

Statin use and risk of cirrhosis and related complications in patients with chronic liver diseases: A systematic review and meta-analysis

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This meta-analysis aimed to assess the association between statins and risk of cirrhosis and related complications in patients with chronic liver diseases (CLDs). In patients with CLDs, statin use is probably associated with lower risk of hepatic decompensation and mortality and might reduce portal hypertension. To confirm this observation, prospective observational studies and randomized controlled trials are needed.

Methods

- The researchers identified 13 studies (3 randomized trials, 10 cohort studies) in adults with CLDs, reporting the association between statin use and risk of development of cirrhosis, decompensated cirrhosis, improvements in portal hypertension, or mortality through a systematic literature search up to March 2017.
- Using a random-effects model, pooled relative risk (RR) estimates with 95% CIs were calculated.
- They used GRADE criteria to evaluate the quality of evidence.

Results

- The researchers exposed 46% patients to statins among 121,058 patients with CLDs (84.5% with hepatitis C).
- Statin use was associated with 46% lower risk of hepatic decompensation (4 studies; RR, 0.54; 95% CI, 0.46–0.62; $I^2=0\%$; moderate-quality evidence), and 46% lower mortality (5 studies; RR, 0.54; 95% CI, 0.47–0.61; $I^2=10\%$; moderate-quality evidence) in patients with cirrhosis.
- Statin use was associated with a non-significant (58% lower) risk of development of cirrhosis or fibrosis progression (5 studies; RR, 0.42; 95% CI, 0.16–1.11; $I^2=99\%$; very low-quality evidence) in patients with CLD without cirrhosis.
- Statin use was associated with 27% lower risk of variceal bleeding or progression of portal hypertension (hazard ratio, 0.73; 95% CI, 0.59–0.91; $I^2=0\%$; moderate-quality evidence) in 3 randomized controlled trials.