

# A Case Report of Recurrent Steroid-Refractory Paradoxical Reactions in Tuberculosis in HIV-Negative Host: A Diagnostic and Therapeutic Challenge

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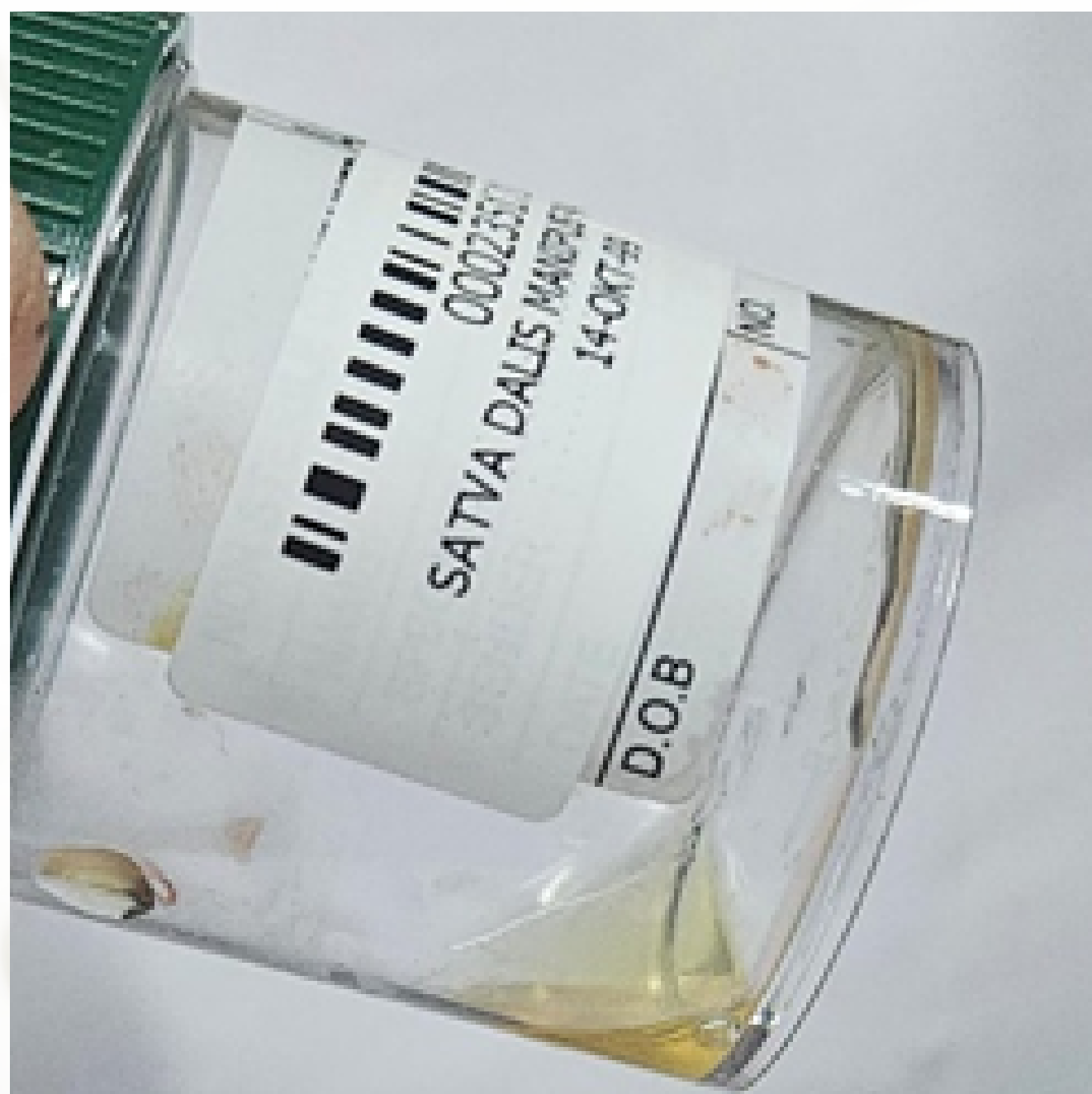
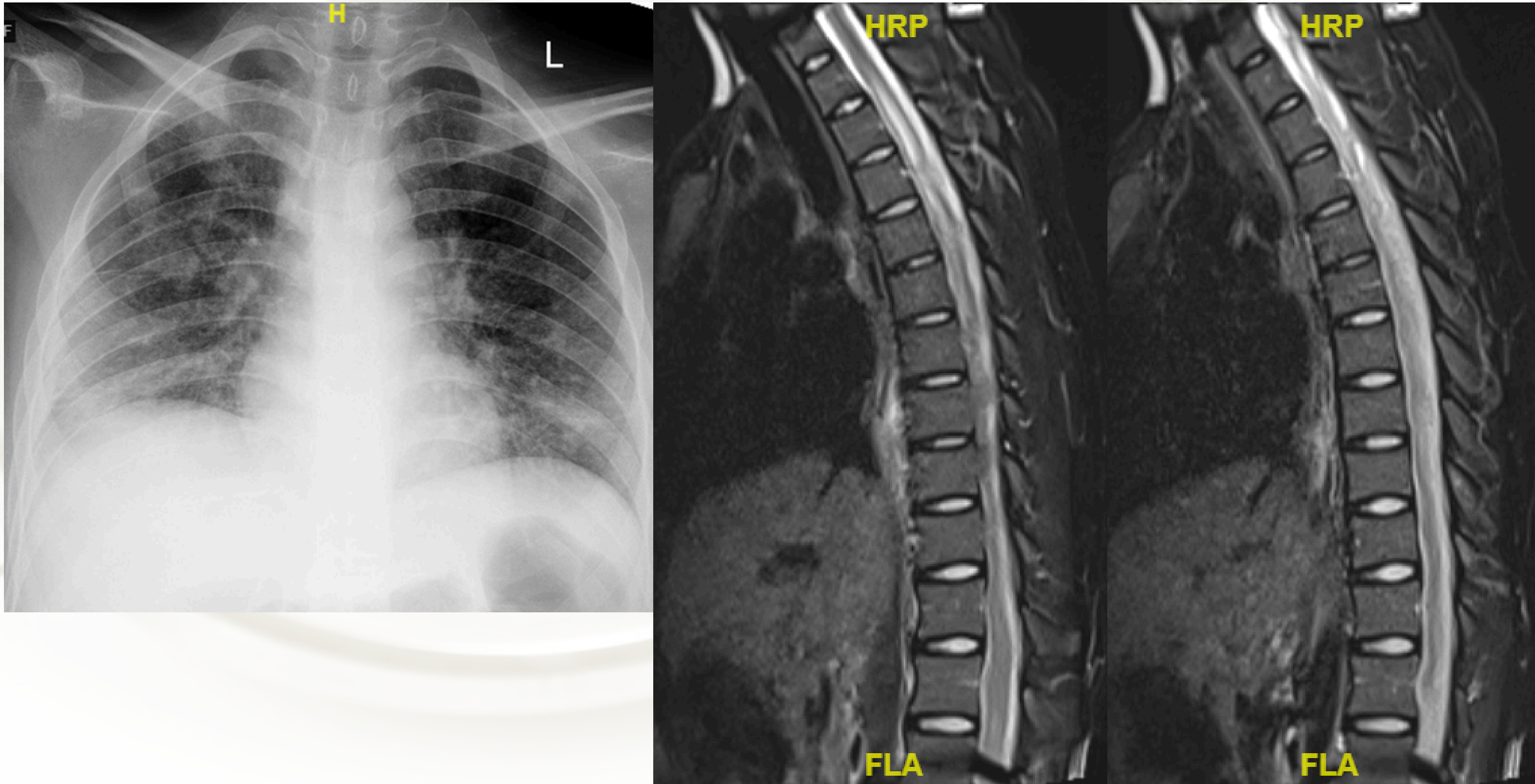
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## INTRODUCTION

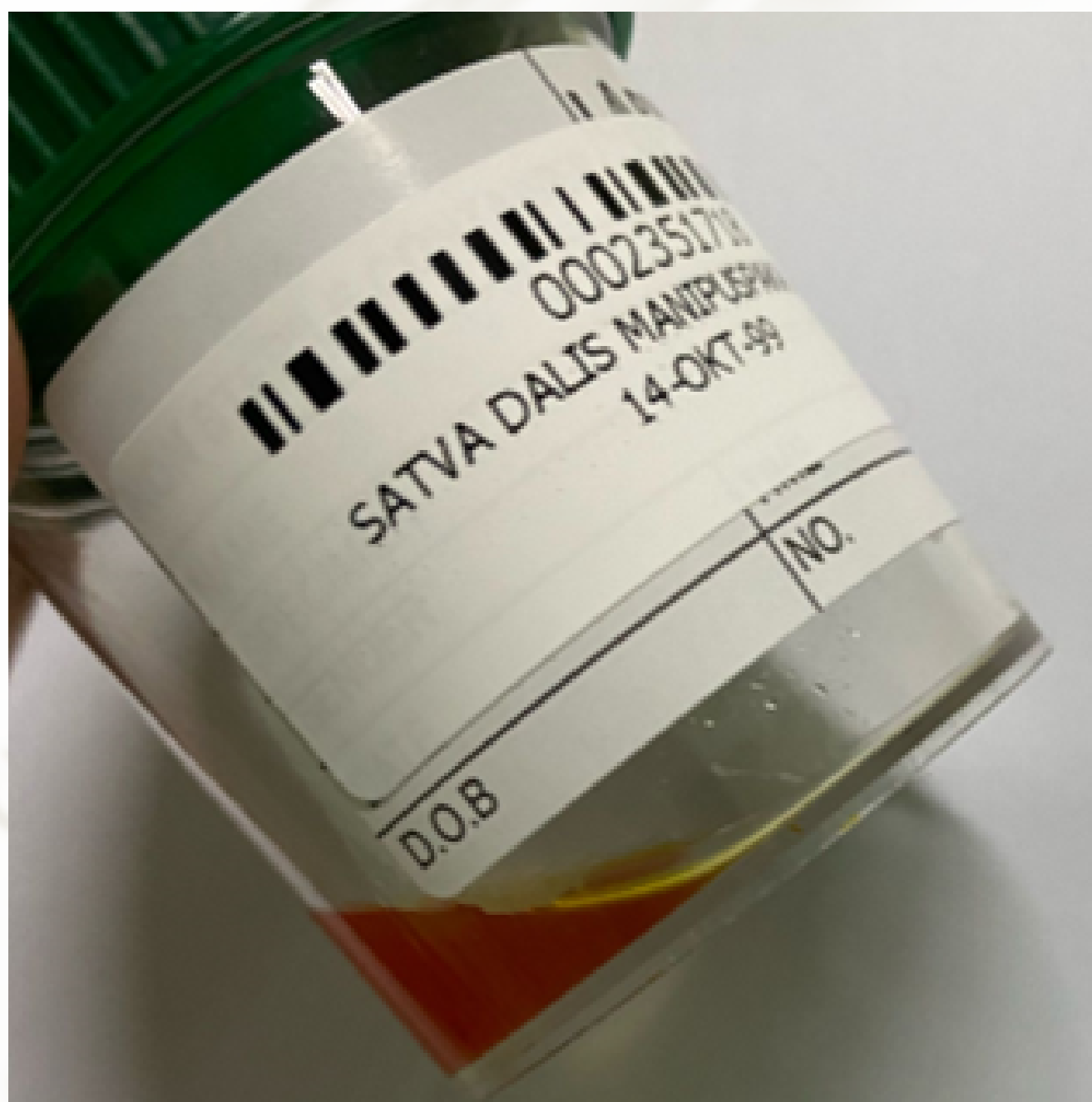
- Paradoxical reactions occur in 10–25% of HIV-negative tuberculosis (TB) patients, more frequently in extrapulmonary TB, particularly involving the central nervous system (CNS).
- They often present as new or worsening neurological deficits.
- While corticosteroids are typically effective, some cases are refractory.
- We report a recurrent, steroid-resistant paradoxical reaction, highlighting the need for alternative immunotherapy.

## CASE PRESENTATION

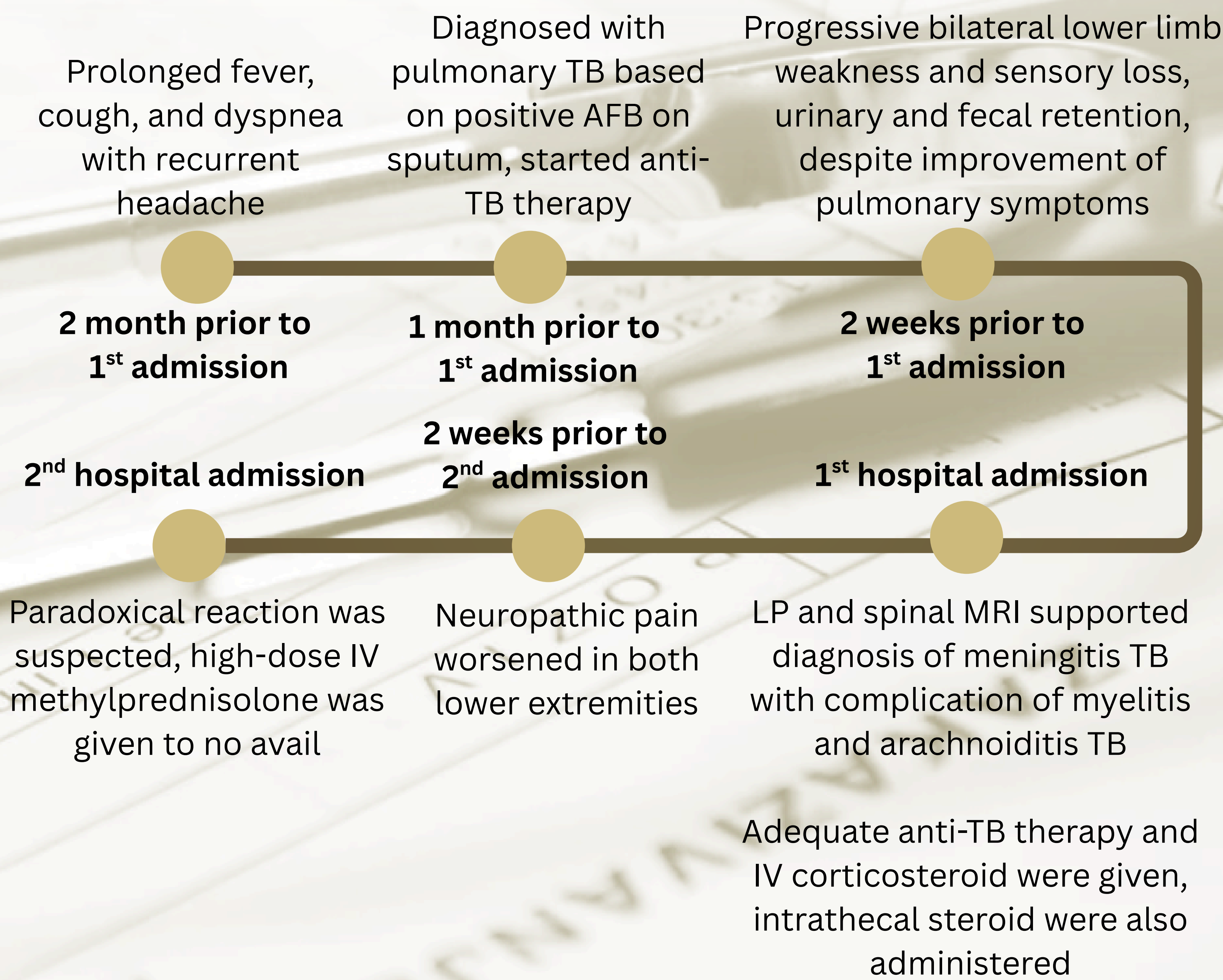
- A 25-year-old woman with HIV-negative pulmonary TB developed progressive bilateral lower limb weakness, urinary and fecal retention, and a thoracic sensory level two weeks after initiating anti-TB therapy, despite improvement of pulmonary symptoms.
- Neurological examination revealed nuchal rigidity, central cranial nerve palsies, and spastic paraplegia without sacral sparing.
- Cerebrospinal fluid showed pleocytosis and markedly elevated protein, with Marais score of 10, supporting TB meningitis.
- Spinal MRI demonstrated longitudinally extensive transverse myelitis from Th2–Th7 and arachnoiditis from Th2–Th12.
- Adequate anti-TB therapy and corticosteroids were continued, and intrathecal steroids were administered, however, spinal symptoms persisted, and severe central neuropathic pain developed one month post-discharge.
- A paradoxical reaction was suspected, prompting high-dose intravenous methylprednisolone, but no clinical improvement was observed.
- Although infliximab has shown promise in similar steroid-refractory cases, it was not pursued due to financial limitations and lack of insurance coverage.



**CSF Findings (12 Apr 2025)**  
Atraumatic tap; xanthochromic, slightly turbid, slow flow  
Cell count: 100/μL (MN 64%, PMN 36%)  
CSF/serum glucose ratio: 52/83 (62%)  
Protein: 6,340 mg/L  
Gram stain: Gram-negative  
AFB stain: Negative



**CSF Findings (16 Apr 2025)**  
Atraumatic tap; xanthochromic, slightly turbid, slow flow  
Cell count: 107/μL (MN 2.3%, PMN 97.7%)  
CSF/serum glucose ratio: 63/107 (58%)  
Protein: 6,530 mg/L  
Gram stain: Gram-negative  
AFB stain: Negative



## REFERENCE

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## CONCLUSION



This case highlights severe CNS paradoxical reactions in TB, where corticosteroids may fail to achieve optimal outcomes. Limited access to advanced immunotherapies remains a challenge in resource-limited settings. Clinical trials are needed to strengthen evidence and ensure broader therapeutic access within Indonesia's universal health coverage.