Original Research Article

Mysterious Malady: Tuberculous Meningitis Masqueraded as a Psychiatric Condition

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ABSTRACT

Tuberculous meningitis (TB meningitis) presents a significant diagnostic challenge due to its insidious onset and diverse symptomatology. This case report describes a 23-year-old female who initially presented with repetitive phraseology and sleep disturbances, leading to an initial diagnosis of acute stress reaction. The patient's condition subsequently progressed to include visual hallucinations and right lateral rectus palsy. Subsequent magnetic resonance imaging (MRI) and cerebrospinal fluid analysis confirmed the diagnosis of TB meningitis. This case underscores the importance of maintaining a high index of suspicion for TB meningitis, particularly in patients presenting with atypical psychiatric manifestations. Early diagnosis and prompt treatment are crucial, as delayed intervention may result in severe complications and poor clinical outcomes. This report aims to enhance awareness among healthcare professionals regarding the varied presentations of TB meningitis, emphasizing the need for vigilance in regions with high tuberculosis prevalence. Furthermore, this case highlights the importance of considering TB meningitis in the differential diagnosis of patients presenting with unusual psychiatric symptoms, even in the absence of classic neurological signs.

Keywords: tuberculous meningitis, psychiatric symptoms, meningitis, MRI.

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INTRODUCTION

Tuberculosis meningitis (TB meningitis) is a form of subacute meningitis that can present with a range of initial symptoms, making early diagnosis particularly challenging. Timely recognition of TB meningitis is critical, as untreated cases can lead to significant morbidity and mortality [1]. Despite being preventable and treatable, tuberculosis remains the leading cause of death from infectious diseases worldwide. TB meningitis accounts for approximately 1% of all instances of extrapulmonary tuberculosis [2].

There are substantial gaps in the continuum of care for tuberculosis, from initial incidence to diagnosis, and from diagnosis to treatment initiation and ultimately to favorable outcomes [3-5]. In TB meningitis, symptoms often develop insidiously; patients may experience low-grade fever, which can be subtle, and neck stiffness may be minimal. Notably, classic signs of meningism are rarely reported, with only about 2% of patients presenting with these symptoms at the outset. As a result, many clinical features lack specificity, complicating the diagnostic process based solely on history and physical examination [6].

This case report aims to highlight the importance of maintaining a high index of suspicion for TB meningitis in patients with atypical presentations, as early intervention can be lifesaving. Furthermore, raising awareness among healthcare professionals about the diverse manifestations of TB meningitis may improve early detection rates.

CASE REPORT

A 23-year-old female working in the IT field from Mangalore presented to the emergency department at night, exhibiting a sudden onset of repetitive phrases, specifically stating "I want to log in" multiple times over a three-hour period. She reported sleep disturbances for the past week and had been experiencing increased work-related stress due to longer hours and prolonged screen time, coupled with sleep deprivation. Additionally, there was a family history of post-stroke depression and suicide in her father. An initial impression of acute stress reaction was made, and she was admitted to the Psychiatry department, where she was started on an antipsychotic and a sedative.

The patient also had a two-week history of cough and low-grade headache for the past seven days, which coincided with her increased work stress. Routine investigations revealed a total white blood cell count of 11,000 and hyponatremia, prompting treatment. However, she continued to experience sleep disturbances and restlessness at night. A CT scan of the brain showed normal results, but she developed right lateral rectus palsy. On the third day of her admission, she began experiencing visual hallucinations, leading to an MRI of the brain with contrast, which revealed basal exudates and leptomeningeal enhancements indicative of tubercular granulomas. This was confirmed by positive Mycobacterium tuberculosis findings in the cerebrospinal fluid (CSF) analysis.

The patient was transferred to the ICU, where she eventually developed infarcts and hepatitis due to antitubercular therapy (ATT), along with hemiparesis and slurred speech. She required a two-month hospital stay, during which she showed gradual improvement through physiotherapy and speech therapy.

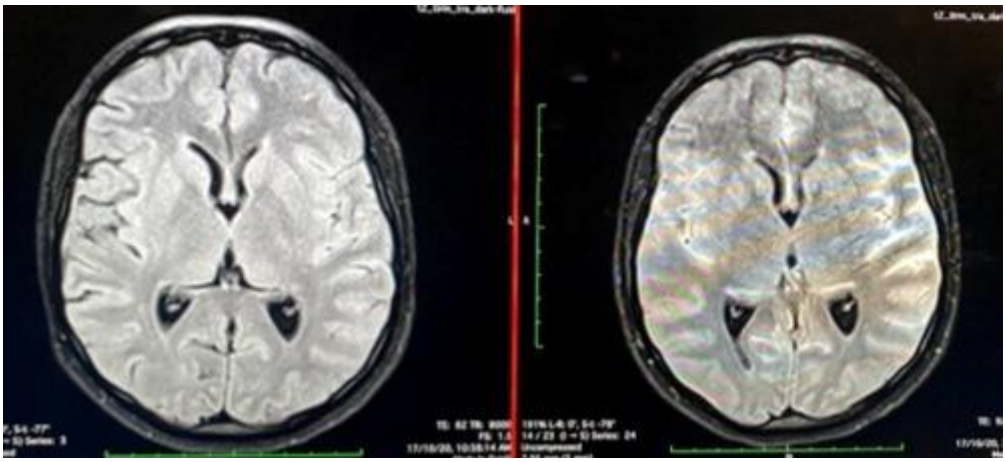

Fig1: Leptomeningeal enhancements

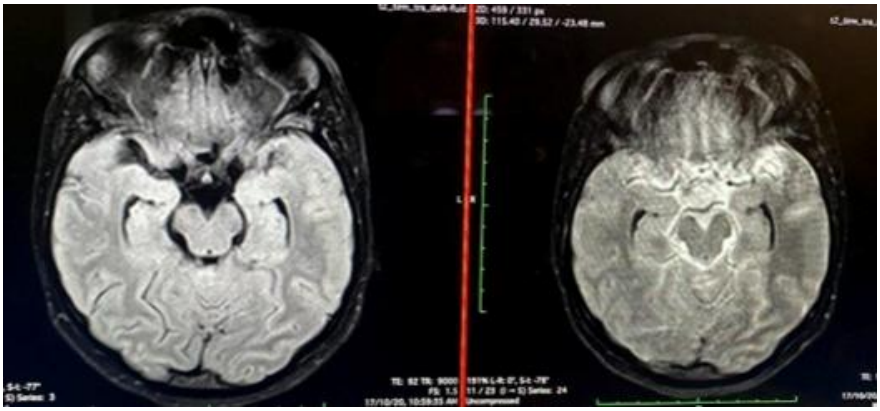

Fig 2: Basal Exudates

DISCUSSION

In this case, diagnosing TB meningitis proved challenging due to the absence of definitive symptoms, a normal central nervous system examination upon admission, and a clear CT brain report. This situation underscores the complexities associated with identifying tuberculosis meningitis, especially when initial symptoms can mimic psychiatric disorders.

Early Symptoms: Patients may experience low-grade fever, mild neck stiffness, and a general sense of unwellness lasting two to three weeks or longer. Common mental changes include apathy, irritability, and shifts in personality. As the disease advances, headaches typically worsen, and low-grade fever develops [6].

Neurological Signs: Symptoms may include cranial nerve palsies (III, VI, and VII), coarse limb tremors, reflex abnormalities, hemiplegia, and seizures. Papilledema is considered a late sign, while choroidal tubercles may be observed in the retina.

Both CT and MRI scans can reveal hydrocephalus, edema, tuberculomas, focal infarcts, and exudate in the basal brain cisterns. MRI is often preferred due to its superior capability to visualize brainstem and cerebellar pathology [6].

Another case of TB meningitis presenting with psychosis was documented by Kumar and others. In their report, the patient exhibited primary symptoms of irrelevant speech, irritability, disorganized behavior, poor oral intake, and constipation for three days. Additionally, she displayed poor social interaction, withdrawn behavior, and disturbed sleep for two months, alongside intermittent headaches that had intensified and become more frequent over the previous two months. The patient was treated with an EHRZ regimen along with steroid coverage, resulting in a resolution of her symptoms [7].

In contrast, our patient had acute stress reaction with two-week history of cough and low-grade headache for the past seven days. The delay in diagnosing her TB meningitis was attributed to the insidious nature of her symptoms.

In a case report, a patient presented with psychosis but showed no clinical evidence of meningitis. Initially, her symptoms were primarily negative, but while in the ward, she developed positive symptoms that persisted despite treatment with antipsychotics. Remarkably, her psychotic symptoms resolved even after she defaulted on her antipsychotic treatment shortly after discharge, despite having received only three weeks of medication [1].

TB meningitis should be considered in patients without a prior psychiatric history who present with psychotic symptoms, especially in regions with a high burden of tuberculosis. A heightened clinical suspicion is essential for accurately diagnosing TB meningitis. This report aims to enhance clinician awareness of the late presentation of TB meningitis. Given the potentially fatal outcomes associated with delayed treatment, healthcare providers are urged to initiate empirical therapy when clinical, epidemiological, and laboratory findings suggest the possibility of TB meningitis.

The case of TB meningitis masquerading as a psychiatric condition highlights the critical importance of maintaining a high index of suspicion when evaluating patients with atypical psychiatric symptoms, particularly in regions with a high prevalence of tuberculosis. The insidious onset and overlap of symptoms can easily lead to misdiagnosis, resulting in delayed treatment and potentially severe outcomes. Clinicians must be vigilant in recognizing the subtle signs of TB meningitis and consider it as a differential diagnosis in individuals presenting with psychotic symptoms, even in the absence of classic neurological findings. Early diagnosis and intervention are essential to improve patient outcomes and prevent the devastating consequences associated with this serious infection. By enhancing awareness and understanding of such presentations, we can better address the challenges posed by TB meningitis and ultimately reduce its impact on vulnerable populations.

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