



BRIEF REPORT

Morgellons Disease: Truth & Belief

Luca Roncati, Francesco Pisciolli¹

Department of Diagnostic and Clinical Medicine and of Public Health, Institute of Pathology, University of Modena and Reggio Emilia, Modena, ¹Provincial Health Care Services, Institute of Pathology, Santa Maria del Carmine Hospital, Rovereto, Italy

Dear Editor:

Morgellons disease (MD) is characterized by crawling skin sensations, associated with itchy rashes, stinging sores, fiber-like filaments, severe fatigue, concentrating difficulty and memory loss¹. This rare syndrome classically affects middle-aged white women, and the scientific community is prone to support that it is the manifestation of psychiatric disturbances (Ekbom, Wittmaack-Ekbom, Munchausen, Munchausen by proxy)^{1,2}. Recently, we have observed a 49-year-old Caucasian woman affected by typical MD symptoms. In particular, the patient referred an increase in the viscosity of her tear film and saliva, together with the elimination from epidermal spots of small spherical granules and/or narrow long wires, grayish in color, placed on her hands and arms (Fig. 1). We have investigated the chemico-elemental composition of these filaments, extracted from the skin lesions, with a field emission gun-environmental electron scanning microscope, equipped with an X-ray microprobe. Some wires appeared to be keratinic organic hairs of humans or pets, while others plastic inorganic fibers. Our analyses showed that the wires were the same found in the homely indoor air and inside the washing machine filter, previously collected during a site inspection. This finding could be explained only through a self-introduction under the epidermis of the wires by the patient¹. For this reason, we have read with great interest the accurate paper of Ohn et al.³ concerning with MD. In the etiopathogenetic considerations, the authors report the

various theories in this regard, such as a form of delusional parasitosis or a variant of Lyme's disease, caused by *Borrelia burgdorferi*³. However, Pearson et al.⁴ have reported that no infective agent has been isolated in a cohort study of 115 patients conducted in Northern California. Moreover, Harvey and colleagues have examined 25 self-defined patients with MD, and they have noted physical illness associated with a delusional component⁵. In their paper, Ohn et al.³ conclude that further investigations into MD are still needed, and large population studies are



Fig. 1. Photo of the grayish wires under the epidermis of the patient (by courtesy of Prof. A.M. Gatti).

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Corresponding author: Luca Roncati, Department of Diagnostic and Clinical Medicine and of Public Health, Institute of Pathology, University of Modena and Reggio Emilia, Policlinico Hospital, Largo del Pozzo 71, I-41124 Modena, MO, Italy. Tel: 390594224812, Fax: 390594224998, E-mail: emailmedical@gmail.com

ORCID: <https://orcid.org/0000-0001-6949-2216>

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required for establishing appropriate treatment methods. Actually, the histopathological examination, reported by the authors, showed only mild lymphocytic infiltration, and failed to reveal evidence of any microorganism; moreover, the polymerase chain reaction for *B. burgdorferi* resulted negative on patient's serum, exactly as ascertained in our above mentioned case¹, all elements in favor of MD psychogenesis.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

REFERENCES

1. Roncati L, Gatti AM, Pusioli T, Pisciolli F, Barbolini G, Maiorana A. The first investigative science-based evidence of Morgellons psychogenesis. *Ultrastruct Pathol* 2016;40: 249-253.
2. Foster AA, Hylwa SA, Bury JE, Davis MD, Pittelkow MR, Bostwick JM. Delusional infestation: clinical presentation in 147 patients seen at Mayo Clinic. *J Am Acad Dermatol* 2012;67:673.e1-10.
3. Ohn J, Park SY, Moon J, Choe YS, Kim KH. Morgellons disease. *Ann Dermatol* 2017;29:223-225.
4. Pearson ML, Selby JV, Katz KA, Cantrell V, Braden CR, Parise ME, et al. Clinical, epidemiologic, histopathologic and molecular features of an unexplained dermatopathy. *PLoS One* 2012;7:e29908.
5. Harvey WT, Bransfield RC, Mercer DE, Wright AJ, Ricchi RM, Leitao MM. Morgellons disease, illuminating an undefined illness: a case series. *J Med Case Rep* 2009;3: 8243.

Morgellons Disease: a Manifestation of Psychiatric Disorder

Dear Editor:

We appreciate your interest in our case report of Morgellons disease (MD), and agree with your idea¹. The notion that MD is a manifestation of psychiatric disorder is supported by scientific evidence, using a field emission gun–environmental electron scanning microscope equipped with an X-ray microprobe². It is an ingenious approach to find out the component of fiber through electron microscope and to carry out site inspection together.

In addition to a previous report³, we recently experienced one more MD patient without any evidence of infectious etiology, including *Borrelia burgdorferi*. A 19-year-old woman was referred from Department of Internal Medicine. Her chief complaint was fiber like materials and bugs protruding from the skin with pruritus. Multiple erythematous crusted papules were observed over whole body (Fig. 1A). She had applied topical agents (lindane and permethrin) many times and taken oral medications (ivermectin and pyrantel pamoate). Those medications were ineffective to alleviate the symptoms. Dermoscopic examination of the fibrous material revealed that inorganic black colored fibers were mixed with keratin materials (Fig. 1B). The histopathologic examination of cutaneous lesion in pubic area revealed non-specific inflammatory cell infiltration. Periodic acid-Schiff and Grocott's methenamine silver stain were negative. There was no evidence of microorganism, including tuberculosis in culture study. In addition, *B. burgdorferi* polymerase chain reaction test in serum was negative. She was diagnosed as having MD based on the history and laboratory findings. After taking anti-histamine (fexofenadine) and anti-psychotic medication (aripiprazole) for two weeks, the patient made a statement that the fiber like materials in the body and pruritic symp-

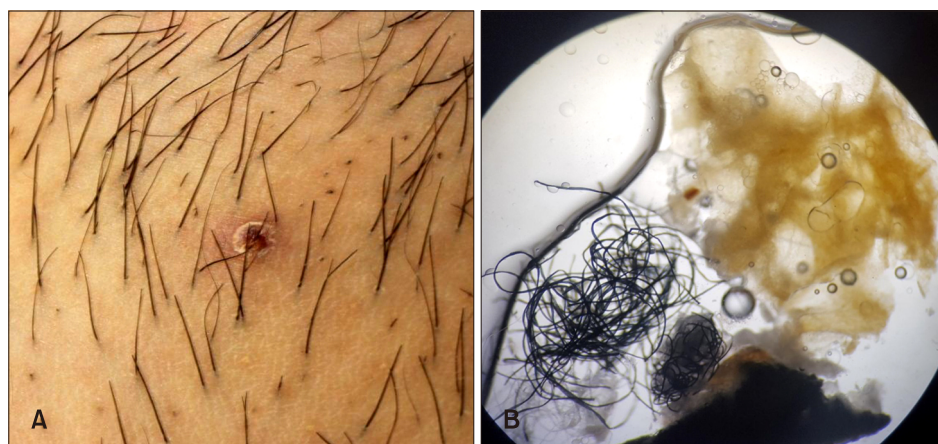


Fig. 1. (A) Photo of the crusted papule with fiber like materials on the pubic area. The patient claimed to have bugs protruding from the skin lesion. (B) Dermoscopic examination of the fibrous material revealed that inorganic black colored fibers were mixed with keratin materials.

tom disappeared, except protruding bugs. Shah et al.⁴ examined the psychological profile of the patients with delusional infestation, which have high rates of anxiety, depression, and appearance-related concerns. In this line, patients with MD may benefit from psychiatric treatment. Additionally, building a trustful therapeutic relationship to use antipsychotic drug is essential, considering the fact that most patients refuse psychiatric intervention. A careful approach and a close collaboration of dermatologists and psychiatrists is needed⁵. In the future, a study to find the most effective medication to treat MD should be investigated. Herein, we reported a 19-year-old MD patient. A reliably established doctor-patient relationship along with psychiatric medications made the symptoms of MD relieved. In conclusion, MD could be controlled effectively by establishing the patient-doctor relationship and by proper psychiatric intervention.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

REFERENCES

1. Roncati L, Piscioli F. Morgellons disease: truth & belief. *Ann Dermatol* 2018;30:361-362.
2. Roncati L, Gatti AM, Pusioli T, Piscioli F, Barbolini G, Maiorana A. The first investigative science-based evidence of Morgellons psychogenesis. *Ultrastruct Pathol* 2016;40:249-253.
3. Ohn J, Park SY, Moon J, Choe YS, Kim KH. Morgellons disease. *Ann Dermatol* 2017;29:223-225.
4. Shah R, Taylor RE, Bewley A. Exploring the psychological profile of patients with delusional infestation. *Acta Derm Venereol* 2017;97:98-101.
5. Vulink NC. Delusional infestation: state of the art. *Acta Derm Venereol* 2016;96:58-63.

Da-Ae Yu, Jungyoon Ohn, Kyu Han Kim

*Department of Dermatology, Seoul National University
College of Medicine,
Institute of Human-Environment Interface Biology, Seoul National
University Medical Research Center,
Laboratory of Cutaneous Aging and Hair Research, Biomedical
Research Institute, Seoul National University Hospital, Seoul, Korea*

ORCID: <https://orcid.org/0000-0001-8376-9090>
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