

# Dermatoscopy and Its Role In Diagnosing Homogenous Dotted Vascular Pattern In a Case Of Dermatofibroma

*Dermatofibroma Olgu Sunumu: Dermatoskopinin Homojen Noktasal Vasküler Yapılarda Tanısal Rolü*

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Aktif psoriasis nedeniyle takip edilen bir hastanın kolunda saptanan dermatofibroma dermatoskopik olarak değerlendirildi. Dermatoskopik muayenede lezyonda homojen yayılım gösteren noktasal damarlanma ve kahverengi noktalar izlendi. Lezyonun ortasında yer alan skar benzeri alanda, seyrek firkete benzeri damarlar gözlemlendi. Psoriasis tanısı olan bu hastada ortaya çıkan dermatofibromada da psoriazistekine benzer dermatoskopik özellikler bulunması dikkat çekiciydi. Noktasal damarlanma gösteren pembe lezyonların ayırıcı tanısında dermatofibroma da düşünülmelidir.

**Anahtar Sözcükler: Dermatofibrom, Dermatoskopi, Noktasal damarlanma**

A dermatofibroma of a patient with active psoriasis was evaluated dermatoscopically. Dermatoscopic examination of the lesion revealed dotted vessels with homogenous distribution throughout the lesion and brown dots and occasional hairpin-like vessels in the white scar-like center. The reported case is unique because of presentation of psoriasis and dermatofibroma simultaneously since both exhibit homogenous red dots dermatoscopically. In the dermatoscopic differential diagnosis of pink lesions showing dotted vessels in a homogenous pattern dermatofibroma must be considered.

**Key Words: Dermatofibroma, Dermatoscopy, Dotted vessel**

The diagnostic accuracy of dermatoscopy for pink lesions lacking significant pigment is less than that of more pigmented lesions. The recognition of distinctive vascular structures may be helpful for diagnostic purposes, especially when the classic pigmented dermatoscopic structures are lacking. Arborizing, hairpin-like, comma, linear, dotted, glomerular and irregular vessels are the most common vascular patterns evaluated by dermatoscopy. A dermatoscopic pattern characterized by the presence of dotted vessels in a homogenous pattern are generally seen in Spitz nevi, Clark nevi, melanoma, psoriasis and clear cell acanthoma (CCA) but rarely reported in dermatofibroma (1-4). We report a case of dermatofibroma, dermatoscopically (examined using the Dermlite Foto at 10 fold magnification; 3 Gen, LLC, Dana Point, CA, USA) showing dotted vessels with homogenous distribution throughout the lesion brown dots and hairpin-like vessels in a white scar-like center.

## Case Report

A 49-year-old man presented with a 3-year history of a slowly growing non-tender nodule on his left arm that had never bled or ulcerated. On examination of his left upper arm, there was a 2-cm, firm, pink exophytic nodule (Fig 1a). The patient had a history of psoriasis for more than 23 years. His psoriasis was previously treated with PUVA, methotrexate, cyclosporine and efalizumab. Dermatoscopic analysis revealed the presence of erythematous homogeneous area surrounding a white patch. Dotted vessels were distributed throughout the entire lesion, whereas brown dots were observed only in the central white scar-like area. Occasional hairpin like vessels were also observed (Fig. 1b). The clinical differential diagnosis included melanoma, CCA, atypical fibroxanthoma and squamous cell carcinoma. Dermatoscopic differential diagnosis included melanoma, Spitz nevi, Clark nevi, and CCA.

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Fig-1a



Fig-1b

**Figure 1a:** A 2-cm, firm, pink exophytic nodule with a collarette scaling and erythematous, squamous papules on the left arm.

**Figure 1b:** Erythematous homogeneous area surrounding the white patch. Dotted vessels are distributed throughout the entire lesion, whereas brown dots observed only in the central white scar-like area. There are few hairpin like vessels (documented by DermLite foto)

The nodule was completely excised and histological examination showed a dermatofibroma (Fig. 2a,b,c).

## Discussion

Dermatofibroma is a common, slow growing tumor of the skin dermatopathologically characterized by an increased number of fibrocytes in the dermis and occasionally subcutis and composed of a mixture of fibroblast-like spindle cells, histiocytes and blood vessels in varying proportions. Clinically they can appear with a color varying from light brown to dark brown, purple-red or yellow, single or multiple hard papules, plaques or nodules. Their size ranges from 3mm to 2 cm. Our case presented with a 2 cm pink nodule on the left arm. He had active guttat psoriasis on admission which had previously been treated with PUVA, immunosuppressives and efalizumab. Dermatoscopic analysis of the lesion revealed dotted vessels with homogenous dist-

tribution throughout the lesion, few hairpin-like vessels and brown dots in the white scar-like center. Dotted vessels histopathologically correlate with dilated and tortuous capillaries in the middle reticular dermis progressing to the top of the papilla. Dotted vessels in a homogenous pattern are generally seen in Spitz nevi, Clark nevi, melanoma psoriasis and CCA (1-3). In a study of Argenziano et al. vascular structures like dotted vessels are found in 77.8% of Spitz nevi, 25.7% of Clark nevi, and 22.7% melanomas (1). This pattern of vessels can also be seen in seborrheic keratoses and Bowen's disease but they are not distributed over the entire surface with a regular reticular pattern (1,5).

The most frequent dermatoscopic pattern associated with dermatofibromas is the central white scar like patch and peripheral delicate pigment network (34.7%-79%) (6-8). On the other hand dermatofibromas can show a va-

riety of dermatoscopic patterns contributing difficulties in the dermatoscopic diagnosis. One of these is vascular structures (4,6-9) (Table 1). Agero et al found blood vessels in 82% of dermatofibromas with polarized non-contact dermatoscopy (7). Zaballos et al observed vascular structures in 49.5% of dermatofibromas of which the most common structures are erythema (31.5%) and dotted vessels (30.6%) (6). However, the distribution of the dotted vessels (homogenous or limited) were not discussed in the previous reports. Besides dotted vessels, comma vessels, hairpin vessels, glomerular vessels, telangiectasias and linear irregular vessels were observed in a decreasing frequency. Ferrari et al reported 2 dermatofibromas with a dotted vessels pattern, one of these in the absence of other pigmented dermatoscopic structures (4).

The dotted vascular pattern is also seen in psoriasis and CCA (2,3). CCA frequently occurs as a smooth, red, solitary

Fig-2a

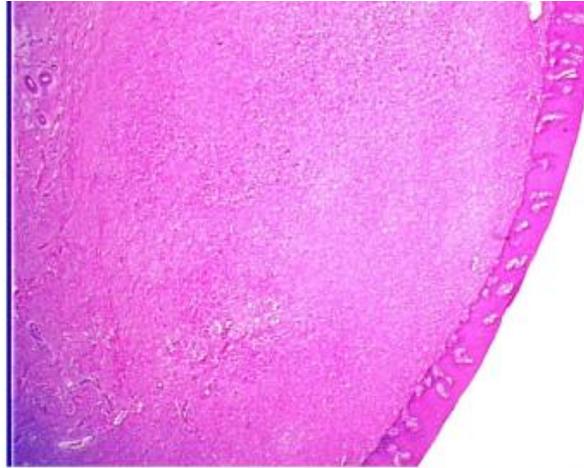


Fig-2b

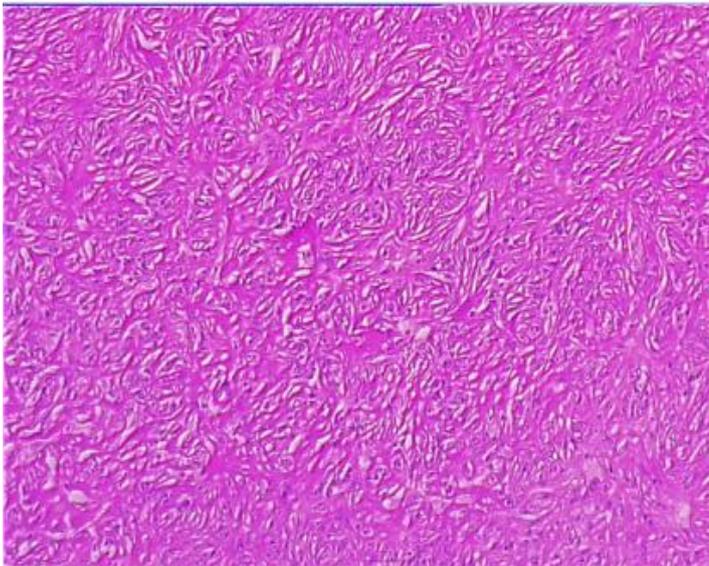
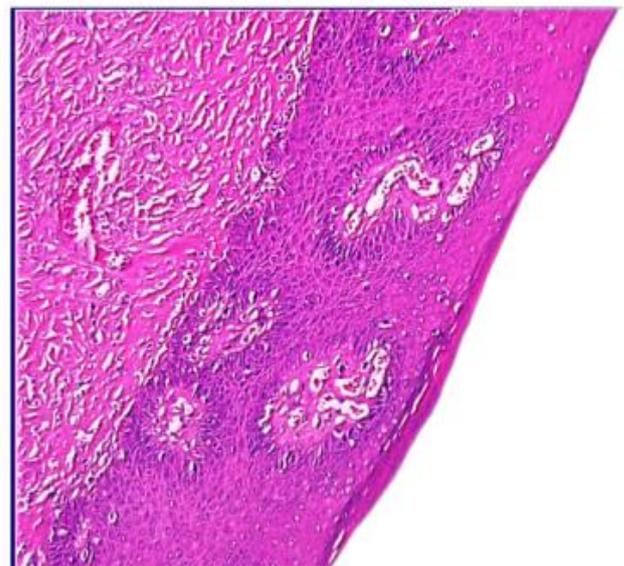


Fig-2c



**Figure 2a:** The tumor infiltrates the whole thickness of the dermis with a narrow Grenz zone under the hyperplastic epidermis, H&Ex12,5.

**Figure 2b:** The tumor consists of spindle cell fascicles with storiform areas, H&Ex100.

**Figure 2c:** The closer view of the hyperplastic epidermis. There are dilated, slightly tortuous capillary vessels in the dermal papillae, H&Ex100.

nodule affecting the lower limbs of older individuals. Some authors suggest that CCA is a localized form of psoriasis (2) Concurrent cases of CCA and psoriasis are also reported (2). CCA and psoriasis have close dermatoscopic resemblance consisting in homogenous, symmetrically or bunch-like arranged pinpoint capillaries (2,3). The significant features identified for psoriasis are a homogenous vascular pattern, red dots, and light-red background, yielding a diagnostic probability of 99% if all 3 features are present (2,3). The distribution of the dotted vessels in psoriasis is not so reticular, nor even

annular as seen in CCA. The association of psoriasis with CCA and dermatoscopic resemblance of both diseases led us to consider CCA in the differential diagnosis of the lesion. Presentation of psoriasis and dermatofibroma simultaneously is noteworthy in our patient, since both exhibit homogenous red dots dermatoscopically. Further investigations of psoriasis patients with dermatofibromas are needed to identify if this observation is coincidental or a common pathogenetic mechanism that effects dermatoscopic features of dermatofibromas on psoriasis patients.

Similar to our finding Ferrari et al reported light to brown globules and dots within the central white scar-like patch and reddish coloration around the central white scar-like patch (10). However they did not observe homogenous vascular dots as in our case.

In conclusion we report a patient with dermatofibroma showing diffuse vascular dots on pinkish coloration surrounding the central white scar like area with central brown dots on dermatoscopy. These findings suggest that dermatoscopic findings of dermatofibromas may be less than previously reported.

**Table 1:** The reported vascular structures in dermatofibroma

|                 | Number of Dermatofibromas | Pattern of vascular structures  | Number of Vascular structures (n/%)  |
|-----------------|---------------------------|---|--|
| Ferrari A (5)   | 2                         | Presence of dotted vessels in the absence of any pigmented structure (case 1)<br>Presence of dotted vessels distributed at the periphery of a white scar-like area (case 2) |  |
| Zaballos P (6)  | 412                       | Consisting mainly of erythema and dotted vessels.   | In 204 lesions (49.5%);<br>• Erythema 130 (31.5%)<br>• Dotted vessels 125 (30.6%)<br>• Comma vessels 71 (17.3%)<br>• Hairpin vessels 63 (15.3%)<br>• Glomerular vessels 3 (0.7%)<br>• Telangiectasias 5 (1.2%)<br>• Linear irregular vessels 9 (2.2%)<br>Polymorphous/atypical vessels 10 (2.4%) |
| Agero AL (7)    | 50                        | Consisting mainly of dotted vessels within the central scar-like area   | In 41 (%82) lesions with polarized non-contact dermatoscopy.   |
| Karaaslan I (8) | 52                        | Mainly red globules, dotted, comma-like and linear irregular vessels  | In 5 lesions (%9)  |
| Zaballos P (9)  | 6                         | Vascular structures were found at the periphery of the lesions mainly consisting of dotted vessels  | • Dotted vessels 3 (66.6%)<br>• Comma vessels 2 (33.3%)<br>• Isolated linear, irregular, dilated vessels (16.6%)   |

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