CASE REPORT

Unilateral serpiginous angioma of the thigh: Clinicodermoscopic correlation of an uncommon vascular malformationt.

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ABSTRACT

Serpiginous angioma (SA) is an uncommon benign capillary vascular malformation characterized by the proliferation of ectatic capillaries within the papillary dermis. Clinically, it presents as clusters of pinpoint erythematous papules that do not blanch on diascopy. We report the case of a 27-year-old woman with a plaque composed of multiple grouped pinpoint erythematous papules on the left thigh. The lesions had appeared during early adolescence (12 years of age), were asymptomatic, and had shown slow progression. Dermoscopy revealed the characteristic diagnostic pattern of well-defined, regular, round-to-oval red lagoons on a pink background, without a pigment network or linear vascular structures. The diagnosis was established based on the clinical and dermoscopic findings, without the need for confirmatory biopsy. This case highlights the value of dermoscopy as a noninvasive diagnostic tool for distinguishing serpiginous angioma from other vascular and purpuric lesions, thereby avoiding unnecessary invasive procedures.

INTRODUCTION

Serpiginous angioma (SA) was first described by Hutchinson in 1889 as a benign cutaneous vascular lesion involving the papillary dermis.[1,2] Its exact prevalence is unknown but is estimated to be fewer than 1 per 1,000,000 individuals. The condition predominantly affects females, with a female-to-male ratio of approximately 9:1, and typically presents during childhood or adolescence, with nearly 80% of cases diagnosed before the age of 20.[1,3]

Clinically, SA is characterized by clusters of pinpoint erythematous papules measuring 1–3 mm in diameter that form a gyrate or serpiginous pattern, showing slow centrifugal expansion and occasional central clearing. The lesions are usually asymptomatic and do not blanch completely on diascopy. Distribution is typically unilateral, with a predilection for the lower extremities and buttocks. In some cases, lesions follow the lines of Blaschko, suggesting underlying somatic mosaicism. More extensive, acral, or soft tissue hypertrophy-associated presentations have also been reported.[1,4-7]

Dermoscopy is a valuable diagnostic tool, characteristically demonstrating well-circumscribed, relatively regular, round-to-oval red lagoons or globules on a pink background. This pattern correlates histopathologically with ectatic capillaries within the superficial dermis and

facilitates differentiation from purpuric dermatoses and other vascular lesions.[8-12] In patients with typical clinical and dermoscopic findings, dermoscopy may support a noninvasive diagnosis, whereas skin biopsy should be reserved for atypical or diagnostically challenging cases.[1,7,9]

CASE REPORT

A 27-year-old mestizo woman, a university student from Quito, Ecuador, presented with an asymptomatic cutaneous lesion on the left thigh that had been present for 15 years. She had no relevant personal or family medical history, was not taking any regular medications, and denied previous trauma to the affected area. The lesion first appeared at the age of 12 years as "small red dots" that had gradually increased in number without spontaneous resolution. Her primary reason for seeking medical attention was cosmetic concern.

Physical examination: Two clusters of pinpoint erythematous to violaceous-red papules, measuring 1–2 mm in diameter, were observed on the anterolateral aspect of the left thigh. Each cluster measured approximately 1.5 × 1 cm and was distributed over otherwise normal-appearing skin. The lesions were flat, non-tender, and non-pruritic. On diascopy, the papules did not blanch completely. No similar lesions were identified elsewhere on the body. There was no regional lymphadenopathy, and the remainder of the physical examination was unremarkable.

Dermoscopy: Examination revealed multiple well-circumscribed, round-to-oval red lagoons (globules) of uniform size (0.2–0.5 mm), arranged in clustered groups without confluence on a homogeneous pale pink background. No pigment network, blue-white veil, linear, glomerular, or hairpin vessels were observed. There were no signs of recent hemorrhage or hemosiderin deposition. These dermoscopic findings were diagnostic of serpiginous angioma.

Complementary studies: Complete blood count, including a platelet count of 248,000/µL, was within normal limits. Coagulation studies (prothrombin time and activated partial thromboplastin time) were also normal. A skin biopsy was not performed because the dermoscopic pattern was considered pathognomonic and the lesion exhibited characteristic benign clinical features.

Diagnosis: Unilateral serpiginous angioma of the left thigh, established through clinicodermoscopic correlation.

Management: The patient was informed of the benign nature of the lesion and its chronic, stable course.



Figure 1. (A left) Clinical presentation showing two clusters of pinpoint erythematous to violaceous-red papules on the anterolateral aspect of the left thigh over otherwise normal-appearing skin.

(B right) Dermoscopic image (×10, polarized light) demonstrating multiple well-circumscribed, uniformly sized, round-to-oval red lagoons arranged in clustered groups on a homogeneous pale pink background, without a pigment network or linear vascular structures.

Pulsed dye laser (PDL) therapy was offered as an elective cosmetic treatment, as favorable outcomes have been reported in the literature, although multiple treatment sessions may be required and recurrences have been described.[12–15] The patient elected conservative management with clinical observation and annual follow-up.

DISCUSSION

Serpiginous angioma (SA) is an uncommon vascular disorder that may be misdiagnosed as purpura, vasculitis, angiokeratoma, or capillary hemangioma, potentially leading to unnecessary diagnostic investigations. Histopathologically, SA is characterized by dilated capillaries within the papillary and superficial dermis, without significant inflammatory infiltrate or hemosiderin deposition.[1,3,4,7] Whether SA represents a vascular neoplasm or a capillary malformation remains controversial. WT-1 positivity reported in some cases suggests an angiogenic component; however, its clinical behavior is consistently benign and chronic.[2,7]

Dermoscopy has substantially improved the diagnostic approach to SA. The most consistent dermoscopic finding is the presence of well-circumscribed, round-to-oval red lagoons or globules clustered on a pink background.[8,10,11] This pattern reflects the presence of ectatic capillaries within the papillary dermis and allows reliable differentiation from purpuric dermatoses, which typically exhibit irregular reddish areas, brown dots or globules, and hemosiderin deposits.[4,7,9,11] The main differential diagnoses include angiokeratoma, progressive pigmented purpuric dermatosis, petechiae, and other capillary vascular malformations.[7–9]

The clinical presentation of our patient closely mirrors the features reported in the literature, including female sex, onset during early adolescence, unilateral involvement of a lower extremity, an asymptomatic and slowly progressive course, and the characteristic dermoscopic pattern. Although the marked female predominance has led to the hypothesis of hormonal influence, the available evidence remains insufficient to establish a causal relationship.[1,2,7]

Treatment is generally unnecessary unless cosmetic concerns are present. When intervention is desired, pulsed dye laser (PDL) therapy is among the best-documented treatment options, demonstrating variable clinical improvement, although multiple treatment sessions may be required and recurrence has been reported.[12,14,15] In addition to dermoscopy, noninvasive imaging modalities such as high-frequency ultrasound and line-field confocal optical coherence tomography enable in vivo lesion characterization and may obviate the need for skin biopsy in selected cases.[9]

CONCLUSIONS

Serpiginous angioma is an uncommon benign capillary vascular malformation that can be accurately diagnosed through clinicodermoscopic correlation without the need for invasive procedures. The presence of regular, round-to-oval red lagoons on a pink background represents a characteristic dermoscopic pattern that may eliminate the need for unnecessary skin biopsy. Familiarity with this entity is essential for dermatologists to avoid misdiagnosis as vasculitis or hematologic disorders, provide appropriate prognostic reassurance, and discuss elective laser therapy for patients with cosmetic concerns.

INFORMED CONSENT

Written informed consent was obtained from the patient for the publication of clinical images and clinical data for academic and scientific purposes. Patient confidentiality was maintained, and no personally identifiable information was disclosed.

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