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Quantitative estimation of interleukin-17 in patients with chronic liver disorders

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More than 20 years after the discovery of the HCV, it is now well established that HCV is of global importance affecting all countries, leading to a major global health problem that requires widespread active interventions for its prevention and control. Chronic hepatitis C was linked to the development of cirrhosis and hepatocellular carcinoma (HCC) in many areas of the world. WHO reported that Egypt has the highest prevalence (22%) in the world which explained by the past practice of parenteral therapy for schistosomiasis. T cells that produce IL-17 have recently been identified as a third distinct subset of effector T cells, and emerging data implicate Th17 cells as important in the pathogenesis of chronic hepatitis C infection by regulating innate and adaptive immunity, including autoimmunity. So the present study was conducted to determine the role of IL-17, with its potent pro-inflammatory properties, among chronic hepatitis C cases with or without cirrhosis and HCC aimed at future immune-therapy. The study was conducted on 60 subjects with chronic hepatitis C infection before starting antiviral therapy; 20 chronic hepatitis C, 20 cirrhotic patients and 20 HCC HCV positive as well as 10 healthy subjects negative for HCV, HBV and HIV served as controls. IL-17 was quantitated after mitogen stimulated whole peripheral venous blood by commercial enzyme linked immunosorbant assay (ELISA).Our results demonstrated a significant increase in serum levels of IL-17 among cirrhotic and HCC patients infected with HCV. While in chronic hepatitis C virus cases, elevated IL-17 values were non-significant compared to controls. It can be conclude that IL-17may play an important role in HCV immunopathogenesis. It might be used as an indicator for cirrhosis and HCC as it promotes tumor growth by facilitating angiogenesis in tumor microenvironment. Also, its therapeutic application needs to be furtherly evaluated by *in vivo* studies in experimental animals aiming at future immunotherapy.

Keywords: Chronic HCV, Cirrhosis, ELISA, HCC, Interleukin (IL)-17, T-helper 17 cell (Th17).

Biography

Noha A. Ghazy is a PhD student at the medical research institute (MRI) in Diagnostic and Molecular Microbiology. She had a master's degree in Medical Microbiology &Immunology from Alexandria University. Her current field is Lab quality assurance and lab accreditation officer keeping labs up to the international standards ISO 17025, ISO 15198 and the technical standards related to food, water and culture media preparation in central labs of Alexandria, Ministry of Health, Egypt. She is CLA quality manager, specialist in medical microbiology, food and water microbiology.

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