Dermatology Practical & Conceptual

# Dermoscopic Presentation of Two Cases of Pigmented Purpuric Dermatosis-like Mycosis Fungoides

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## Introduction

Purpuric mycosis fungoides (PMF) is an extremely rare subtype of cutaneous T-cell lymphoma. The diagnosis of PMF is often challenging as its clinical presentation and dermoscopy findings closely resemble pigmented purpuric dermatosis (PPD) [1]. Given the low incidence of PMF, there is a paucity of literature concerning the dermoscopic findings of this entity. A case series by Nasimi et al. compared the dermoscopy features of 28 cases of PMF and 13 cases of PPD. The presence of spermatozoa-like structures and fine short linear vessels were found to be statistically significant distinguishing features of PMF on dermoscopy [1]. Additionally, dermoscopy findings of erythematous clods on a coppery background and reticular pigmentation were significantly associated with PPD compared to PMF [1-3]. Here, we showcase two cases of histopathology-confirmed PMF that did not display the specific dermoscopy features of PMF previously described in the literature. Instead, our dermoscopy findings more closely resembled classic findings seen in benign PPD, representing a potential diagnostic pitfall.

## Case Presentation

*Case 1.* An otherwise healthy 13-year-old presented with a 5-year history of stable asymptomatic red-brown patches affecting the groin, buttocks, thighs, and upper inner arms. Clinical examination revealed cayenne-pepper-colored patches and macules. Dermoscopy displayed dotted and clustered vessel morphology and distribution, no scales, no follicular findings, erythematous clods with interspersed brown dots, and admixed brown reticular lines on a coppery-brown background [4]. Histopathology revealed

an atypical CD3+/CD8+ lymphoid infiltrate showing epidermotropism loss of CD7 and diminished CD5. Erythematous clods, seen on dermoscopy, corresponded to numerous extravasated erythrocytes. T-cell clonality studies demonstrated a clonal T-cell population. This constellation of findings indicated PMF.

*Case 2*. A 65-year-old female with history of a B-cell lymphoproliferative disorder and biopsy-confirmed mycosis fungoides on her left abdomen presented with pruritic flare of a poorly demarcated erythematous rash with cayenne-pepper macules, notably on her left calf. Dermoscopy showed dotted vessel morphology, no scales, no follicular findings, and red clods with interspersed brown dots on a coppery-brown background [4]. Histopathology revealed a CD4-positive, epidermotropic T-cell infiltrate with loss of CD7 and extravasation of erythrocytes. T-cell clonality studies showed a clonal T-cell population with base pair peaks identical to the abdomen. The patient was diagnosed with PMF.

## Conclusion

The dermoscopic findings in these cases of PMF are distinct from findings in the literature. Notably, our cases lacked spermatozoa-like structures and fine short linear vessels, which have been associated with conventional mycosis fungoides (MF) as well as with PMF [1, 5]. The dermoscopic findings in our cases were more in keeping with conventional PPD [5]. Furthermore, there is a wide spectrum of dermoscopic features associated with mycosis fungoides ranging from linear vessels and white scales to the red-brown globules, no scales, and brown reticular lines described in these cases. Indeed, the wide range of reported dermoscopic features within MF render diagnosis based on dermoscopy alone challenging [6]. Further study is needed to adequately describe the dermoscopic features of PMF and differentiate it from potential mimickers. In lieu of reliable dermoscopic features in PMF, it is imperative that the clinician integrates clinical, dermoscopic, and ancillary studies and histologic features for correct diagnosis.

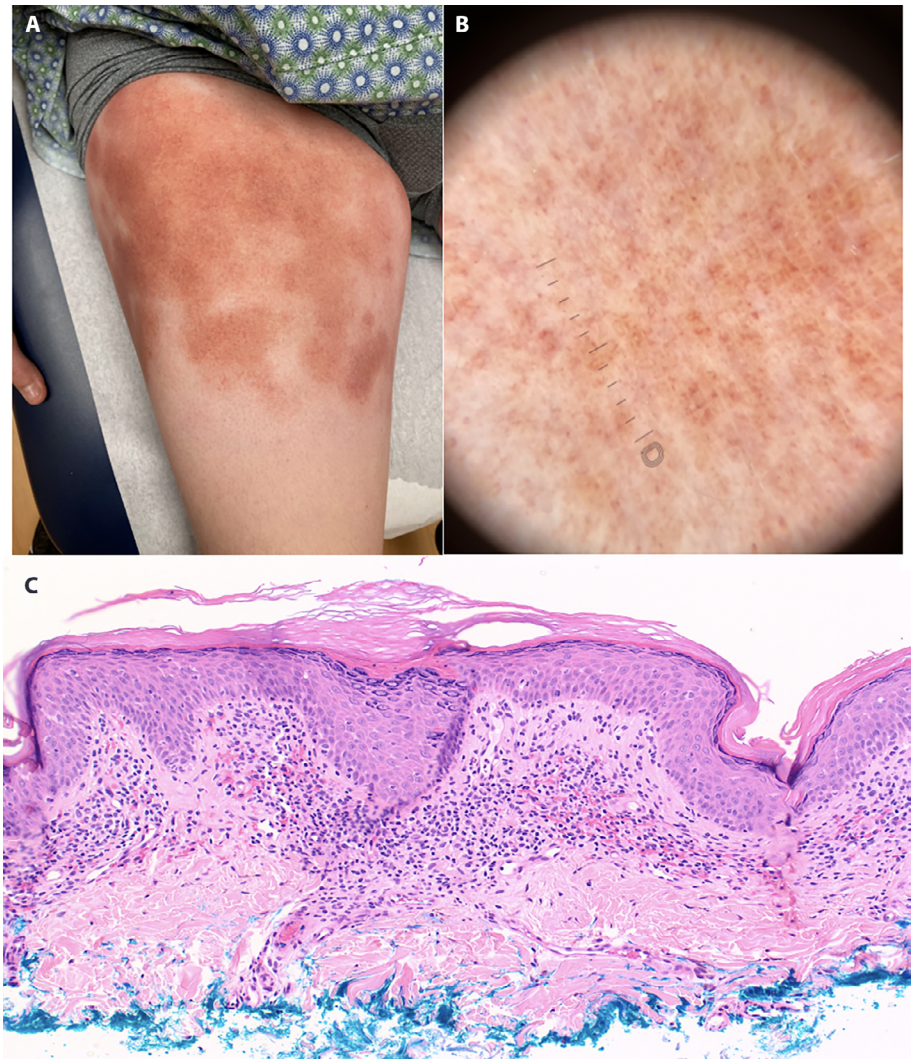


**Figure 1.** PMF (Case 1): A) Clinical: 13-year-old with cayenne-pepper-colored patches and macules on thighs and groin. B) Dermoscopy: erythematous globules, interspersed brown dots, admixed brown reticular lines on a coppery-brown background. C) Histopathology: Epidermotropic and band-like lymphocytes with numerous extravasated erythrocytes.

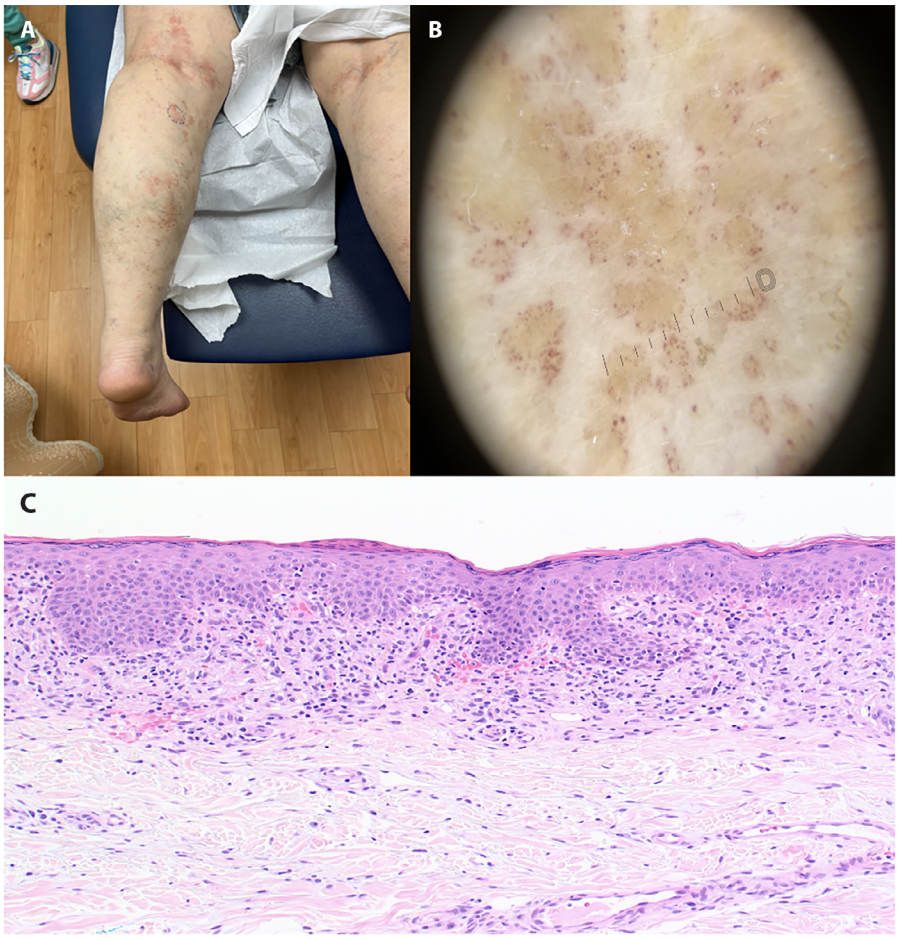


**Figure 2.** PMF (Case 2): A) Clinical: 65-year-old with a poorly demarcated erythematous rash with cayenne-pepper macules on left calf. B) Dermoscopy: erythematous globules interspersed with brown dots on a coppery-brown background. C) Histopathology: Epidermotropic lymphocytes with extravasated erythrocytes.

**Table 1.** Existing dermoscopy findings of PMF and PPD in the literature compared to our two reported cases [1, 2, 5].

| PMF | PPD | Two reported cases of PMF |
|---|---|---|
| **Spermatozoa-like vascular morphologic structures** | **Erythematous globules** | Erythematous clods with interspersed brown dots |
| **Fine short linear vessels** | **Reticular pigmentation** | Admixed brown reticular pigmentation lines |
| Orange-yellow background | Dull red-brown background | Coppery-brown background |
| Distributed dotted vascular morphology | Distributed dotted vascular morphology | Dotted vascular morphology |
| Clustered vascular distribution | Clustered vascular distribution | Clustered vascular distribution |
| No scales | No scales | No scales |

**In boldface:** Features described as statistically significant for the condition in the existing literature.

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