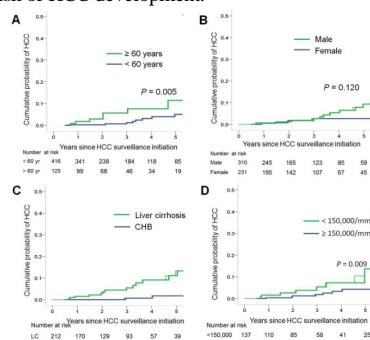


## Incidence of Hepatocellular carcinoma in Korean screenee with chronic hepatitis B

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**Background:** To optimize efficacy of National Liver Cancer Screening Program (NLCSP) for subjects with HBsAg positive, it is crucial to know the incidence of HCC and its predisposing factors in the program. **Methods:** From January 2010 to December 2014, all the HBsAg positive participants who received at least two or more abdominal ultrasonography under NLCSP were retrospectively enrolled in a single tertiary hospital. Annual incidence of HBV-related HCC was calculated and related clinical factors were investigated. **Results:** During 5 years, 541 subjects were enrolled. Liver cirrhosis was diagnosed in 212 (39.2%) by ultrasonography or upper endoscopy. Esophageal varices were found in 63 (14.8%). Total bilirubin, albumin, platelets, and aminotransferases were normal in most subjects. HBV DNA were less than 2,000 IU/mL in 356 subjects (79.6%). Mean follow-up time was 2.4 years and 16 new HCCs were diagnosed. Annual incidence of HBV-related HCCs were 980 per 100,000 patient year (1% per year). Subjects more than 60 years old (2.2% per year) had higher risk of HCC development than those under 60 years (0.6% per year,  $p < 0.005$ ). Presence of LC (2.2% per year) also showed higher risk of HCC than LC-free state (0.2% per year,  $p < 0.0001$ ). In cirrhotic patients over 60 years old, the incidence increased up to 3.8% per year. **Conclusions:** Despite of high rate of antiviral therapy, incidence of HBV-related HCC is not low in participant of NLCSP in Korea. Old age and presence of LC are associated with higher risk of HCC development.



**Figure** Cumulative incidence of HCC in subjects with HBsAg positive who participated in National Liver Cancer Screening Program in Korea. Cumulative incidence by age groups (A), gender (B), liver disease severity (C) and platelet groups (D). CHB, chronic hepatitis B without cirrhosis

## Comparison of survival between screen-detected and symptom-detected HCC patients

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**Background:** Hepatocellular carcinoma (HCC) surveillance has been recommended to increase the chance of treatment at an early stage. However, there is still debate about the effectiveness of screening for asymptomatic individuals at risk for HCC. The aim of this study is to evaluate the usefulness of HCC screening, and to quantify the difference between survival rates of screen-detected and symptom-detected HCC cases. **Methods:** A total of 2886 newly diagnosed HCC patients [male: 2,323 (80.5%), hepatitis B virus: 2,217 (76.8%)] were analyzed and divided into two groups: screen-detected (79.6%) and symptom-detected. **Results:** During a median follow-up of 29 months, there were 753 (26.1%) deaths for the entire cohort. For the symptom-detected group, the 5-year survival rate was 40.5% and the median survival time was only 21.0 months, whereas the 5-year survival rate was 75.5% in the screen-detected group. Patients in the symptom-detected group demonstrated significantly worse survival compared with those in the screen-detected group ( $p < 0.001$ ). When we performed subgroup analysis according year of diagnosis (2010 to 2011 vs. 2012 and later), HCC Patients who were diagnosed in 2012 or later, had significantly more favorable survival compared with those diagnosed earlier (3-year survival rate, 84.4% vs. 73.1%,  $p < 0.001$ ). **Conclusions:** This study indicates that screening for asymptomatic individuals at risk for HCC may greatly enhance survival compared with symptomatic diagnosis, and the impact of screening on survival has been considerable in recent years.

