

Letter to the Editor: Effect of Statin Therapy on Survival After Abdominal Aortic Aneurysm Repair: A Systematic Review and Meta-analysis

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Huang et al. demonstrated that, compared with statin non-use, statin use was associated with lower short-/long-term mortality and fewer perioperative cardiac complications in patients undergoing open or endovascular abdominal aortic aneurysm (AAA) repair [1]. They concluded that these results suggest that statin therapy has beneficial effects on survival after AAA repair and statins should be recommended to patients who will undergo open or endovascular AAA repair. However, they supported that high-quality studies such as randomized controlled trials (RCTs) are still needed to further validate their conclusion, as these findings mainly relied on data from cohort studies [1].

Preoperative statin use is associated not only with lower perioperative death, myocardial infarction [MI] and stroke rates, but also with reduced postoperative complications, hospitalization rates and costs in patients undergoing open or endovascular AAA repair [2, 3]. Statins also improve postoperative renal function in these patients [2, 3]. It is crucial that statins are not discontinued in the perioperative/periprocedural period [3]. Statin discontinuation in patients after major vascular surgery is associated with an increased risk of MI and cardiovascular death [3]. Extended-release statins (e.g. extended-release fluvastatin) may therefore be preferred in the perioperative period when oral intake is not feasible. An earlier RCT compared extended-release fluvastatin 80 mg/day ($n = 250$) versus placebo ($n = 247$) in patients before vascular surgery [4]. Almost half of the patients ($n = 236$; 47.5%) had AAA surgery [4]. The combined end-point of death from cardiovascular

causes or non-fatal MI occurred in 12 of 250 patients (4.8%) receiving fluvastatin versus 25 of 247 (10.1%) receiving placebo. Fluvastatin therapy was associated with a 53% relative reduction in the incidence of death from cardiovascular causes or non-fatal MI (hazard ratio 0.47, 95% CI 0.24–0.94, $P = 0.03$). The number of patients who would need to be treated to prevent 1 death from cardiovascular causes or non-fatal MI was 19 [4].

Although ideally the beneficial effects of statins on patients undergoing AAA repair would need to be validated by high-quality studies like RCTs as the authors mention [1], it is unlikely that such RCTs would now receive ethical approval, given the overwhelming evidence of the benefits associated with statin use in patients undergoing AAA repair [2–4]. It is because of this strong evidence that international guidelines recommend statin therapy for patients undergoing AAA repair [5].

Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interests.

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