Statin use and cancer risk: a comprehensive review.

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Abstract

IMPORTANCE OF THE FIELD: HMG-CoA inhibitors (statins), a class of drugs that reduce cholesterol, are used to manage and prevent coronary heart disease. They are among the most commonly prescribed drugs worldwide. Contrary to early concerns over the carcinogenicity of statins, a growing body of evidence suggests statins may in fact have a chemopreventive potential against cancer.

AREAS COVERED IN THIS REVIEW: In this paper, we review evidence on the association between statin use and cancer risk. Specifically, we report on clinical trials and observational studies that measured all cancer or site-specific cancers of the breast, colorectal, lung, prostate and reproductive organs associated with statin use.

WHAT THE READER WILL GAIN: An understanding of the evidence, including strengths and limitations, to support an association between statins and cancer. Information on the current state of the field and future directions are also discussed.

TAKE HOME MESSAGE: Few strong or consistent associations between statins and cancer incidence overall or for any of the sites reviewed were detected. Data for any effects of statins on cancer prognosis and secondary prevention are lacking; with the exception of consistent evidence that statins are associated with reduced risk of advanced/aggressive prostate cancer. Statins appear safe in relation to cancer risk but any chemopreventive effect in humans remains to be established and should not be recommended outside the context of clinical trials. It is encouraging that numerous trials are ongoing. The prospect of reducing the incidence and burden of some of the most prevalent cancers with safe, affordable and tolerable medication that already reduces the risk of the leading cause of death and cardiovascular disease warrants further exploration in clinical trials and observational studies of prognosis and survival.

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