Latest research from the Hepatology team, The Chinese University of Hong Kong (CUHK)

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The Liver Meeting® 2016 is the 67th Annual Meeting of the American Association for the Study of Liver Diseases (AASLD), which is held on 11-15 November, 2016 in Boston, the USA. The Hepatology team, The Chinese University of Hong Kong (CUHK) is going to present the following work.

1. Poster presentation 1248: Year 2 serum HBV DNA detectability predicts hepatocellular carcinoma in entecavir-treated patients - a 7-year cohort study of 1,680 patients with chronic hepatitis B

   The optimal timing to completely suppress serum HBV DNA is never clearly established. The latest AASLD guidelines for chronic hepatitis B (CHB) define persistent viremia as a plateau in the decline of hepatitis B virus (HBV) DNA and/or failure to achieve undetectable HBV DNA level after 96 weeks of antiviral therapy. Whether serum HBV DNA negativity at this time point at around 2 years of antiviral therapy, or at any other time point, can be translated into clinical meaning is yet to be ascertained. In a retrospective-prospective single-institution cohort study of 1,680 CHB patients, we examined the clinical impact of persistent viremia with respect to incident hepatocellular carcinoma (HCC). All recruited patients had received at least 3 years of entecavir treatment. The cumulative incidences of HCC in patients who could and could not achieve serum HBV DNA negativity at five annual time points were estimated. After a mean follow-up duration of more than 6.5 years, 150 (8.9%) patients developed HCC in this cohort with one-fourth cirrhotic. Detectable HBV DNA after 2 or 3 years of antiviral therapy independently predicted HCC. Patients who had detectable HBV DNA at Year 2 but subsequently got it suppressed at Year 4 had significantly lower risk of HCC than those with detectable HBV DNA at both Year 2 and Year 4. Our findings supported the latest AASLD guideline to define persistent viremia at the time point of 96 weeks. This also leads to further studies to explore the optimal antiviral treatment regime for patients who failed to achieve complete viral suppression after 2 to 3 years of antiviral therapy.

2. Poster presentation 1860：4-year outcomes after cessation of tenofovir in immune-tolerant chronic hepatitis B patient

Immune-tolerant phase of chronic hepatitis B (CHB) is characterized by positive HBeAg, normal serum alanine aminotransferase (ALT), very high HBV DNA level, and minimal histological inflammation and fibrosis. The latest AASLD guidelines for chronic hepatitis B (CHB) did not recommend antiviral treatment for patients in this phase, mainly because of low risk of disease progression and complications and doubtful benefits from treatment. Furthermore, a significant proportion of such patients remains viremic despite the use of potent antiviral agents because of extremely high baseline viral load, as well as HBeAg seroconversion is rarely achieved. Therefore, we studied the outcomes of a well-characterized cohort of patients in immune-tolerant phase who received potent antiviral agents, tenofovir disoproxil fumarate (TDF) and TDF plus emtricitabine (FTC), for 4 years and were followed for another 4 years after treatment cessation. We evaluated the safety of stopping antiviral drugs in these patients and determined if this approach could induce HBeAg seroconversion and viral control. Twenty-one patients had completed 192 weeks of TDF±FTC treatment. The baseline HBV DNA level was high at 8.41±0.34 log IU/ml and all patients had normal ALT at baseline. Five patients still had detectable HBV DNA at 2.14±0.38 log IU/ml (range 1.64 to 2.63 log IU/ml). None of the patients achieved HBeAg seroconversion during the treatment period. After stopping TDF±FTC for 4 weeks, all 20 patients who had stopped antiviral treatment had virological relapse. Three (15%) patients developed HBeAg seroconversion at the end of the follow-up period (Figure 2A). Two of them had HBV DNA below 6 log IU/ml despite no retreatment. In conclusion, virological relapse is universal after stopping TDF±FTC in patients with immune-tolerant chronic hepatitis B. Based on the results, our findings support withholding antiviral treatment among immune-tolerant patients with positive HBeAg, high HBV DNA and normal ALT level. If temporary antiviral therapy is needed (e.g. during pregnancy), a drug with high genetic barrier to resistance should be used. Before stopping antiviral therapy, it would be helpful to perform non-invasive test of fibrosis to exclude significant liver disease.