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Title

Discontinuation versus continuation of statins: a systematic review.

Priority 1 (Research Category)

Cardiovascular disease

Presenters

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Abstract

Context: Clinicians and patients often face a decision to continue or discontinue statins to maximize benefit and minimize the risk of harm.

Objective: To examine the impact of discontinuation of statins compared to continuation on clinical outcomes.

Study Design and Analysis: Systematic review. We conducted a GRADE assessment rating certainty of evidence; results were summarized narratively.

Dataset: Randomized controlled trials (RCTs), cohort studies, case-control studies, and quasi-randomized studies were eligible. We searched MEDLINE, Embase, Cochrane Central Registry of Trials (inception to August 2023). Two independent reviewers screened titles/abstracts, full-text articles, and extracted data. Quality assessment (RoB 2.0 for RCTs and ROBINS-I for non-randomized studies) was performed by one author and verified by another.

Population Studied: Adults ≥18 years

Intervention/Instrument: Discontinuation of statin medications

Outcome Measures: All-cause mortality, cardiovascular (CV) mortality, and CV events (e.g., stroke and MI).

Results: We retrieved 8,369 titles/abstracts; 37 reports from 36 studies were eligible. This comprised 35 non-randomized studies (n=1,708,684) and one RCT (n=381). The one RCT was conducted among persons with life expectancy <1 year, and showed that there is probably no difference in 60-day

mortality (risk difference=3.5%, 90% CI -3.5 – 10.5) or 1-year risk of CV events (RD=1.2%, P=0.64) for statin discontinuation compared to continuation. Non-randomized studies varied in terms of study population, duration of follow-up, and setting, and consistently suggested that statin discontinuation might be associated with a relative increased risk of all-cause mortality (22 out of 23 studies measuring this outcome), CV mortality (9 out of 9 reports), and CV events (12 out of 12 reports), but there was a high degree of uncertainty for these outcomes due to methodological limitations.

Conclusions: Statin discontinuation does not appear to affect short-term mortality or CV risk near end-of-life. Outside of this population, there remains uncertainty about the effects of statin discontinuation despite 35 non-randomized studies. Further non-randomized studies are unlikely to resolve uncertainty. Our findings underscore the need for RCT evidence in appropriately selected individuals, to guide clinical decision-making. Until such RCT data are available, this review provides an overview of evidence for clinicians, researchers, and policymakers.