

CAS-095

False Positive Result in Urinary TB LAM Test among HIV Patients with Disseminated Nocardiosis: A case report

Laddarat Srikham, MD.

Department of Medicine, Sakon Nakhon Hospital, Sakon Nakhon, Thailand

Background

Lipoarabinomannan (LAM) is *M. tuberculosis* cell wall component, can be detected in multiple bodily fluids of TB patients. Recently, a point-of-care lateral flow assay was detected LAM in unprocessed urine, these testing could greatly improve TB diagnosis and treatment in HIV patients. Higher sensitivity and specificity were in HIV-infected patients with CD4 cell counts below 100 cells/mm³. However, urine LAM can be false-positive results with several clinical conditions like Non-tuberculous mycobacterial infections, nocardiosis and cryptococcosis.

Case description

A 44-year-old Thai man from Sakon Nakhon, Northeast of Thailand. Presented with productive cough with fever. Six weeks prior, He had productive cough with chest discomfort. He was admitted to nearby hospital and diagnosed with pneumonia at right lower lung. He was treated with azithromycin and cefixime for 1 week but clinical was not improved. Four weeks prior, he had progressive of productive cough with low grade fever. On the day of admission, he was shortness of breath. Physical examination showed the temperature of 38°C, respiratory rate 24 bpm, pulse rate 100 bpm, blood pressure 110/60 mmHg, fine crepitation at right lower lung, no hepatosplenomegaly, skin show pruritic papular eruption rash and no neurological deficit. A Chest radiograph showed consolidation at right middle lung (Figure 1). CT chest showed consolidation with minimal peripheral ground glass opacity at right middle lung. Sputum acid fast stain and PCR for TB were negative. Sputum modified acid fast was negative. Anti-HIV was positive and CD4 count was 24 cells/mm³. Urine LAM was positive. A bronchoalveolar lavage (BAL) was performed, BAL fluid for gram stain, AFB, PCR for TB were negative, but mAFB demonstrates positive filamentous branching beaded-like organism. The patient was treatment with co-trimoxazole and imipenem. CT Brain was performed, showed ring enhancing hypodense lesion size 1.4x1.1 cm. at left temporal lobe with surrounding vasogenic brain edema (Figure 2). The BAL fluid culture final report was *Nocardia* spp. The patient was given co-trimoxazole and imipenem for 4 weeks and discharged with oral co-trimoxazole. The final diagnosis was disseminated nocardiosis with advance HIV disease. After 3 months of co-trimoxazole, his chest radiograph was significant improvement.

Discussion

This case study highlights the false positive test result of LF-LAM testing and its impact on clinical decision-making in HIV TB co-infection. Clinical signs and symptoms should be correlated, and caution should be exercised in interpreting TB LAM results.

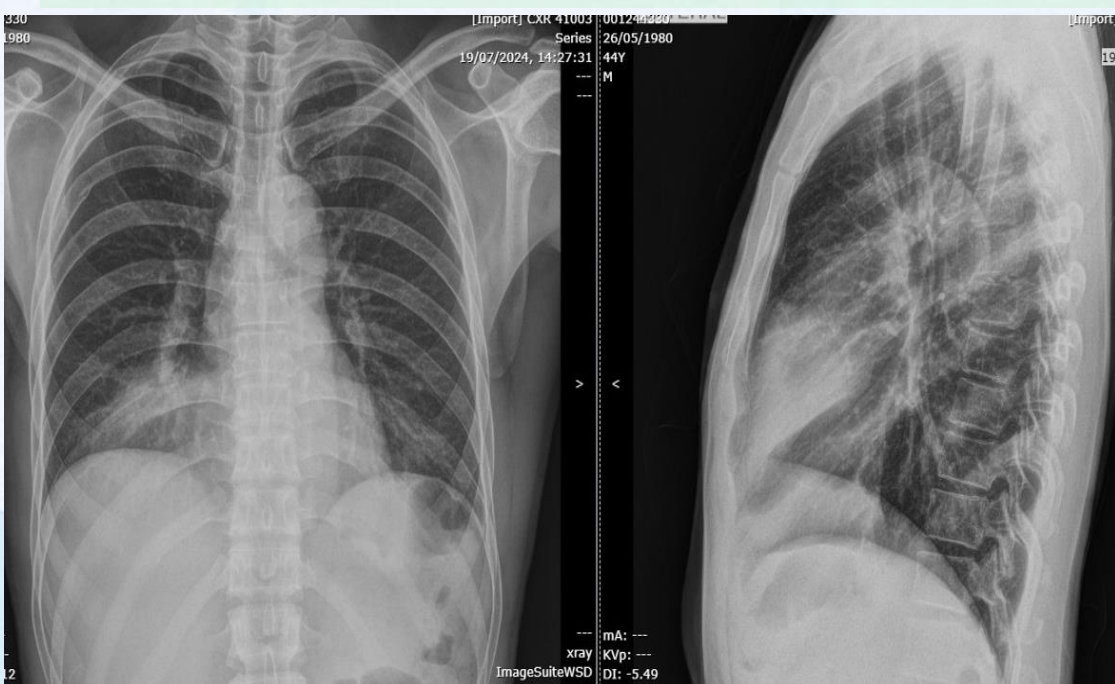


Figure 1: CXR showed consolidation at right middle lung

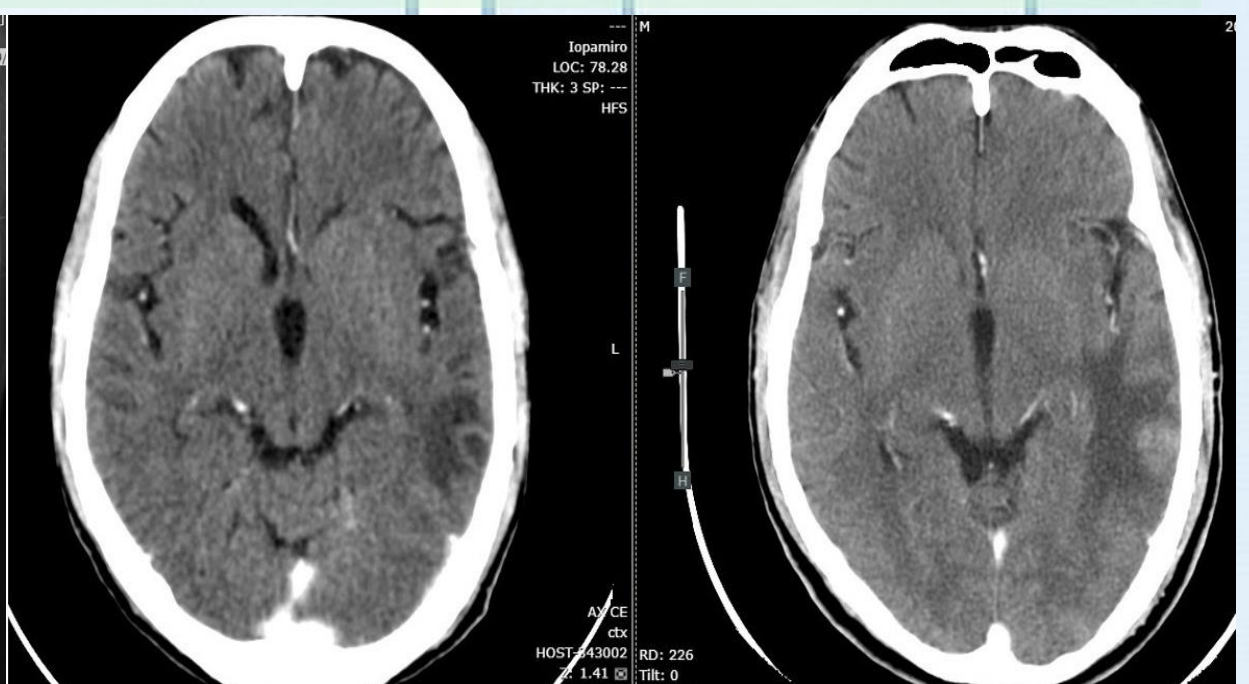


Figure 2: CT Brain showed ring enhancing hypodense lesion size 1.4x1.1 cm. at left temporal lobe with surrounding vasogenic brain edema and CT Brain after treatment 4 weeks showed decrease size of rim-enhancing lesion.