

Depression During Prolonged Diagnostic Uncertainty in Non-Tuberculous Mycobacterial Infection

Diagnostic
Uncertainty
and Depression
in MOTT
Infection

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ABSTRACT

Non tuberculous mycobacterial infection may resemble pulmonary tuberculosis, particularly in tuberculosis endemic settings, and confirmation often requires repeated microbiological evaluation before the causative organism is identified. During this period patients may experience persistent symptoms, treatment interruptions, and considerable uncertainty regarding the course of illness. A 38-year-old woman underwent a complex four-year diagnostic course before infection with Mycobacterium other than tuberculosis was confirmed. She was initially treated for pulmonary tuberculosis but developed drug reactions and repeatedly inconclusive microbiological results. As investigations continued without diagnostic clarity she developed emotional exhaustion, sleep disturbance, functional decline, and persistent low mood. Psychiatric evaluation revealed a Patient Health Questionnaire 9/17 and a Generalized Anxiety Disorder 7/7, consistent with severe major depressive disorder. Management included supportive psychotherapy, family psychoeducation, and initiation of sertraline alongside ongoing multidisciplinary care involving psychiatry, pulmonology, and dermatology. After psychiatric involvement the patient reported better understanding of the diagnostic process and remained engaged with treatment while further microbiological identification was pursued. The clinical course reflects the psychological strain that prolonged diagnostic uncertainty may impose during the evaluation of chronic infectious disease.

Key Words: mycobacterium infections, nontuberculous, depressive disorder, consultation liaison psychiatry, diagnostic errors, patient compliance

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INTRODUCTION

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Non-tuberculous mycobacterial infections are increasingly recognized causes of chronic pulmonary and extrapulmonary disease. In tuberculosis endemic regions these infections often resemble pulmonary tuberculosis clinically and radiologically, which can lead to misdiagnosis and repeated treatment changes before the correct diagnosis is established.^{1,2} Confirmation frequently requires integration of clinical findings with repeated microbiological testing, making the diagnostic process lengthy and uncertain.^{2,3} When illness trajectories extend over months or years, repeated investigations and changing treatment explanations can become a significant psychological burden. Persistent symptoms and uncertainty regarding the course of disease may generate frustration, fatigue, and loss of control, which over time can contribute to depressive symptoms and reduced engagement with care.⁴⁻⁶

CASE REPORT

(clinical summary, pathological findings, management and outcome)

A 38-year-old woman was referred to the psychiatry service at the TB DOTS clinic for psychological evaluation after a prolonged illness course marked by repeated diagnostic changes. The major clinical events

during this diagnostic course are summarized in Table 1. Her symptoms began in 2021 with chronic cough lasting more than three months. In 2022 she was diagnosed with pulmonary tuberculosis at a primary healthcare center and started on first line anti tuberculosis therapy. Two weeks after treatment initiation she developed generalized urticaria followed by drug induced hepatitis, requiring discontinuation of treatment for approximately nine months.

After hepatic recovery anti tuberculosis therapy was restarted, but she developed recurrent pruritus and progressive cutaneous nodules. In early 2023 further evaluation at a referral hospital showed negative sputum and radiological findings for tuberculosis, and she was treated as a non-tuberculosis case with surgical management of cutaneous abscesses, although her symptoms persisted.



Figure No. 1: Multiple nodular and crusted cutaneous lesions caused by non-tuberculous mycobacterial infection.

Table No. 1. Chronological timeline of the patient's illness showing major clinical events, diagnostic evaluations, treatment interruptions, and the onset of depressive symptoms

Year	Clinical event
2021	Chronic cough begins
2022	Diagnosis of pulmonary tuberculosis, anti-tuberculosis therapy started
2022	Drug induced hepatitis, treatment discontinued
2023	Progressive cutaneous nodules, negative sputum evaluation
2025	Referral to tertiary hospital, biopsy performed
2025	Non tuberculous mycobacteria confirmed
2025	Depressive symptoms identified, psychiatric treatment initiated

In April 2025 she was referred to Dr Soetomo General Academic Hospital for further evaluation. Repeated sputum examinations remained negative, but chest computed tomography suggested active pulmonary infection and anti-tuberculosis therapy was restarted. Worsening cutaneous lesions prompted additional evaluation, including investigation for autoimmune disease. Subsequent biopsy and microbiological examination of skin tissue identified non tuberculous mycobacteria, confirming *Mycobacterium* other than tuberculosis and leading to modification of antimicrobial therapy.

During this prolonged diagnostic course, the patient reported increasing emotional distress with persistent sadness, fatigue, sleep disturbance, and hopelessness that had been present for approximately one year prior to psychiatric referral. Psychiatric assessment demonstrated a Patient Health Questionnaire nine score

of seventeen and a Generalized Anxiety Disorder seven score of seven, consistent with severe major depressive disorder. She had marked fatigue, reduced appetite with six kilograms of weight loss, and difficulty walking due to painful nodular lesions on the soles of her feet. Multiple nodular and partially crusted skin lesions were observed on the face, scalp, hands, and soles of the feet (Figure 1). Social withdrawal and dependence on family members for daily care gradually increased. Management involved supportive psychotherapy focused on coping with illness related uncertainty, family psychoeducation, and initiation of sertraline. Multidisciplinary communication between psychiatry, pulmonology, dermatology, and community health services was strengthened to support adherence and provide consistent explanations regarding the diagnostic process. With psychiatric support the patient

reported better understanding of her condition and remained engaged with ongoing treatment and

DISCUSSION

Non tuberculous mycobacterial infection often takes time to diagnose, especially in settings where tuberculosis is common and is usually treated first.^{2,3} In this patient, the problem was not only the delay itself, but the repeated shifts in explanation and treatment. Each change seemed to reset expectations without leading to clear improvement. Over time, this made the illness feel unpredictable and difficult to make sense of. The depressive symptoms did not appear suddenly but seemed to build up alongside this process. The patient described increasing fatigue, frustration, and eventually a sense that there was no clear endpoint to her condition. In that context, the low mood and loss of motivation felt closely tied to the ongoing uncertainty rather than being a separate problem. This pattern is often seen in patients who go through long and unclear medical courses, where the issue is not only the illness itself but the lack of a stable understanding of what is happening.

From a practical point of view, these changes matter because they affect how patients stay engaged with treatment. When the course feels unclear or repeatedly changing, it becomes harder to maintain motivation.^{2,3} In this case, involving psychiatry helped create space to address those concerns directly. Supportive therapy, family involvement, and more consistent explanations from the treating teams seemed to help the patient stay engaged while the medical workup continued.

TAKE HOME MESSAGE

Prolonged diagnostic uncertainty in chronic infectious disease can impose a significant psychological burden and may contribute to depressive symptoms that affect treatment engagement. Early recognition of emotional distress and collaboration between medical and psychiatric teams can help patients remain engaged in care during complex diagnostic and treatment pathways.

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