MOAB0205 - Oral Abstract

TITLE
High prevalence of respiratory non-tuberculous mycobacteria respiratory infections in children living with HIV in South-East Asia

PRESENTER
Laurence Borand

AUTHORS
L. Borand1, A. de Lauzanne1, M. Inghammar1,2, V. Ung3, S. Chene4, T. H. Pham5, P. Msellati6, M. Tejiokem7, A.-S. Ouedraogo8, S. Godreuil9, C. Delacourt10, S. Blanche11, O. Marcy1,12, ANRS 12229 PAANTHER 01 Study Group

INSTITUTIONS
1 Institut Pasteur du Cambodge, Epidemiology and Public Health Unit, Phnom Penh, Cambodia. 2 Lund University, Department of Clinical Sciences, Section for Infection Medicine, Lund, Sweden. 3 University of Health Sciences, Planning and Research Faculty of Medicine, Phnom Penh, Cambodia. 4 Institut Pasteur du Cambodge, Mycobacteriology Laboratory, Phnom Penh, Cambodia. 5 Pham Ngoc Thach Hospital, Microbiology Department, Ho Chi Minh City, Vietnam. 6IRD, UMI 233 - TransVHMI, Abdijan, Cote D’Ivoire. 7 Centre Pasteur du Cameroun, Member of the Institut Pasteur International Network, Epidemiology and Public Health Service, Yaounde, Cameroon. 8 CHU-Souro-Sangou, Département des laboratoires, Bobo-Dioulasso, Burkina Faso. 9 CHU Montpellier, Bacteriology, Montpellier, France. 10 Necker - Enfants Malades Hospital - APHP, Pneumology, Paris, France. 11 Necker - Enfants Malades Hospital - APHP, Pediatric Hematology-Immunology, Paris, France. 12 Université de Bordeaux, Bordeaux Population Health - Centre INSERM U1219, Bordeaux, France

Background: Data on burden of Non Tuberculous Mycobacteria (NTM) and related Pulmonary Diseases are limited in HIV-infected children in developing countries. We investigated NTM respiratory infections (RI) prevalence, species distribution, and associated factors in HIV-infected children with a suspicion of tuberculosis in four countries in South-East Asia and Africa.

Methods: From 2011 to 2014, HIV-infected children 13 years with a suspicion of tuberculosis were included in the ANRS 12229-PAANTHER 01 study in Burkina-Faso, Cambodia, Cameroon and Vietnam after parental consent. Children underwent respiratory and stool samples for mycobacterial culture and molecular identification of species. Children with 1 analyzable sample in culture were included. NTM-RI was defined as 1 sample culture-positive for any NTM. Logistic regression models were used to identify factors associated with respiratory NTM or Mycobacterium avium complex (MAC) infections.

Results: Of 438 children enrolled, 427 had 1 analyzable sample. Median age was 7.3 years, with 212 (49.7%) male, 245 (57.4%) Asian, 267 (63.9%) underweight, 212 (51.1%) severely immuno-depressed, and 258 (60.4%) ART-naïve. Prevalence of culture-confirmed tuberculosis was 13% (55/427), including 5 co-infections tuberculosis/NTM. Prevalence of NTM-RI was 10.8% (46/427), 16.7% (41/245), and 2.8% (5/177), in all, Asian, and African children, respectively. MAC were isolated in 21/427 (5%) children overall and 17/125 (13.6%) children from Asian origin with severe immune-depression (CDC classification 2014). Majority of NTM patients with severe immune-depression were infected by MAC (n=17/19). In contrast, Mycobacterium fortuitum, scrofulaceum, interjectum, and gordonae were the most frequent species in non or moderately immuno-depressed children. Overall, South-East Asian origin (OR 7.2; 95%CI 2.5-21.1), age 5-9 yo compared to 0-2 yo (OR 10.1; 95%CI 2.3-44.8), and severe immune-deficit (OR 5.3; 95%CI 1.5-7.2) were factors independently associated with NTM-RI, CD4-T Lymphocytes count &LT; 50/mm3 (OR 9.8; 95%CI 3.6-26.5), and Asian origin (OR 16.5; 95%CI 2.2-126.1) were independently associated with MAC infection.

Conclusions: NTM-RI are frequent in HIV-infected children with presumptive tuberculosis in South-East Asia, not only as opportunistic infection in severe immuno-deficiency. NTM contribution to lung disease is unclear in a tuberculosis suspicion context. Empiric treatment for both tuberculosis and MAC may be relevant in most severely immuno-depressed HIV-children suspected of tuberculosis in South-East Asia.

More information