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

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Abstract

Background

Respiratory tract infection is leading causes of death among HIV infected patients in Vietnam. Identification the agents caused RTIs is very important to give specific treatments leads to reduce mortality rate among HIV/AIDS patients suffering from RTIs.

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 indentify 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 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 2 differential agents at a moment: the common concurrent infections are MTB-Fungi (16 patients), MTB-Bacteria (14 patients) and Bacteria-Fungi (11patients). . Most patients have very low CD4+ count (80.4% $\leq$ 100cells/mm3; mean = 74.6; SD = 118.7; median = 22). The most common bacteria are: 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 xylosoxidans, K.pneumoniae, Enterobacter clocae, Moraxella catarhalis, and Rhodococcus equi. Isolated fungal spp include: Candida albicans 32/54 (59.2%), Penicillium marneffei 14/54 (25.9%), Aspergilus 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 Aci.baumani) and fungi (Candida albicans and Penicillium marneffei) are the common agents caused RTIs in HIV/AIDS patients. Because of advanced immune depression, patients may have concurrent infections in a moment.