

Breakthroughs in Research for Hepatitis B

About 400 million in the world are chronic hepatitis B virus (HBV) carriers, of these, 75% are Chinese. 25-40% of the carriers will die of cirrhosis and liver cancer, the age of incidence is around 55.

Recent studies conducted by hepatologists of the Faculty of Medicine, The University of Hong Kong, revealed that, one crucial step in hepatitis B virus (HBV) life cycle was the formation of a covalently closed circular form of the viral genome inside the nuclei of hepatocytes. Covalently closed circular DNA (cccDNA) provides the template for reproduction of HBV and is almost inactive except during the reproduction, thus it is particularly hard to locate and suppress. The Faculty has found that as the hepatitis B progresses and the viral load decreases, the hepatitis B virus is predominantly in the form of cccDNA, making eradication of the virus potentially very difficult.

The hepatologists are also currently investigating a few more potent nucleoside analogues such as Entecavir, Telbivudine and LB80380. Phase III studies have shown that Entecavir and Telbivudine have 10-100 times stronger effects than mixed treatment of Lamivudine and Adefovir.

Besides, the Faculty has involved in the world's longest follow-up study on the immunogenicity and protective efficacy of the HBV vaccines, it is found that no booster dose is required for continued protection of vaccine recipients at least up to 18 years, due to the memory response of the human immune system.