

## Etiology of respiratory tract infection among HIV/AIDS patients hospitalized at national hospital for tropical diseases

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**Background:** Respiratory tract infections is the leading cause of death among HIV infected patients in Vietnam.

**Methods:** We conducted a prospective cross-sectional study of 170 HIV/AIDS patients with clinical manifestations of respiratory tract and/or broncho aveolar lesions through chest X-ray films to identify the common agents by analyzing bronchoaveolarlavage (BAL).

**Results:** A total of 170 HIV/AIDS patients (138 male and 32 female) were involved in the study and 170 BAL samples had been taken for AFB, cultures and PCR. 148/170 (87.1%) patients had been diagnosed with RTIs with following agents: Mycobacterium tuberculosis 79/148 (53.4%), PJP 12/148 (8.1%), bacteria 59/148 (39.9%), fungi 54/148 (36.5%) and CMV 2/148 (1.4%). 52/148 (35.1%) patients had been isolated: the common concurrent infections are MTB-Fungi (16 patients), MTB-Bacteria (14 patients) and Bacteria-Fungi (11patients). Most patients had very low CD4+ count ( $80.4\% \leq 100 \text{ cells/mm}^3$ ; mean=74.6; SD=118.7; median=22). The most common bacteria were: Pseudomonas (P. aeruginosa, P. putida, P. pneumotropica) 15/59 (25.4%), Streptococcus (S.pneumoniae, S.pyogene) 11/59 (18.6%), Acinobacter (Aci.baumani, Aci.juni, Aci.minimus) 6/59 (10.2%), E. coli 3/59 (5.1%) and S. aureus 3/59 (5.1%). Other included: H. influenza 2/59 and each following spp have 1: Achromobacter xylooxidans, K. pneumoniae, Enterobacter clocae, Moraxella catarhalis, and Rhodococcus equi. Isolated fungal spp include: Candida albicans 32/54 (59.2%), Penicillium marneffeii 14/54 (25.9%), Aspergillus spp 4 (7.4%), Candida spp 3/54 (5.6%) and Cryptococcus neoformans 1/54 (1.9%).

**Conclusion:** Mycobacterium tuberculosis, bacteria (P. aeruginosa, P. putida, P. pneumotropica, S. pneumoniae, S. pyogene, and A. baumani) and fungi (Candida albicans and Penicillium marneffeii) are the common agents causing RTIs in HIV/AIDS patients. Because of advanced immune depression, patients may have concurrent infections in a moment.

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