Saxena et al. BMC Infectious Diseases 2012, 12(Suppl 1):P27
http://www.biomedcentral.com/1471-2334/12/S1/P27

BMC Infectious Diseases

POSTER PRESENTATION Open Access

Association of IFN-γ gene polymorphism and levels in HBV related disease chronicity in India

Roli Saxena[1], YK Chawla[2], Jyotdeep Kaur[1*]

From First International Science Symposium on HIV and Infectious Diseases (HIV SCIENCE 2012) Chennai, India. 20-22 January 2012

Background
Hepatitis B Virus (HBV) infection is a primary causative factor for hepatocellular carcinoma (HCC), the fifth most frequent cancer, worldwide. The present study evaluated the association of IFN-γ +874T>A polymorphism and its levels with HBV related HCC risk in Indian population.

Methods
Five groups of subjects were enrolled viz. control (n=146), HBV-carriers (n=68), chronic active HBV (n=64), HBV-cirrhotics (n=60) and HBV-related HCC (n=59). Allele-specific-PCR was performed to study various polymorphic forms of IFN-γ (+874) and blood levels were estimated by ELISA. Genotype distribution was compared using chi square analysis and the odds ratios (ORs) and 95% CI were calculated to express the relative risk.

Results
In IFN-γ (+874), the (TA) heterozygous genotype was found to be a significant risk factor for chronic-active hepatitis (OR=2.94, p<0.01) and HCC (OR=2.7, p<0.01) development, among controls and carrier groups, respectively. Similarly, the variant (AA) genotype, was also found to be significantly in positive association with HCC risk (p<0.01), among controls. Further, the spontaneous median IFN-γ levels were 151.09pg/mL in control population. While, the levels were significantly elevated (p<0.01) in HCC group (252.34pg/mL) in comparison to controls as well as other categories studied. However, no significant association was found between the genotype and the cytokine levels.

Conclusions
IFN-γ polymorphic forms and its levels share a strong association with HBV-HCC risk in Indian population and thus, should be further evaluated as a candidate gene to determine individual susceptibility for the same.

Author details
[1]Department of Biochemistry, Postgraduate Institute of Medical Education and Research, Chandigarh- 160 012, India. [2]Department of Hepatology, Postgraduate Institute of Medical Education and Research, Chandigarh- 160 012, India.

Published: 4 May 2012

doi:10.1186/1471-2334-12-S1-P27
Cite this article as: Saxena *et al.*: Association of IFN-γ gene polymorphism and levels in HBV related disease chronicity in India. *BMC Infectious Diseases* 2012 **12**(Suppl 1):P27.

* Correspondence: jyotdeep2001@yahoo.co.in
[1]Department of Biochemistry, Postgraduate Institute of Medical Education and Research, Chandigarh- 160 012, India
Full list of author information is available at the end of the article