Association of immune responses to mycobacterium tuberculosis peptide antigens with host genetic factors.

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Abstract

A polymerase chain reaction (PCR), based on insertion sequence IS6110, was developed to detect Mycobacterium tuberculosis complex organisms in the blood samples of 56 tuberculosis patients and 34 healthy controls. The early secreted antigenic target 6-KDa (ESAT-6) are used to stimulate T lymphocyte subsets from tuberculosis-infected patients and the correlation of these immune responses to the genetic factors (HLA type) which determined the host immune response is evaluated. ESAT-6 derived peptides: P1 (1.05+/-0.084), P2 (1.08+0.094), P3 (1.02+ 0.086), P5 (0.98+/-0.117) & P7 (1.26+/-0.152) were significantly higher in the infected group than in non-infected one. Besides, 33 patients and 12 controls were tested for HLA-DRB, HLA-DQB1 & HLA-DPB1. Only type HLA-DRB1*15 was significantly associated with tuberculosis infection using the Chi- square test (X(2)=0.04311). By using the relative risk, some HLA types were relatively more susceptible to be associated with tuberculosis infection. HLA-DR typing of patients showed that they covered a large spectrum of HLA-DR molecules encoded by HLA-DRB1, -DRB3, -DRB4, & -DRB5 genes. However, HLA-DQ typing showed that they covered the HLA-DQB1 molecules. HLA-DP typing of patients showed that they covered a large spectrum of HLA-DP molecules encoded by HLA-DPB 1.

***Keywords**: polymerase, Mycobacterium, HLA-DR*

Published In: J Egypt Soc Parasitol. 2006 Dec;36(3):889-910