Dynamic Change of Quantitative Hepatitis B Virus Surface Antigen Level during Off-treatment Follow Up in Chronic Hepatitis B Patients

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Background

The optimal off-treatment follow up remains unclear after nucleoside/ nucleotide analogues (NA) discontinuation in chronic hepatitis B (CHB) patients. This retrospective study is to investigate role of dynamic qHBsAg level in off-treatment follow up within CHB patients. And further explore relation between qHBsAg and HBV DNA in patients' with different off-treatment response.

Methods

A total of 34 patients with CHB who discontinued antiviral therapies were retrospectively reviewed. Patients were classified into two groups: sustained off- treatment biochemical response (SBR) and clinical relapse (CR) by the results of follow up. CR group consists patients who had a serum ALT level elevated > two times upper normal limit and a serum HBV DNA level >2000 IU/mL during off treatment follow up. SBR group consisted of patients who had normalization of ALT level up to 12 months of follow-up duration.

Results

Baseline characteristics of all 34 patients were summarized in Table 1. During off-treatment follow up, there were sixteen patients developed clinical relapse, with a mean duration to CR was 6.5 months. And there was continuous declined of qHBsAg level in SBR group (*Figure 1a)*. We also found an increase of qHBsAg level during flare in CR groups (*Figure 1b*), which was significant correlated with the corresponding HBV DNA level (r = 0.78, *P* < 0.001; *Figure 2*).

Conclusions

Quantitative HBsAg could be a good marker for monitoring clinical relapse and may thus be used more frequently during off-treatment follow up in CHB patients.

Table 1: Baseline characteristics of CHB patients

	All (n=34)	SBR (n=18)	CR (n=16)	*p-value*
Age (years)	46.6±9.1	45.0±9.6	48.3±8.5	*0.315*
Male, n (%)	25 (73.5%)	14 (77.8%)	11(68.8%)	*0.551*
HBeAg positive, n(%)	20 (58.8%)	10(55.6%)	10(62.5%)	*0.681*
Baseline ALT (IU/L)	437±630	403±648	476±630	*0.746*
Baseline qHBsAg (log $_{10}$ IU/mL)	3.44±0.75	3.60±0.88	3.23±0.51	*0.178*
Baseline HBV DNA (log $_{10}$ IU/mL)	6.75±1.19	7.00±1.17	6.44±1.19	*0.197*
EOT HBsAg (log $_{10}$ IU/mL)	2.79±0.97	2.72±1.26	2.88±0.50	*0.650*
EOT HBV DNA (log $_{10}$ IU/mL)	1.54±1.36	1.40±1.22	1.71±1.61	*0.517*

Figure 1a: SBR patients

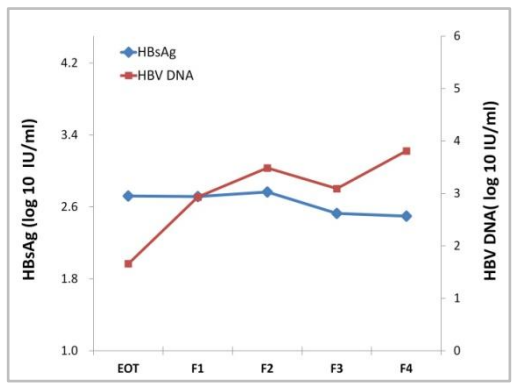

Figure 1b: CR patients

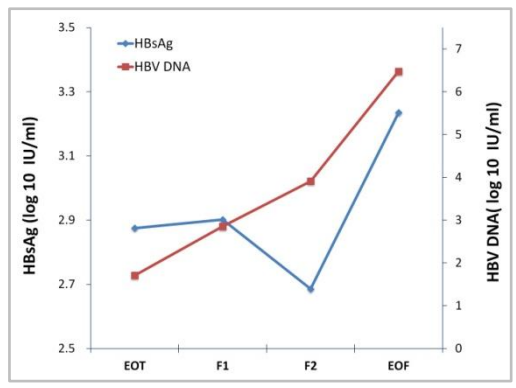

Figure 2: Correlation of HBsAg and HBV DNA in CR patients