

Incidence of HCC after HBsAg seroclearance; comparison between spontaneous and antiviral treatment

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Background/Aims: Hepatitis B surface antigen (HBsAg) seroclearance is regarded as a functional cure of chronic hepatitis B virus (HBV) infection. However, some studies reported hepatocellular carcinoma (HCC) development even for patients with HBsAg seroclearance. We evaluated the risk of HCC after HBsAg seroclearance. **Methods:** A retrospective cohort of 533 chronic HBV infected patients (median age: 56 years, male: 419 (78.6%)) who achieved HBsAg seroclearance was analyzed. Primary end outcome was development of HCC after HBsAg seroclearance. Among them, 128 patients were antiviral induced HBsAg seroclearance, while 490 patients were spontaneously induced cases. **Results:** During follow-up, five patients developed HCC after HBsAg seroclearance. The median time to develop HCC was 6.1 years (range: 1.6–9.4 years). All patients who developed HCC were men, median age at HBsAg seroclearance was 57 years (range: 55-64), and four patients were antiviral induced cases. Overall annual HCC incidence rate was 0.23%. When patients were categorized by antiviral-induced or spontaneous-induced groups, the annual incidence rate were higher in antiviral-induced group (0.92% vs 0.06%, $p=0.00$). Notably, HCC development was noticed for non-cirrhotic patient who achieved HBsAg seroclearance by antiviral therapy, with annual incidence rate of 0.61%. **Conclusions:** Although HCC risk after HBsAg seroclearance was minimal, some of patients developed HCC, indicating risk stratification and HCC surveillance might be helpful in selected patients who achieved HBsAg seroclearance. HCC risk was higher for antiviral-induced patients, and HCC development was noticed even in absence of liver cirrhosis in these patients.

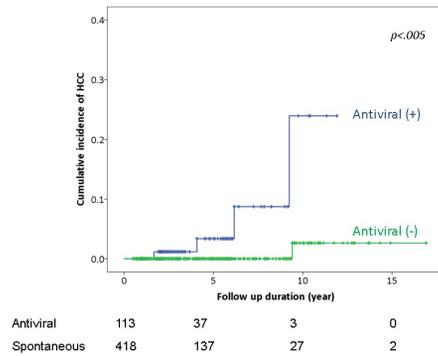


Figure. Comparison of HCC risk by antiviral induced vs. spontaneous induced HBsAg seroclearance

Statin use and the risk of hepatocellular carcinoma in patients with chronic hepatitis

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Background/Aims: Statins have pleiotropic effects including pro-apoptotic, anti-angiogenic and immunomodulatory effects, which may exert chemoprevention. Several observational studies have suggested that statins may prevent hepatocellular carcinoma (HCC), but have not yet been fully studied. This study aimed to investigate the association between the use of statins and the risk of HCC in chronic hepatitis B virus infected patients. **Methods:** A hospital-based retrospective study was conducted from 7,714 chronic hepatitis B infected patients enrolled between January 2008 and December 2012. Primary outcome was development of HCC. Patients who had taken statin at least 28 cumulative defined daily dose (cDDD) during follow-up were defined as statin users, and who had taken statin less than 28 cDDD were defined as statin non-users. 745 patients were included in the statin user group and 6969 patients were included in statin non-user group. Association between statin use and the risk of HCC were analyzed. **Results:** During a median follow-up of 7.2 years (min-max: 0.5-9.7 years), HCC was newly developed in 702 patients (9.1%). Statin users showed lower cumulative incidence rate of HCC development compared with statin non-users (8.0% vs 2.1% at 5-years, $p<0.001$). When stratified according to cirrhosis status, 5-years cumulative incidence rate of HCC was higher for those who did not use statin compared to those who used statin among patients with cirrhosis (20.2% vs. 5.0%, $p=0.014$, $n=1,856$) and patients without cirrhosis (3.8% vs. 1.8%, $p=0.001$, $n=5,858$). **Conclusions:** Statin use was associated with reduce risk for HCC development in chronic hepatitis B patients, regardless of cirrhosis status. Statin treatment may decrease HCC risk, which warrants prospective validation.

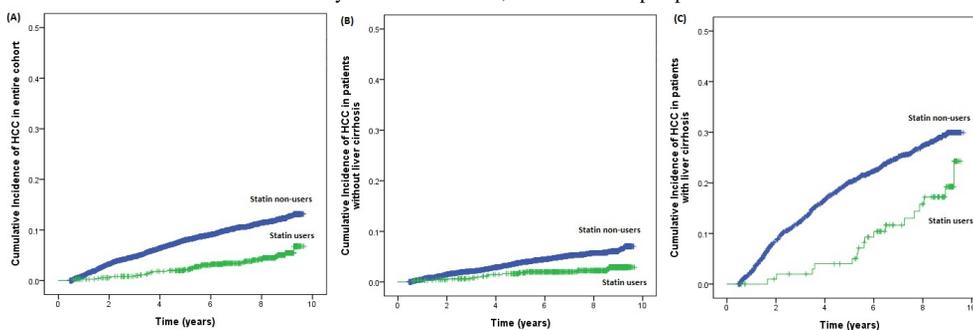


FIG.1. Kaplan-Meier estimates of cumulative incidence of HCC in the entire cohort. (A) Cumulative incidence of HCC in the entire cohort : statin users versus statin non-users ($P < 0.001$ by log-rank test). (B) Cumulative incidence of HCC according to statin use in patients without liver cirrhosis ($P = 0.001$ by log-rank test). (C) Cumulative incidence of HCC according to statin use in patients with liver cirrhosis ($P = 0.014$ by log-rank test).