

International Conference on

Pulmonology and Critical Care Medicine

April 24-25, 2017 Las Vegas, USA

Evaluation of the benefit of different complementary exams in the search for a TB diagnosis algorithm for HIV patients put on ART in Niamey, Niger

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Statement of the Problem: In Niger, the tuberculosis (TB) screening among people living with human immunodeficiency virus (HIV) (PLHIV) is nonsystematic and the use of additional tests is very often limited. The objective of this research is to evaluate the performance and the cost-effectiveness of various paraclinical testing strategies of TB among adult patients with HIV, using available tests in routine for patients cared in Niamey.

Methodology & Theoretical Orientation: This is a multicentric prospective intervention study performed in Niamey between 2010 and 2013. TB screening has been sought in newly diagnosed PLHIV, before ART treatment, performing consistently: A sputum examination by MZN (Ziehl-Nielsen staining) and microscopy fluorescence (MIF), chest radiography (CR) and abdominal ultrasound. The performance of these different tests was calculated using sputum culture as a gold standard. The various examinations were then combined in different algorithms. The cost-effectiveness of different algorithms was assessed by calculating the money needed to prevent a patient, put on ART, dying of TB.

Findings: Between November 2010 and November 2012, 509 PLHIV were included. TB was diagnosed in 78 patients (15.3%), including 35 pulmonary forms, 24 ganglion and 19 multifocal. The sensitivity of the evaluated algorithms varied between 0.35 and 0.85. The specificity ranged from 0.85 to 0.97. The most cost effective algorithm was the one involving MIF and CR.

Conclusion: We recommend implementing a systematic and free direct examination of sputum by MIF and a CR for the detection of TB among newly diagnosed PLHIV in Niger. Centers to become trauma informed that would help this recognition.

Biography

Emmanuel Ouedraogo has expertise in the management of HIV and tuberculosis of adults and adolescents in low-income countries. He has acquired these experiences after years of clinical practice, program management and operational research both in hospitals and in health programs. He is a Doctoral graduate in General Medicine and he is also a Medical Specialist, Public Health Technician. He holds a Master of Science degree in the control of tropical diseases including HIV, tuberculosis, malaria and neglected tropical diseases. He also holds a Master's degree of Sciences, Technologies and Health.

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