



ORIGINAL RESEARCH | 20 AUGUST 2019

Lipophilic Statins and Risk for Hepatocellular Carcinoma and Death in Patients With Chronic Viral Hepatitis: Results From a Nationwide Swedish Population

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Abstract

Background: Whether statin type influences hepatocellular carcinoma (HCC) incidence or mortality in chronic hepatitis B or C virus infection is unknown.

Objective: To assess the relationship between lipophilic or hydrophilic statin use and HCC incidence and mortality in a nationwide population with viral hepatitis.

Design: Prospective propensity score (PS)–matched cohort.

Setting: Swedish registers, 2005 to 2013.

Participants: A PS–matched cohort of 16 668 adults (8334 who initiated statin use [6554 lipophilic and 1780 hydrophilic] and 8334 nonusers) among 63 279 eligible adults.

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Measurements:



Time to incident HCC, ascertained from validated registers. Statin use was defined from filled prescriptions as 30 or more cumulative defined daily doses (cDDD).

Results: Compared with matched nonusers, 10-year HCC risk was significantly lower among lipophilic statin users (8.1% vs. 3.3%; absolute risk difference [RD], -4.8 percentage points [95% CI, -6.2 to -3.3 percentage points]; adjusted subdistribution hazard ratio [aHR], 0.56 [CI, 0.41 to 0.79]) but not hydrophilic statin users (8.0% vs. 6.8%; RD, -1.2 percentage points [CI, -2.6 to 0.4 percentage points]; aHR, 0.95 [CI, 0.86 to 1.08]). The inverse association between lipophilic statins and HCC risk seemed to be dose-dependent. Compared with nonusers, 10-year HCC risk was lowest with 600 or more lipophilic statin cDDDs (8.4% vs. 2.5%; RD, -5.9 percentage points [CI, -7.6 to -4.2 percentage points]; aHR, 0.41 [CI, 0.32 to 0.61]), and 10-year mortality was significantly lower among both lipophilic (15.2% vs. 7.3%; RD, -7.9 percentage points [CI, -9.6 to -6.2 percentage points]) and hydrophilic (16.0% vs. 11.5%; RD, -4.5 percentage points [CI, -6.0 to -3.0 percentage points]) statin users.

Limitation: Lack of lipid, fibrosis, or HCC surveillance data.

Conclusion: In a nationwide viral hepatitis cohort, lipophilic statins were associated with significantly reduced HCC incidence and mortality. An association between hydrophilic statins and reduced risk for HCC was not found. Further research is needed to determine whether lipophilic statin therapy is feasible for prevention of HCC.

Primary Funding Source: None.

FULL TEXT

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DOI: 10.7326/M18-2753

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Print ISSN: 0003-4819 | Online ISSN: 1539-3704

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