

Evaluating Testing Patterns and Prevalence Estimates of Hepatitis B Virus and Latent Tuberculosis Co-Infection From 2016 to 2020: A National Clinical Laboratory Database Analysis

Background

- Patients with latent tuberculosis infection (LTBI) have increased risk for drug-induced liver injury (DILI) during treatment if they have also have chronic hepatitis B.¹
- Screening patients for hepatitis B before initiating LTBI treatment may reduce the risk of drug-induced liver injury.
- However, how often patients with LTBI are tested for hepatitis B, and the prevalence of coinfection, is not well understood.
- **Objective:** This study used a national clinical laboratory database to examine the frequency of hepatitis B screening and the prevalence of LTBI/hepatitis B virus (HBV) coinfection.

Methods

- The investigators retrospectively analyzed test results in the Quest Diagnostics database from 2016 through 2020.
 - Chronic hepatitis B was defined as 2 positive results ≥ 6 months apart for any combination of hepatitis B surface antigen test, hepatitis B e antigen test, or HBV DNA test.
 - LTBI was defined as a positive QuantiFERON or T-SPOT[®] test in the absence of laboratory evidence of active TB infection.
- The frequencies of hepatitis B screening and prevalence of LTBI/HBV coinfection were estimated.
- Among LTBI patients, the prevalence of HBV coinfection was stratified by age, sex, and race/ethnicity with chi-square testing for comparisons between groups.

Results

- From 2016 through 2020, laboratory testing for hepatitis B was conducted for 17,635,261 individuals.
 - Among those individuals, the overall prevalence of chronic hepatitis B was 0.51% (95% CI, 0.50-0.51).
- Among 394,817 patients who had LTBI, 127,414 (32.3%) were tested for hepatitis B.
- Among those tested for both LTBI and hepatitis B, coinfection was more common (all $P < .01$) among
 - Men (1.9%) vs women (1.2%)
 - Those 50 to 69 years of age (1.8%) vs those 18 to 29 years of age (0.6%)
 - Asian Americans (2.7%) vs non-Hispanic Whites (1.4%)
- Chronic hepatitis B was approximately 3 times more common among patients with LTBI (1.45%) than among those without (0.45%; $P < .01$).

Conclusions

- Testing for chronic hepatitis B was suboptimal (32.3%) among US patients with LTBI.
- The prevalence of chronic hepatitis B was 3 times higher among individuals with LTBI than among those without LTBI.
- These findings indicate an opportunity to reduce the risk of drug-induced liver injury among patients with both LTBI and chronic hepatitis B.

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Reference

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