

COMMENTARY & NOTES

Plant Fiber Contaminants in Morgellons Disease Skin Samples

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Yi and colleagues describe microscopic stellate structures on potassium hydroxide preparations of skin scrapings.¹ They conclude that these stellate structures are plant-derived trichomes that may contaminate skin samples, and they cite our description of “floral-shaped fibers” similar in morphology to these stellate structures in skin samples from some patients with Morgellons disease.² The implication is that the Morgellons skin samples were contaminated with plant fibers.

We were also concerned about possible plant fiber contamination in Morgellons skin samples shown in our early work, even though the fibers appeared to be anchored in skin.² (Figure 1) However, careful histological follow-up studies demonstrated conclusively that these stellate fibers were composed of the human biofilaments keratin and collagen and were definitely not plant-derived contaminants.^{3,4} (Figure 2) Furthermore, we have shown that these fibers originate in the stratum basale and stratum spinosum of Morgellons skin samples and could not be textile fibers or any other external contaminants.⁵ (Figure 3)

We agree with Yi and colleagues that care must be taken in evaluating microscopic structures that may turn out to be plant contaminants in skin samples. We are

Figure 1. Skin sample from a Morgellons patient at 100× original magnification. Note floral-shaped fibers attached to skin surface. Reproduced from Reference 2, used with permission.

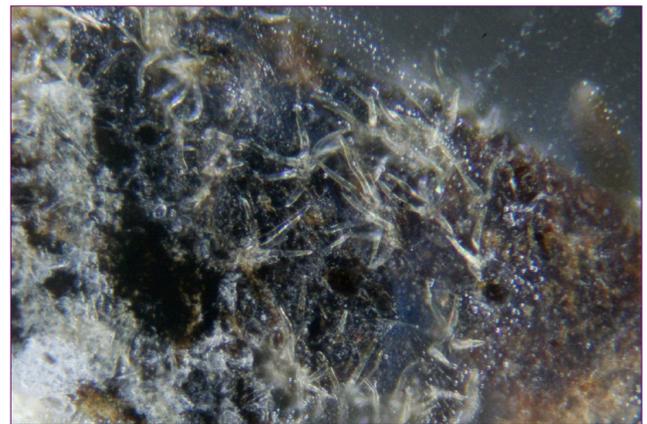


Figure 2. Section of stellate fiber from a Morgellons skin sample stained with Gömöri trichrome, demonstrating both keratin (red) and collagen (green) filament cross-sections. 100× original magnification. Reproduced from Reference 3, used with permission.

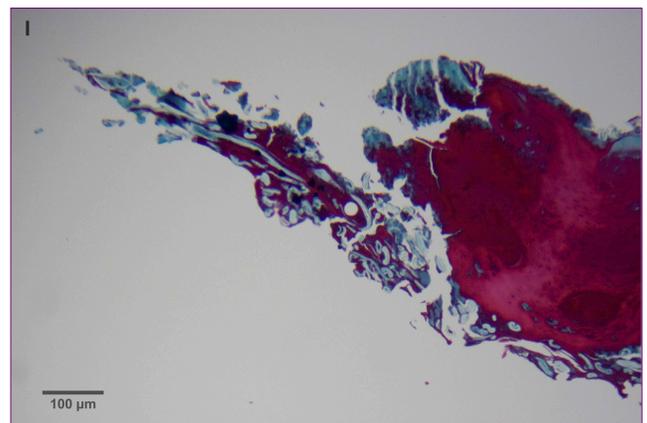
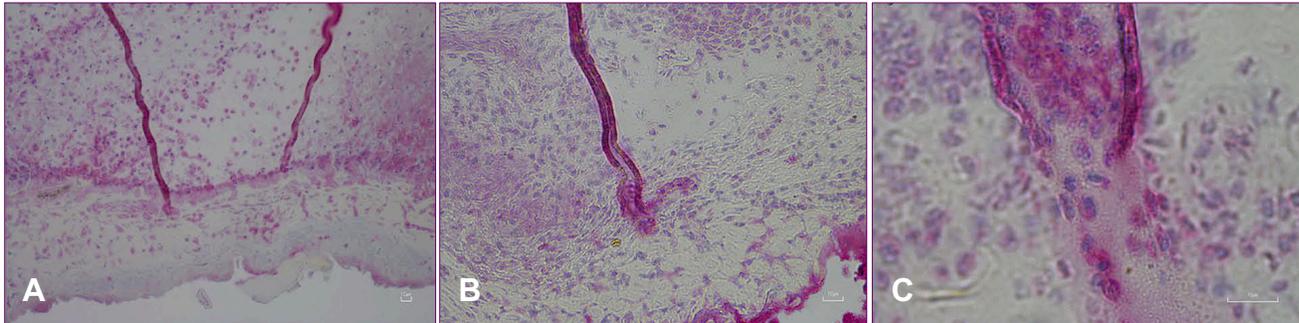


Figure 3. Filaments from a Morgellons skin sample showing basal cell layer origin. **(A)** Filaments at 200× original magnification showing origin in subcutaneous tissue. **(B)** Filament at 400× original magnification reactive with anti-*B. burgdorferi* immunostain. **(C)** Filament at 1000× original magnification, showing basal origin and cellular composition of keratinocytes that stained intracellularly positive for *B. burgdorferi* at the base of attachment. Reproduced from Reference 5, used with permission.



equally concerned that human biofilaments in Morgellons skin samples should not be mistaken for plant contaminants based on preliminary observations and dermatological preconceptions. The reason that Morgellons biofilaments can mimic stellate plant fibers is yet another aspect of this mysterious dermatopathy that merits further investigation.

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