Abstract 2.1

Autoantibody to Interferon-gamma Associated with Adult-onset Immunodeficiency in Non-HIV Individuals in Northern Thailand

Panuwat Wongkulab¹, Jiraprapa Wipasa², Romanee Chaiwarith¹, Khuanchai Supparatpinyo¹,²
¹Department of Medicine, Faculty of Medicine, ²Research Institutes for Health Sciences, Chiang Mai University, Chiang Mai, Thailand.

Background: Autoantibody to interferon-gamma (IFN-γ) has been reported to be associated with adult-onset immunodeficiency in patients from Asian countries. This study aimed to determine the prevalence of autoantibody to IFN-γ among non-HIV patients in northern Thailand who were repeatedly infected with unusual intracellular pathogens.

Methods: A cross-sectional, case-control study was conducted between March 2011 and March 2012 at Chiang Mai University Hospital. 20 cases, non-HIV, aged 18-60 years, presented with at least 2 episodes of culture or histopathology proven opportunistic infections were enrolled. Controls comprised 20 HIV-infected patients and 20 healthy adults who were age- and sex-matched with cases. Enzyme-linked immunosorbent assay (ELISA) was used to detect the presence of antibody to IFN-γ.

Results: 11 participants in each group were female. The mean ages were 48.1 ± 6.4, 48.3 ± 6.3, and 47.1 ± 6.5 years among cases, HIV-infected, and healthy controls, respectively. The opportunistic infections among 20 cases included disseminated non-tuberculous mycobacterial (NTM) infection (19 patients), disseminated penicilliosis marneffei (12), and non-typhoidal Salmonella bacteremia (7). At the cutoff level of 99 percentile of control, the prevalence of autoantibody to IFN-γ were 100%, 0%, and 0%, among cases, HIV-infected, and healthy controls, respectively (p-value <0.001). The mean concentrations of antibody to IFN-γ were 3.279 ± 0.662 and 0.939 ± 0.630 O.D. among cases with and without active opportunistic infection, respectively (p-value <0.001).

Conclusions: In northern Thailand, autoantibody to IFN-γ was strongly associated with adult-onset immunodeficiency. The level of antibody to IFN-γ in patients who had active opportunistic infection was relatively higher than those without active infection.

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