, e, h, i), and BCC (n:2, Figures 1e, g). So we may conclude that clonal SK may represent a dermoscopic challenge, being difficult to differentiate from melanocytic and non-melanocytic skin tumors.

Histopathologic examination should always be performed in cases in which dermoscopy may have limited value that do not allow an accurate diagnosis.

References

1. Minagawa A. Dermoscopy-pathology relationship in seborrheic keratosis. *J Dermatol*. 2017; 44: 518-524.
2. Longo C, Zalaudek I, Moscarella E, Lallas A, Piana S, Pellacani G, Argenziano G. Clonal seborrheic keratosis: dermoscopic and confocal microscopy characterization. *J Eur Acad Dermatol Venereol*. 2014; 28: 1397-1400.
3. Yagerman SE, Marghoob AA. Clonal seborrheic keratosis versus epidermal nevus. *J Am Acad Dermatol*. 2013; 69: e43-4.
4. Zalaudek I, Ferrara G, Argenziano G. Clonal seborrheic keratosis: a dermoscopic pitfall. *Arch Dermatol*. 2004; 140: 1169-70.
5. Ramyeed S, Diaz-Cano SJ, Pozo-Garcia L. Dermoscopy of clonal seborrheic keratosis. *J Am Acad Dermatol*. 2015; 73: e47-9.
6. Kittler H, Rosendahl C, Cameron A, Tschandl P, eds. *Dermatoscopy, An Algorithmic Method Based on Pattern Analysis*. Vienna, Austria: Facultas Verlags und Buchhandels AG, 2011.
7. Braun RP, Ludwig S, Marghoob AA. Differential Diagnosis of Seborrheic Keratosis: Clinical and Dermoscopic Features. *J Drugs Dermatol*. 2017; 16: 835-842.
8. Fraga-Braghiroli NA, Merati M, Rabinovitz H, Scope A. Reflectance confocal microscopy features of a clonal seborrheic keratosis that clinically and dermoscopically simulates melanoma. *Dermatol Surg*. 2015; 41: 662-665.

Figure Legends:

Figure 1a: A sharp bordered lesion with central white structureless surrounded by grey-brown structureless areas, orange clods, grey dots, elongated looped vessels.

Figure 1b: A sharp bordered featureless lesion composed of haemorrhagic scale crusts on a light brown to grey structureless area

Figure 1c: A sharp bordered lesion with central white structureless, surrounded by grey-brown structureless areas and homogenous distribution of grey-black clods.

Figures d, 1i: Homogenously distributed grey to dark brown clods

Figure 1e: A sharp bordered lesion with central whitish-pinkish structureless surrounded by grey to black structureless areas and large grey clods, scattered white clods

Figures 1f, 1h: Small, multiple dark brown to black clods arranged on a black structureless background.

Figure 1g: Various sized homogenously distributed grey to dark brown clods arranged either tightly or aggregated to form thick curved lines without accompanying dermoscopic findings. Some clods resemble concentric structures of BCC.

Figure 1j: Intraepidermal proliferation of keratinocytes, intraepidermal nests of basaloid to epithelioid cells, horn pseudocysts, focal increase in melanin pigment (H&E x 10)

Red square: concentric structures, **yellow star:** structureless areas, **purple star:** yellow clods, **black arrows:** thick curved lines, **red circles:** looped vessels, **green circles:** clods

