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# A review on morgellons disease

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## ABSTRACT

Morgellons disease is a dermopathic condition characterized by the presence of multicolored filaments that lie under, or protrude from the skin. Subcutaneous stinging sensations, non-healing skin lesions, cognitive decline often termed as "brain fog", mood and sleep disturbances are also seen in the afflicted individuals. The etiology of the disease remains unclear as few believe a spirochete species is the causative agent while others firmly feel that it is purely a delusional disorder. This makes the diagnosis controversial and makes it a challenge to treat.

**Keywords:** Morgellons disease, Dermopathic, Multicolored filaments, Spirochete species, Delusional disorder.

## INTRODUCTION

Morgellons disease (MD) was first described in 17$^{th}$ century, in the year 1674 by Sir Thomas Browne, a British physician. It was said that the disease caused painful protrusions of coarse and rough hair on the backs of children. The affected individual's shedded unusual particles from the skin like fibers, crystallized particles, sand-like or seed-like black specks. This dermopathic condition was known to be caused by a species of spirochetes which were genetically identified as "Borrelia burgdorferi sensu stricto" which predominated as the infective agent in most of the cases [1-5]. As the causative agent was said to be a tick borne bacteria it was declared as non-contagious. However, the shedding caused skin irritations to the other people who came in contact with them. The erupting skin fiber condition reemerged in 2002 and since then the number of cases kept increasing, especially in 2006 which later led to a deeper introspection about the disease. Later on another theory emerged which stated that MD is a delusional disorder and not a disease. The disorder leads to the belief that parasites or foreign materials are moving in and out of the skin. As believed earlier as "erupting fiber disease" the fibers were then thought to be from the clothing material of the patient. Morgellons disease (MD) later on was also called "Delusional parasitoids" which was accompanied by "skin crawling feeling" and a false belief that the skin is infested with bugs [6-9].

## EPIDEMIOLOGY

According to the Morgellons Research Foundation more than 14,000 families are affected and it is more prevalent in white, Caucasian, middle aged women. In 2012 a study which involved 3.2 million participants showed 3.65 cases per 1, 00,000 participants.

Clinical classification of Morgellons disease:

### Early localized

The multicolored fibers/lesions persist for about less than 3 months and are localized to a particular area of the body only like limbs, trunk, and head.

### Early disseminated

In this type though the protrusions persist for less than 3 months they usually are seen in various parts of the body i.e. not localized.

### Late localized

When the lesions/filaments persist for more than six months and are confined to only one area, they fall under this category.

### Late disseminated

This is worse compared to all the other categories as the protrusions exist for more than six months and seen all over the body.

## RISK FACTORS

According to a study by Centers for Disease Control and Prevention (CDC) are:

- Individuals having Lyme disease
- Exposure to a tick and blood test indicating a tick bite
- Hypothyroidism

## CLINICAL MANIFESTATIONS

Though the cause of MD remains uncertain, the clinical manifestations of the individuals suffering from MD were said to be similar. Most commonly the presence of multicolored fibers beneath, on or erupting from slow healing sores or unbroken skin. One may also feel a crawling sensation, bitten or stung by bugs or ticks. Symptoms other than these were strikingly similar to that of Lyme's disease and include:

- Fatigue
- Itching
- Insomnia
- Joint aches and pains
- Depression
- Difficulty in concentrating

## DIAGNOSIS

The closest diagnosis for MD is Delusional disorder 297.1 (F22) somatic types which sets certain parameters like:

- Experiencing one or more delusions for at least a month or more.
- It is evident that the patient is not having Schizophrenia.
- The behavioral changes and bodily functioning of the patient are not bizarre or outrageous.
- "Matchbox sign" meaning that the patient brings along a bunch of things he/she has claimed to pull from the wounds.
- If patient has been a manic or suffered from depression the duration of the episodes were relatively brief as compared to the delusions.
- The manifestations must not direct towards other mental disorders like OCD and the ramifications are not due to drug abuse or other medical conditions.

Manschreck proposed 3 steps for diagnosis:

### Step 1

Establishment that a belief is delusional and not the result of an underlying somatic illness.

### Step 2

Characteristics of delusions (confusion, perceptual disturbances etc.) are present.

### Step 3

Perform systematic differential diagnosis to rule out other medical conditions present. The status examination (excluding delusional beliefs) is normal.

### Complications due to MD

Include anxiety, isolation, depression, low self-esteem, sepsis.

### Treatment

### There are 2 main approaches for treatment of MD

If the physician feels it is caused by an infection then the choice of treatment would be several antibiotics, to kill the pathogens. On the other hand, if it is thought to be a delusional disorder then Antipsychotics, Psychotherapy and antidepressants are choice of therapy Prolonged oral regimen including doxycycline, amoxicillin, cefuroxime is recommended by CDC. Anti-fungal, anti-viral, anti-parasitic, immune boosters, probiotics, enzymes, herbal medications, herbal soaps, vitamins, minerals, amino acids, hormonal balance, stress mitigating, detoxification treatments are quite helpful. Antipsychotics are used simultaneously along with antibiotics. The therapy should begin with a low dose and increased gradually as patient shows tolerance. Risperidone

and trifluoperazine have proved to be beneficial with adjuvant therapies.

50% - 90% improvement was seen with 1.9 mg/day of trifluoperazine (high potency antipsychotic). A minimum of 90% improvement was seen when a mean dose of 2.3 mg/day. Adverse effects of the drug are minor and include drowsiness, dizziness, and dry mouth, slow breathing. In a case where a 47 year old woman was self-diagnosed with Morgellons Disease, the patient was successfully treated with 2mg Pimozide, twice daily. The sores were completely healed and the patient was out of depression. However, this treatment remains controversial due to several potential adverse effects of the drug like dyskinesia, malignant narcoleptic syndrome, dose dependent prolongation of QTc interval.

### Coping with Morgellons disease

As the clinical manifestations of MD are very distressing a compassionate treatment is very vital for management. Aspects like establishment of a healthy relation with the patient, giving psychotherapy only with the patient consent, not adding mental stress on the patient by disagreeing with their statements which might just be products of delusion.

Surroundings of the patient must always be kept clean and hygienic to prevent re-infection. Environment cleansing treatments such as anti-gremial laundry products, household cleaners, methods of vacuuming and treatment of mattresses, bedding, and pillows should be done.

Three stages of infection and improvements from Morgellons protoplasm and its fibrous material after initial attack:

### First and worst stage after initial infection

Up to 12 months black specks, multicolored filaments, hyaline fibers constantly protrude out of the skin.

### Second stage

6-12 months occasionally black or white fibers, pus filled bumps appear.

### Third stage

After 18-24 months only colored or transparent fibers appear but, the risk of re-infection persists.

## CONCLUSION

Morgellons disease is a perplexing condition with no evidenced based etiology, severe symptoms, controversial diagnosis and a challenging task to treat with no preventive measures either. Utmost care must be taken to prevent misdiagnosis. As the research is in progress, with the minimum yet efficacious treatment available the disease can be managed. Successful management has shown that people survive with the disease for almost 30-35 years also. An effective psychotherapy can help the patient deal with the excruciating dermopathic condition.

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