

# THE CORRELATIONS BETWEEN HBV MARKERS IN SERA AND HBV ccc DNA in VARIOUS DISEASE STATES

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## BACKGROUND

It is well known that Hepatitis B core related antigen (HBcrAg) is linked to quantified Hepatitis B virus (HBV) covalently closed circular (ccc) DNA in treatment naive patients with chronic hepatitis B (CHB). However, it remains unknown as to whether similar correlation exists in each disease state.

## OBJECTIVE

We investigated the association in each disease state, HBV markers in sera, and HBV ccc DNA in liver tissue.

## MATERIALS & METHODS

Intrahepatic HBV ccc DNA was quantified using specimen obtained by liver biopsy or from excised liver tissue, and serum HBV markers such as HBcrAg, HBV DNA and HBsAg were also quantified. Correlation between the HBV ccc DNA and serum HBV marker was evaluated in each disease state. We defined F2, F3 and F4 by new inuyama classification as progression of hepatic fibrosis.

## RESULTS

A total of 78 HBV infected patients were enrolled in this study. Among them, 42 patients had progression of hepatic fibrosis and 26 had HCC. 35 patients were during NA treatment. The median HBV ccc DNA levels was 3.55 log copies/ $\mu$ g. The median levels of HBV markers in sera, namely HBV DNA, HBcrAg and HBsAg were 4.20 log copies/ml, 4.45 logU/ml and 3.02 logIU/ml, respectively. HBV ccc DNA and HBV DNA were significantly lower in fibrosis patients than without fibrosis patients. Furthermore, those were lower in patients with HCC. HBV ccc DNA, HBV DNA and HBcrAg were lower in patients during NA treatment. The median ratio of HBcrAg to HBV ccc DNA was higher in fibrosis patients. While the median ratio of HBV DNA was lower, the median ratio of HBsAg tended to be higher in patients with HCC.

## CONCLUSIONS

HBV markers were different in each disease state. The level of HBV DNA and HBV ccc DNA decreased with the developing disease state.

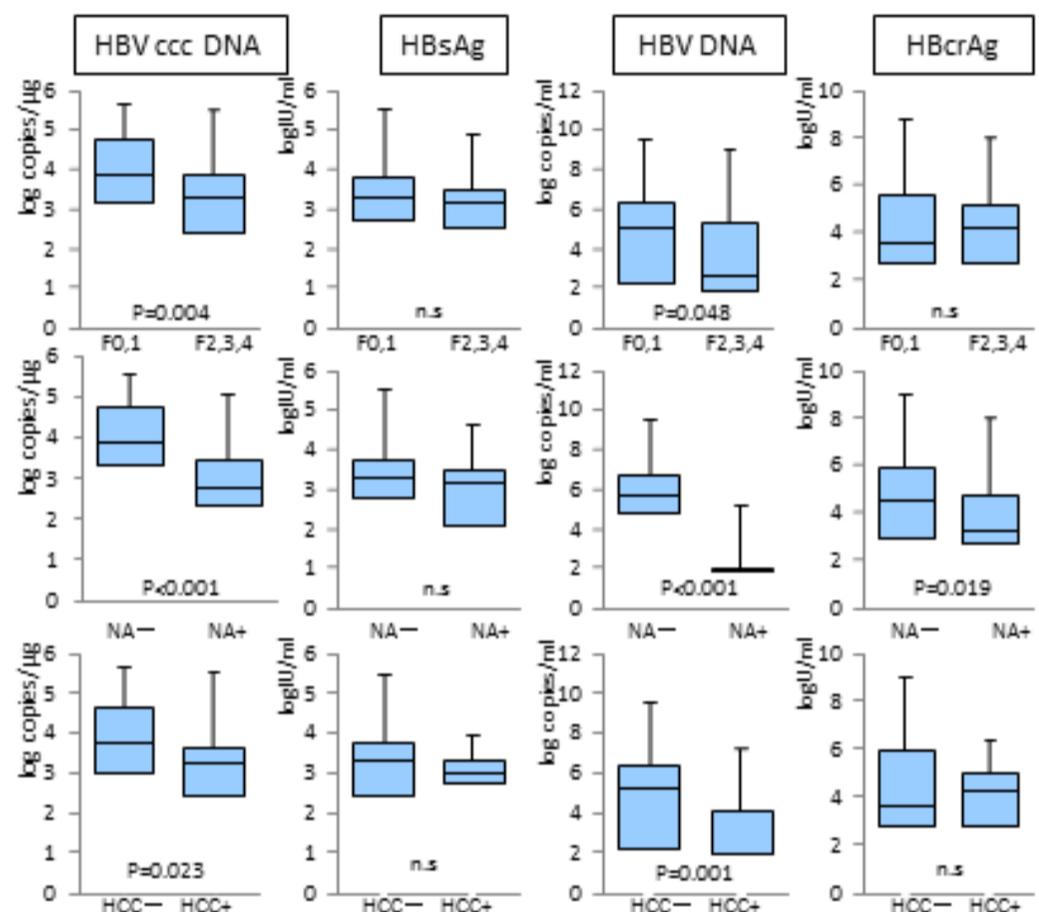


Figure1: The HBV cccDNA and serum HBV marker in each disease state.

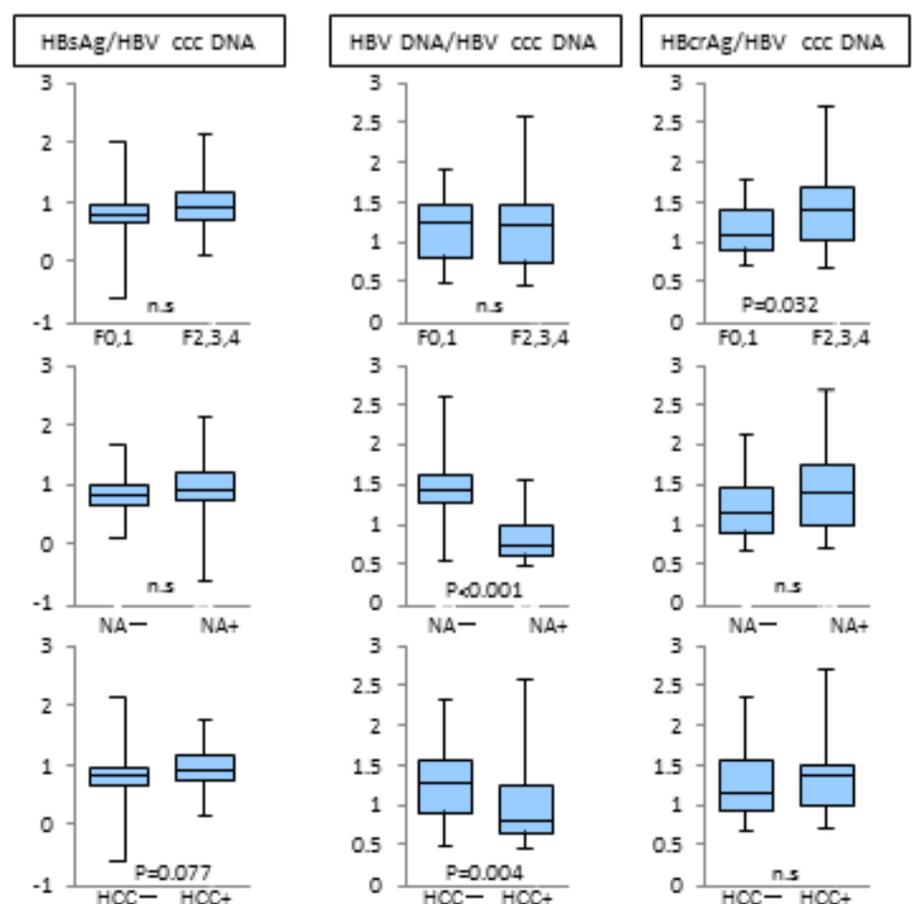


Figure2: The median ratio of HBV markers to HBV cccDNA in each disease state