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Poster Session III

Epidemiological and clinical studies on non-tuberculous mycobacteria

EPIDEMIOLOGY OF NONTUBERCULOUS MYCOBACTERIA AT A MEDICAL CENTER IN TAIWAN, 2000-2012

P. Hsueh¹, J. Chien², C. Lai³, W. Sheng⁴

¹Laboratory Medicine and Internal Medicine, National Taiwan University Hospital National Taiwan University College of Medicine, Taipei, Taiwan ; ²Internal Medicine, Chest Hospital Ministry of Health and Welfare, Tainan, Taiwan ; ³Internal Medicine, Chi-Mei Medical Center Liouying, Tainan, Taiwan ; ⁴Internal Medicine, National Taiwan University Hospital National Taiwan University College of Medicine, Taipei, Taiwan

Objectives: This study is aimed to investigate the changing epidemiology and possible risk groups of pulmonary infection or respiratory colonization due to nontuberculous mycobacteria (NTM).

Methods: This study was conducted at National Taiwan University Hospital (NTUH), a tertiary medical center with 2500-bed and 8000 daily clinical visits. By using the database of the Mycobacterial Laboratory of the hospital, all of the patients with positive cultures for NTM and tuberculosis (TB) from 2000 to 2012 were included and their demographic and clinical details are evaluated.

Results: During the 13-year study period, a total of 13,652 non-duplicate patients had positive cultures for mycobacteria from respiratory specimens. *Mycobacterium tuberculosis* (MTB) was isolated from 5,878 (43.1%) patients, and NTM were isolated from 7,774 (56.9%) patients. During the study period, a total of 823 patients had positive cultures for NTM from various extra-pulmonary specimens. A significant rise in the incidence of NTM isolation among all mycobacteria with year were noted ($P < 0.01$). The ratio of NTM isolations was found to be increasing with age in contrast to the isolation of MTB was decreasing with age ($P < 0.01$). Moreover, in contrast to the decreasing incidence of TB, the annual incidence of NTM diseases and colonization significantly increased with time ($P < 0.01$). Most of the NTM diseases and colonization developed in the group of age between 65 and 84, and the risk of NTM diseases was significantly increasing with age ($P < 0.01$). As for gender, NTM infection and colonization more commonly developed in male than female. The rate of different mycobacteria species infection/colonization varied according to gender, age groups, and medical departments.

Conclusions: In Taiwan, TB – endemic area, the frequency of NTM isolations among positive mycobacteria culture is significantly increasing in contrast to the decreasing trend of TB isolations. Moreover, the incidence of pulmonary NTM infection and colonization is rapidly increasing with time. This phenomenon was more evident among elderly patients, and male gender.