

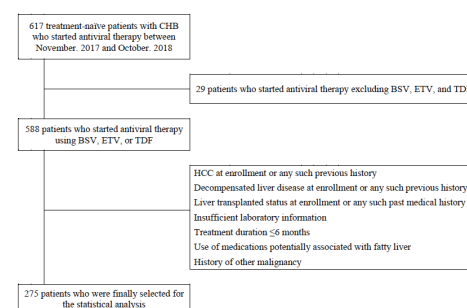
# Effect of besifovir dipivoxil maleate combined with L-carnitine in patients with chronic hepatitis B

<sup>1</sup>세브란스병원 내과, <sup>2</sup>세브란스병원 소화기내과, <sup>3</sup>연세대학교 의과대학

\*김문현<sup>1</sup>, 김승업<sup>1,2</sup>, 김범경<sup>1,2</sup>, 박준용<sup>1,2</sup>, 김도영<sup>1,2</sup>, 정연우<sup>3</sup>, 안상훈<sup>1,2</sup>, 한광협<sup>1,2</sup>

**Background/Aims:** Besifovir dipivoxil maleate (BSV) with L-carnitine is the first-line antiviral agent for chronic hepatitis B (CHB) infection. We investigated whether BSV combined with L-carnitine improves hepatic steatosis (HS). **Methods:** Treatment-naïve patients with CHB who were initiated on antiviral therapy (AVT) were enrolled. The magnitude of HS was assessed using hepatic steatosis index (HSI), and the hepatic fibrosis degree was assessed using fibrosis-4 (FIB-4) index. HS improvement was defined as a  $\geq 10\%$  reduction in the HSI score from the baseline. **Results:** The mean age of the study patients was 56 years with a male predominance ( $n=178$ , 64.7%). The mean body mass index (BMI), aspartate aminotransferase (AST), alanine aminotransferase (ALT), and platelet count were 23.5 kg/m<sup>2</sup>, 49.6 IU/L, 49.0 IU/L, and 191.3  $\times 10^9$ /L, respectively. The mean HSI and FIB-4 index were 32.6 and 0.5, respectively. After 6 months of AVT, platelet count (mean, 191.3  $\rightarrow$  167.0  $\times 10^9$ /L), fasting glucose (mean, 113.1  $\rightarrow$  105.9 mg/dL), AST (mean, 49.6  $\rightarrow$  28.0 IU/L), ALT (mean, 49.0  $\rightarrow$  33.9 IU/L), and total cholesterol (mean, 170.0  $\rightarrow$  162.1 mg/dL) levels significantly decreased (all  $p < 0.05$ ). In the BSV group, AST (mean 95.2  $\rightarrow$  30.2 IU/L) and ALT (mean 81.1  $\rightarrow$  31.1 IU/L) levels significantly reduced (all  $p < 0.05$ ), whereas HSI and FIB-4 index were maintained (all  $p > 0.05$ ). In the univariate analysis, age, BMI, diabetes, cirrhosis, fasting glucose level, and ALT were significantly associated with HS improvement (all  $p < 0.05$ ). **Conclusions:** BSV with L-carnitine did not show any improvement of HS in patients with CHB. Further prospective randomized controlled studies are needed to validate the potential beneficial effects of BSV with L-carnitine in CHB patients with hepatic steatosis.

Figure 1. Recruitment and follow-up algorithm



CHB, chronic hepatitis B; BSV, besifovir; ETV, entecavir; TDF, tenofovir.