Dermoscopy of lipidized dermatofibromas☆

Dear Editor,

A 17-year-old boy without medical antecedents presented to the dermatology clinic with a six-month history of papular lesions on his lower extremities. Dermatologic examination revealed three asymptomatic, firm, yellow-brown papules, scattered on the lower extremities (Fig. 1A–C). On dermoscopy, a yellow homogenous area with the central white network, surrounded by a pinkish halo, was seen (Fig. 2A–C). Routine blood tests showed normal full blood count, renal and liver biochemistry. A punch biopsy of a papule was performed for light microscopy (Fig. 3A–C). Low power view revealed a hypercellular lesion with increased collagen fibers, extending from the superficial dermis to the deep dermis (Fig. 3A). Abundant foamy histiocytes were seen among dense collagen fibers (Fig. 3B–C). Immunohistochemically, these cells with vacuolar cytoplasm were CD68 positive (Fig. 3D). Given the clinicopathologic findings, lipidized dermatofibroma was diagnosed.

Discussion

Dermatofibromas are common fibrohistiocytic tumors that are mostly diagnosed clinically. However, variants of dermatofibroma sometimes present significant clinical and dermoscopic challenges, and they are best diagnosed by histologic examination.[1,2]

Dermatofibroma is a very common fibrosing cutaneous soft-tissue tumor, typically diagnosed in young to middle-aged adults. Most patients present with a firm, solitary 0.5–1 cm papule, nodule, or plaque, usually brown in color, on the lower extremities.[1]

Lipidized dermatofibroma is a poorly recognized variant of dermatofibroma. It was first reported as lipidized or ''ankle-type'' fibrous histiocytoma by Calonje and

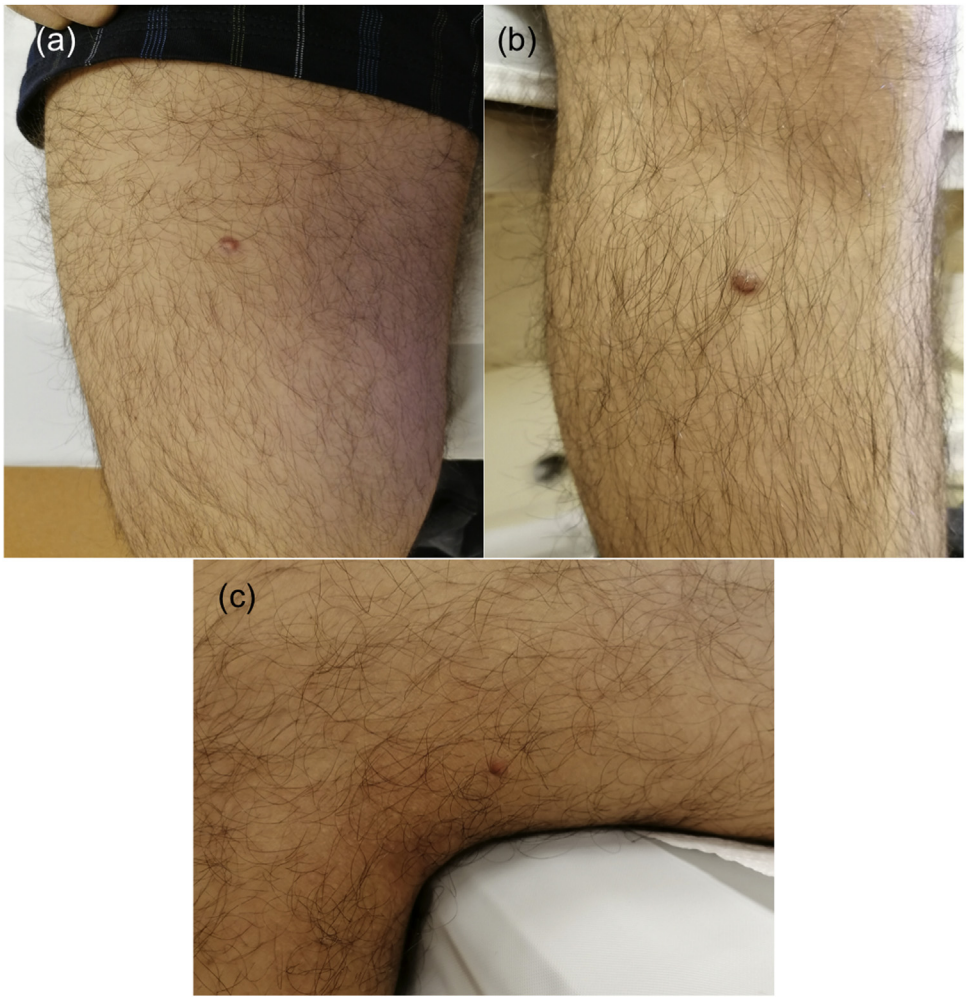

Figure 1 (A–C) Lesions located on lower extremities.

☆ Study conducted at the Department of Dermatology and Venereology, Istanbul University-Cerrahpasa, Cerrahpaşa Medical Faculty, Istanbul, Turkey.

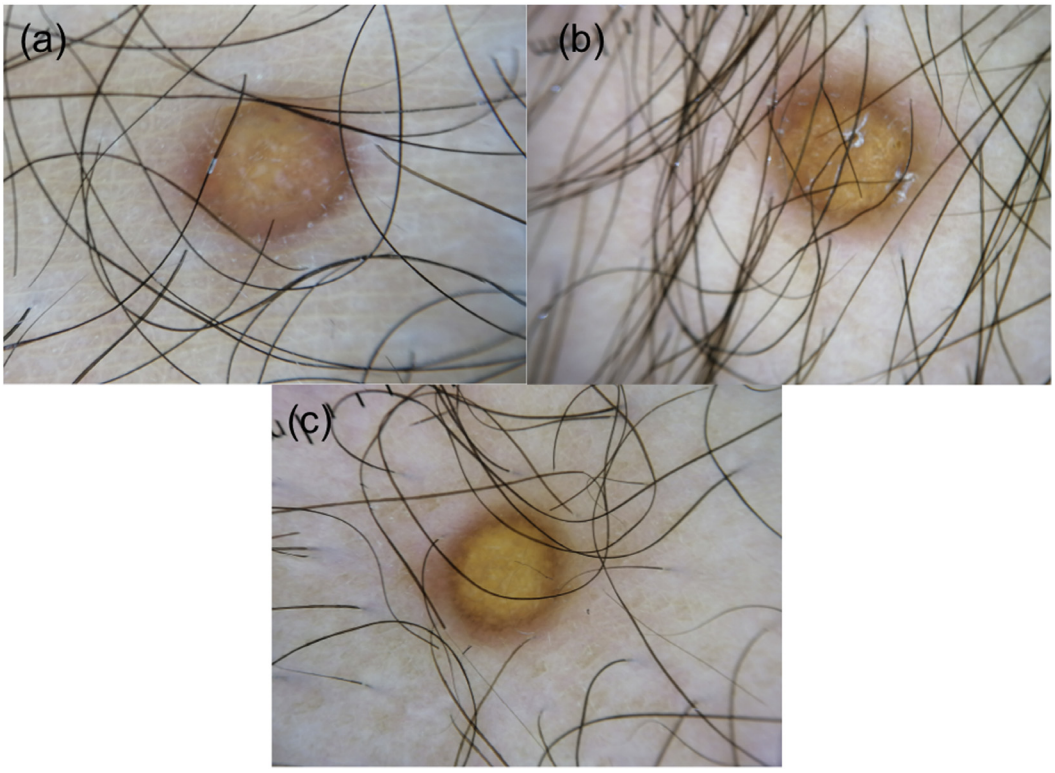

Figure 2 (A–C) Dermoscopy reveals yellow homogenous areas, central white network and pinkish halo.

Fletcher in 1994.[3] Later, two case series investigated the clinical features of lipidized dermatofibroma.[4,5] Lipidized dermatofibroma represents 2% of dermatofibromas. It usually manifests as a solitary exophytic yellowish papule or nodule.[4] Compared to ordinary dermatofibromas, lipidized dermatofibroma tends to present with larger solitary lesions and at an older age, mostly in the fifth or sixth decades of life.[4,5] To our knowledge, there is only one patient presenting with two lesions and one patient under the age of thirty.[5] Unlike atypical, cellular, and aneurysmal subtypes; this variant of dermatofibroma seems to have a very good prognosis.[1,5]

A recent study evaluating 13 cases revealed three dermoscopic patterns of lipidized dermatofibroma. In the total yellowish homogenous area pattern, the yellowish area involves the whole lesion. The atypical pattern is associated with irregular or centrally located yellowish homogenous areas. The third pattern contains the combination of a central white network and a peripheral delicate pigment network.[4] In our case, total yellowish homogenous area along with other characteristic features of dermatofibromas such as a central white network and peripheral reddish halo point to the diagnosis of lipidized dermatofibroma. Yellow homogenous area and white network correspond to histiocytes with foamy cytoplasm and to collagenized stroma respectively.[4]

The main differential diagnosis of our patient was Juvenile Xanthogranuloma (JXG). JXG is the most common non-Langerhans cell histiocytosis and typically presents as a solitary well-demarcated, dome-shaped yellowish papule or nodule, mostly on the head and neck of young children.[6,7] Lesions in children show spontaneous regression within 2-years of diagnosis.[6] JXG may rarely occur in adults as persistent lesions, mostly in the second to fourth decades. However, similar to lipidized dermatofibroma, JXG may affect older patients.[8] In contrast to lipidized dermatofibroma which has a predilection for lower extremities, adult JXG tends to involve the head and neck region. While the yellowish papulonodules of JXG typically measure several millimeters in diameter, typical lesions of lipidized dermatofibroma are larger, with a median diameter of 2.5 cm.[8] ''Setting sun'' appearance is a typical dermoscopic aspect of JXG with central yellow core and peripheral erythema.[9] Histopathologically, JXG is characterized by the presence of histiocytes, foam cells, and Touton giant cells. Although typical for JXG, the latter can also be seen in lipidized dermatofibroma. Histiocytes in JXG have more eosinophilic and less lipidized cytoplasm as compared to lipidized dermatofibroma. Observation of an epidermal collarette and a more prominent inflammatory infiltrate that frequently includes eosinophils help distinguish JXG from lipidized dermatofibroma. Furthermore, lipidized dermatofibroma displays a prominent spindle cell component arranged in a storiform pattern and these cells entrap the dermal collagen fibers at the periphery of the lesion. Stromal ''wiry'' hyalinization, which can sometimes be very extensive, is also a frequent histopathologic feature of lipidized dermatofibroma, differentiating it from JXG.[5,10] Lastly, several immunohistochemical differences may have a role in the differential diagnosis, such as the presence of CD4 expression in JXG that is not seen in lipidized dermatofibroma.[8] The disease generally follows a benign course. However, patients with JXG should undergo a complete physical examination regularly.

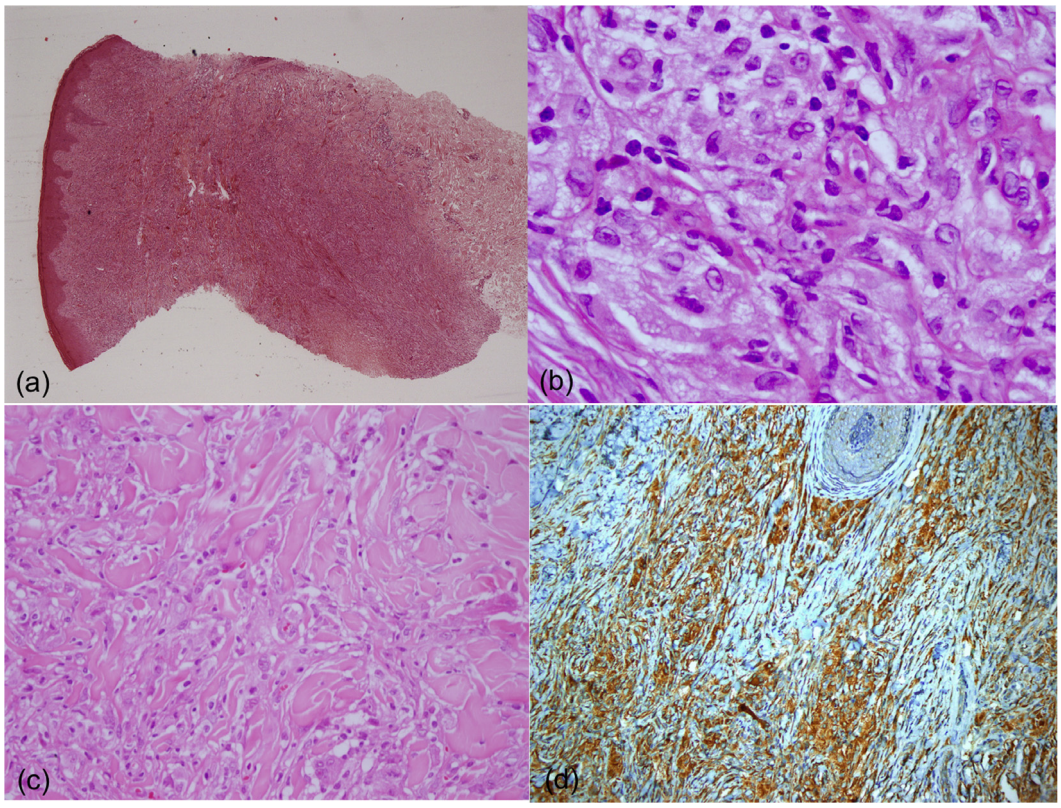

Figure 3 (A) A hypercellular lesion with increased collagen fibers can be seen extending from the superficial dermis to the deep dermis (Hematoxylin & eosin, ×5). (B) Histiocytic cells with vacuolar cytoplasm are noted among dense collagen fibers (Hematoxylin & eosin, ×400). (C) Collagen entrapment at the periphery of the lesion can be seen (Hematoxylin & eosin, ×200). (D) The cells with vacuolar cytoplasm are showing CD68 expression (×20).

In case of multiple lesions, an ophthalmologic examination should also be performed.[6]

Lipidized dermatofibroma rarely presents in young adults as small papular lesions. This uncommon clinical presentation of lipidized dermatofibromas could be easily mistaken for juvenile xanthogranuloma, cutaneous mastocytoma, or eruptive xanthomata. However, typical dermoscopic and histopathological findings point to the diagnosis of lipidized dermatofibroma, and no further investigations are performed. Lipidized dermatofibromas should be kept in mind in the differential diagnosis of lesions representing yellow areas in dermoscopy.

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Authors' contributions

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Conflicts of interest

None declared.

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Elevation of transaminases after MMP® session with methotrexate for alopecia areata treatment – how much do we know about the risks of systemic absorption of the technique?☆

Dear Editor,

There is a higher incidence of alopecia areata (AA) in patients with lupus erythematosus.[1] Some cases of AA are refractory to the established treatments. Percutaneous drug induction techniques have shown promising results,[2] including the microinfusion of drugs into the skin (MMP®, *Microinfusão de Medicamentos na Pele*).[3] Given its recent use, little is known about its safety. This case report describes a case of transaminase elevation after a session of MMP® with methotrexate (MTX) in a patient with AA associated with systemic lupus erythematosus (SLE).

A 37-year-old white female patient, diagnosed with SLE 13 years ago, with good clinical and laboratory control, using hydroxychloroquine and dapsone was assessed. She had an ophiasis pattern AA, with yellow and black dots and exclamation mark hairs on dermoscopy. Histopathological examination showed peribulbar lymphocytic infiltrate and miniaturized follicles, excluding the diagnosis of associated lupus alopecia. She underwent topical treatments with no response but showed temporary improvement of the alopecia while receiving MTX15 mg/week for the treatment of SLE, discontinued after nine months due to hepatotoxicity. Two years later, it was decided to employ the transepidermal use of this medication, using the MMP® technique.

Exams prior to the procedure showed no changes in blood count, GOT of 26 U/L, GPT of 20 U/L, Gamma-GT of 14 U/L, alkaline phosphatase of 57 U/L, and total bilirubin of 0.45 mg/dL (Direct 0.18 mg /dL – Indirect 0.27 mg/dL). She underwent an MMP® session with the microinfusion of 20 mg of MTX in the alopecia patches. Control exams after one week showed GOT of 37 U/L and GPT of 48 U/L. She was an asymptomatic patient, and did not use any other medications, without alcohol consumption or possible confounding factors. A new control exam was performed after two weeks which revealed that the transaminases had returned to baseline parameters. Treatment was discontinued.

The MMP® technique consists of the percutaneous administration of drugs using a tattoo device. Its needles allow drug infusion regardless of the molecular weight, chemical characteristics of the medium (lipophilic or hydrophilic), bleeding, or exudation.[3] Its use has been described in the treatment of idiopathic guttate hypomelanosis, androgenetic alopecia, and psoriasis.[3]

Other transcutaneous permeation techniques, such as fractional laser, microneedling, radiofrequency, sonophoresis, and iontophoresis have been discussed with promising results.[2]

The use of systemic MTX for cases of refractory AA has shown satisfactory results.[4] However, it carries a risk of myelosuppression and hepatotoxicity.[4,5] The first description of its use with the MMP® technique referred to patients with psoriasis who were intolerant to systemic therapy, with good response and tolerability.[5] The advantages of this method include reduced toxicity by avoiding the hepatic first-pass metabolism, and the use of lower doses of medication due to good permeation into the dermis.[5]

The authors chose this technique due to the lower systemic absorption, aiming to prevent the previously reported hepatic adverse effects. However, after just one session of MMP® on the scalp, a highly vascularized region, an elevation of transaminases was identified, which proved to be transient. It is important to note that if the treatment had been continued, a probable worsening of transaminase elevation would have been observed.

The authors emphasize the importance of the rational use of techniques that involve the permeation of drugs through the skin, taking into consideration the possibility of absorption and systemic adverse effects. As it is an off-label

☆ Study conducted at the Ambulatory of Sanitary Dermatology – Secretaria de Saúde do Estado do Rio Grande do Sul, Porto Alegre, RS, Brazil.