Effect of hepatitis B virus on steatosis in hepatitis C virus co-infected subjects: A multi-centre study and systematic review


It remains unclear whether hepatitis B virus (HBV) infection may modify the severity of viral steatosis in patients coinfected with chronic hepatitis C virus (HCV). We examined the influence of coinfection with HBV on prevalence of steatosis in chronic hepatitis C in a multi-centre cohort of HBV-HCV subjects, and by performing a systematic review and meta-analysis of the literature. We centrally and blindly assessed steatosis prevalence and severity in a cohort of HBV-HCV coinfected subjects compared to HCV and HBV monoinfected controls and we performed a systematic review of studies addressing the prevalence of steatosis in HBV-HCV subjects compared to HCV controls. In the clinical cohort, we included 85 HBV-HCV, 69 HBV and 112 HCV subjects from 16 international centres. There was no significant difference in steatosis prevalence between the HBV-HCV and the HCV groups (33% vs 45%, P = .11). In subgroup analysis, lean HBV-HCV subjects with detectable HBV DNA had less steatosis than lean HCV subjects matched for HCV viremia (15% vs 45%, P = .02). Our literature search identified 5 additional studies included in a systematic review. Overall, prevalence of steatosis > 5% was similar in HBV-HCV infection compared to HCV (pooled odds ratio [OR] 0.91, 95% CI 0.53-1.6) although there was significant heterogeneity (I² 69%, P = .007). In conclusion, although the prevalence of steatosis is similar in HBV-HCV compared to HCV subjects, our analysis suggests that there may be an inhibitory effect of HCV-induced steatogenesis by HBV in certain subgroups of patients.