Is There a Role for Immunotherapy in Controlling Hepatitis C Virus Infection?

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Infection with hepatitis C virus (HCV) represents a major global healthcare problem. HCV causes chronic infections that are associated with development of liver diseases ranging from mild liver inflammation to hepatocellular carcinomas. The prevalence of HCV infection is steadily increasing and currently no vaccine is available. Only a subset of HCV patients responds to the combination therapy of pegylated interferon alpha and ribavirin which exerts substantial side effects. A significant number of patients do not respond to therapy or relapse following treatment discontinuation. Consequently, morbidity and mortality rates due to chronic HCV infection are predicted to rise and more effective and tolerable therapies are urgently needed.

Novel immune-based therapies are actively being developed to complement or replace standard HCV treatments. Among those, passive immunotherapy has been proposed to be effective in controlling HCV infection. Neutralizing monoclonal antibodies directed against selected HCV epitopes may be advantageous against the highly mutating virus. Passive immunotherapy is predicted to prevent reinfection of liver grafts in HCV liver transplant patients, reduce viral load in chronic HCV patients, and serve as a prophylactic measure in post-exposure events. However, expanded use of HCV therapeutic antibodies will depend on improvements in their avidity and specificity, demonstration of their safety, and reduction of their immunogenicity. This workshop aims to cover the following topics: (1) current clinical status of HCV in Egypt, (2) the potential of immunotherapy in controlling HCV infection, and (3) strategies for development of humanized recombinant antibodies against HCV.

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