Statin use and mortality in cancer patients: Systematic review and meta-analysis of observational studies.

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Abstract

BACKGROUND: Previous studies have examined the effect of statin use on the mortality in cancer patients, but the results are inconsistent. A meta-analysis was performed to assess the association with all available studies.

METHODS: Relevant studies were identified by searching PubMed and EMBASE to April 2015. We calculated the summary hazard ratios (HRs) and 95% confidence intervals (CIs) using random-effects models. We estimated combined HRs associated with defined increments of statin use, using random-effects meta-analysis and dose-response meta-regression models.

RESULTS: Thirty-nine cohort studies and two case-control studies involving 990,649 participants were included. The results showed that patients who used statins after diagnosis had a HR of 0.81 (95% CI: 0.72-0.91) for all-cause mortality compared to non-users. Those who used statin after diagnosis (vs. non-users) had a HR of 0.77 (95% CI: 0.66-0.88) for cancer-specific mortality. Prediagnostic exposure to statin was associated with both all-cause mortality (HR=0.79, 95% CI: 0.74-0.85) and cancer-specific mortality (HR=0.69, 95% CI: 0.60-0.79). Stratifying by cancer type, the three largest cancer-type subgroups were colorectal, prostate and breast cancer and all showed a benefit from statin use. HRs per 365 defined daily doses increment were 0.80 (95% CI: 0.69-0.92) for all-cause mortality and 0.77 (95% CI: 0.67-0.89) for cancer-specific mortality. A 1 year increment in duration only conferred a borderline decreased risk of death.

CONCLUSIONS: In conclusion, the average effect of statin use, both postdiagnosis and prediagnosis, is beneficial for overall survival and cancer-specific survival.

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