Genetic basis of Chronic Hepatitis C Virus and Autoimmune Hepatitis; a comparative study

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Background: 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.

Objectives: Susceptibility to infection has been related to immunological disturbances. HCV and autoimmune hepatitis have been associated with HLA A1, A6, A8, -DRB*01-*15 alleles.

Methods: HLA alleles were detected by sequence specific oligonucleotide probe (SSOP) using INNO-LiPA based on reverse hybridization after amplification of target HLA allele sequence by real time polymerase chain reaction (RT-PCR). The non-organ-specific antibodies include antinuclear (ANA), smooth muscle (ASMA), antimitochondrial antibody (AMA), Perinuclear antineutrophil cytoplasmic (pANCA), liver-kidney microsomal antibodies (LK/MA) and anticardiolipin antibodies (ACA) were all measured by commercial indirect immunofluorescence (IF). Clinical significance of these autoantibodies were analyzed in comparison to HCV load by real time polymerase chain reaction (RT-PCR) and genotype by 4 byline probe assay INNO-LiPA.

Conclusion: Current understanding of genetic basis (HLA alleles) of chronic HCV genotype 4 cases and autoimmune hepatitis cases free from HCV will aid a lot in treating both types of hepatitis using successful line of therapy as early as possible to save money and side effects of wrong medications.

Keywords: HCV genotype 4, HCV viral load, RT-PCR, INNO-LiPA, autoantibodies, IF HLA alleles, SSOP.

Genomic characterization of the Staphylococcus epidermidis-specific bacteriophage SEP1 and evaluation of its lytic activity against bacterial under different metabolic states

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Staphylococcus epidermidis is one of the most frequent causative agents of nosocomial infections, predominantly in patients with indwelling medical devices. This microorganisms may form biofilms which are microbial structures very tolerant to the host immune defenses and to antibiotherapy. Therefore, studies are needed in order to develop effective methods for biofilm control. Currently, bacteriophages (phages) are seen as an important tool to combat pathogenic organisms. These bacteria-specific viruses are generally very efficient antibacterial agents and possess many advantages over antibiotics. The present study concerns the search for virulent phages with broad host range for treating both types of hepatitis using successful line of therapy as early as possible to save money and side effects of wrong medications.

Keywords: bacteriophage, Staphylococcus, S. epidermidis, staphylococci, biofilms.