Tuberculosis and histoplasmosis diagnosis among people living with HIV/AIDS: the impact of using rapid diagnostics tests in Panama, 2017

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INTRODUCTION

The immunosuppression that characterizes people living with HIV/AIDS (PLHIV) promotes the development of opportunistic infections (OI). Progressive disseminated histoplasmosis (PDH) and tuberculosis (TB) are co-infections reported frequently among PLHIV in Latin America. This study describes the impact of the use of rapid diagnostics tests (RDTs) for OI detection in Panama.

METHODS

Between May 2017 and September 2017, a cohort of PLHIV with clinical suspicion of PDH were prospectively identified at the Santo Tomas Hospital in Panama City, Panama. Urine samples were collected prior to treatment and tested using a commercial monoclonal *Histoplasma* galactomannan (HGM) antigen capture ELISA (IMMY®, Norman, OK, USA) and The Alere Determine™ TB LAM (Alere™, Waltham, MA, USA), an immunochromatographic dipstick assay for detection of *Mycobacterium* lipoarabinomannan (TB-LAM).

HGM antigen capture ELISA

Alere Determine™ TB LAM

Figure 1. Flow chart of patients and samples tested

RESULTS

A total of 174 patients were identified with clinical suspicion of PDH with a median CD4 of 51 CD4 cells/ μ l and a viral load of 143,615 copies/ml. Urinary HGM was detected in 48 of 174 (28%) patients and urinary TB-LAM was detected in 39 of 174 (22%) patients. Concomitant HGM/TB-LAM was present in 18 of 174 (10%) patients, in whom a median CD4 of 34 cells/ μ l was observed. Based on antigen result, we observed that in the 48 patients with positive HGM, 18 (38%) tested positive for TB-LAM. Likewise, in 18 of the 39 (46%) patients with positive urinary TB-LAM tested positive for HGM (Figure 1).

CONCLUSIONS

We found a high proportion of PLHIV patients with PDH and TB. At least one opportunistic infection, such as PDH and TB, should be suspected in patients with an altered immune system like HIV/AIDS. Due to the similarity in the clinical presentation of PDH and TB, provision of adequate treatment is challenging. Rapid and accurate OI diagnosis can ensure proper treatment is provided adequately and timely to reduce mortality among PLHIV.

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