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Nodular lesion with polymorphous vascular pattern

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ABSTRACT Dermatofibroma (DF) is one of the most common skin neoplasms seen by dermatologists. Out of the various histopathological subtypes of DF, the atrophic variant is considered rare. Clinical and dermoscopic diagnosis of DF is straightforward in most cases. However, deeply atypical clinical and dermoscopic presentations can simulate other benign and malignant tumors. We present a case of atrophic DF, describing its dermoscopic features and the correlation with histopathology.

The Patient

A 66-year-old female presented to our clinic with a 12-month history of a new, growing, asymptomatic nodule on her right leg. The physical examination revealed a firm, slightly depressible, pink nodule with light brown peripheral pigmentation and superficial visible vessels, measuring 10 mm in maximum diameter (Figure 1).

Dermoscopy disclosed a central white structureless area, surrounded by an erythematous halo with areas of light brown atypical network. Additionally, fine linear-irregular and medium caliber, well-focused comma-like vessels were seen (Figure 2).

Complete surgical excision of the lesion was performed. Histopathological examination revealed an intradermic nodular lesion with few small fusiform cells, abundant eosinophilic collagen bundles and capillary vessels (Figure 3). Immunohistochemistry was negative to CD34 and S100 protein.

Diagnosis

Atrophic dermatofibroma.

Clinical Course

As it is considered a benign non-melanocytic lesion, a conservative management was proposed. No further unnecessary therapeutic procedures were performed.

Discussion

Dermatofibroma (DF) is one of the most common skin neoplasms seen by dermatologists. Out of the various histopathological subtypes of DF, the atrophic variant is considered rare.

Clinical and dermoscopic diagnosis of DF is straightforward in most cases. However, deeply atypical clinical and

Figure 1. Clinical presentation of a nodular lesion located on the leg. [Copyright: ©2017 Coelho de Sousa et al.]

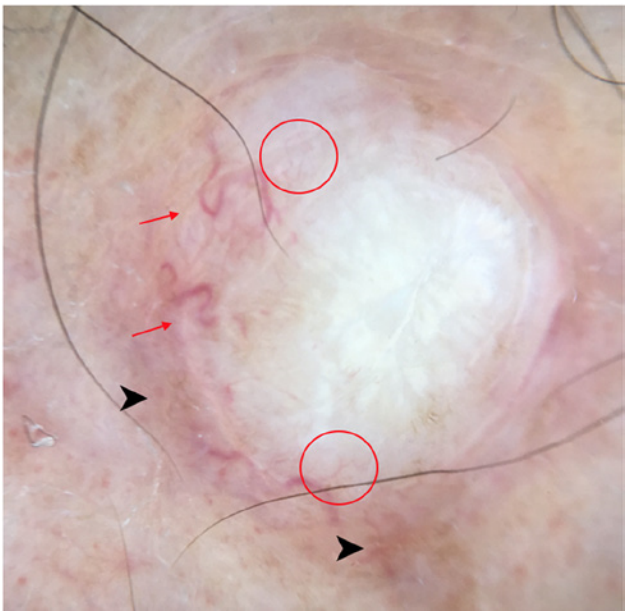

Figure 2. Dermoscopic presentation with a central white structureless area, surrounded by areas of light brown atypical network (arrows). Fine linear-irregular (circles) and medium caliber, well-focused comma-like vessels (arrows) were seen (polarized contact dermoscopy, x10). [Copyright: ©2017 Coelho de Sousa et al.]

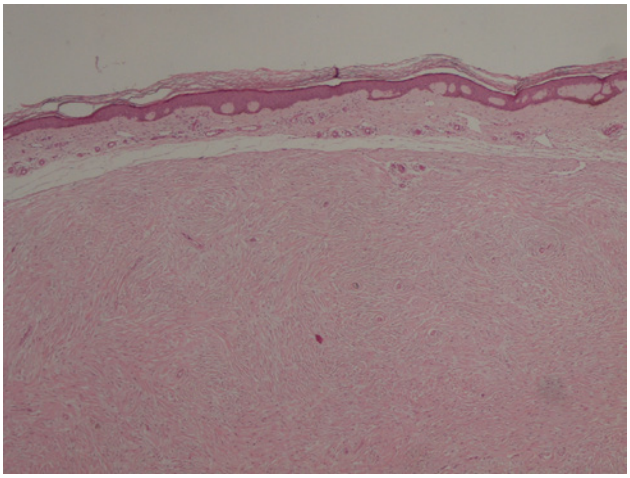

Figure 3. Histopathology showing an intradermic nodular lesion with few small fusiform cells, abundant eosinophilic collagen bundles and capillary vessels (hematoxylin-eosin, x40). [Copyright: ©2017 Coelho de Sousa et al.]

dermoscopic presentations can simulate other benign and malignant tumors [1].

Dermoscopy is a fast, noninvasive technique that increases diagnostic accuracy for both melanocytic and non-melanocytic skin tumors, allowing for better differentiation of clinical simulators of melanoma [2].

Common dermoscopic features of DF include pigment network, white scar-like patch and white network. Ten dermoscopic patterns were described, according to the presence or absence of peripheral pigment network. DF with peripheral pigment network are divided in four patterns: total delicate pigment network; peripheral delicate pigment network with central white scar-like patch; peripheral delicate pigment network with a central white network; and peripheral delicate pigment network with a central homogeneous area. DF without peripheral pigment network can present as total white network; total homogeneous area; total or multiple white scar-like patches; peripheral homogeneous area with a central white scar-like patch; or peripheral homogeneous area with a central white network; and atypical pattern [3].

Vascular structures can be present in 49.5% of DF. The most common vascular structure is erythema, followed by dotted vessels [3]. Vascular structures are one of the criteria used for the dermoscopic diagnosis of melanoma and other pigmented and vascular tumoral lesions that may simulate melanoma [4].

We present a case of a new, growing, nodular lesion presenting in an elderly patient. Dermoscopy showed polymor-

phous vascular structures including erythema, linear-irregular and comma-like vessels.

Comma-like vessels are the dermoscopic hallmark of dermal nevi, being rarely described in DF [5]. The presence of comma-like vessels in a regular distribution or as the dominant vascular type is considered a negative predictor for amelanotic melanoma [6]. However, considering the atypical clinical and dermoscopic presentation of polymorphous vascular structures described as a feature of amelanotic melanoma, excision was mandatory to rule out this entity. Histopathology later confirmed the presence of a benign tumor.

To our knowledge, this is the first dermoscopic description of the rare atrophic variant of DF. Atrophic DF is identified by dermal atrophy with prominent sclerotic collagen, as well as low cellularity. It has been proposed that dense elastic fibers around the vessels interfere with blood circulation, causing dermal atrophy, and thus low cellularity [7]. The white strutureless area seen on dermoscopy correlates with the dense collagen fibers found on dermis. Well-focused, medium caliber comma-like vessels represent superficial vessels running above the dermal collagen bundles.

DF can thus present with a wide range of dermoscopic patterns, sometimes mimicking melanoma and other cutaneous tumors. Histopathological examination should always be performed in such confounding lesions.

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