The IAS statin literature update will keep you up-to-date with all recent statin publications, using a curated approach to select relevant articles.

**Key publications**

**Primary non-adherence a common barrier when prescribing statins**

Patient’s unwillingness to use statins remains one of the most critical challenges to prevent future cardiovascular complications. Primary non-adherence, patients that refuse to collect their statins from the pharmacy, is addressed in the study of 61 patients. The majority of the interviewed patients (93%) did not suffer from ASCVD complications; however, they were considered "high CVD risk" patients, and statins were indicated. The study aimed to better understand why patients refused to start with statins by exploring their perceptions on statin use. Common arguments these patients shared to explain their dislike for statins were a preference to use other non-pharmacological strategies (diet, exercise, supplements); fear of side effects; feeling good and healthy so statins were not needed, and some were doubting if statins would benefit them since they were not sick. Less common reasons were mistrust of Pharma/doctors, insufficient explanation by their healthcare providers, earlier negative experiences, and some suggested a high, genetically caused, cholesterol did not
AF a future indication for statins?

The effects of statins in non-valvular atrial fibrillation (AF), a serious problem found in a large number of cardiac patients, remains enigmatic and confusing, due to a lack of randomized clinical trials. In this meta-analysis the authors examined 14 studies (2 post-hoc analysis of randomized clinical trials, 8 prospective and 4 retrospective) with 100,287 AF patients, of whom 23,228 were on statins. All-cause mortality was the primary endpoints. Secondary endpoints included CV mortality, composite endpoints, strokes, and bleeding complications. Both all-cause mortality and CV mortality were significantly reduced by 41% (HR:0.59 [0.54-0.65]), and 25% (HR: 0.75 [0.58-0.68]) respectively. The absolute reduction of all-cause mortality was 10% in statin users, and benefits were observed after 12 months. Risk for bleeding complications was 40% lower in statin users as well (HR: 0.60 [0.48-0.76]). Results were consistent when corrected for age, sex and manifest cardiovascular or cerebrovascular disease. This first meta-analysis of on the benefits of statins in AF shows promising results in this very high-risk population, with an estimated 1-year mortality of 5.7%, and most of cardiovascular complications (70%), despite anticoagulation. Based on these findings properly designed randomized trials are warranted to confirm these results that could significantly decrease the impressive burden of fatal CVD complications in AF patients.


Preventing re-occlusion’s after acute mechanical thrombectomy

Mechanical thrombectomy (MT) is currently a well-accepted treatment for patients presenting with an acute ischemic stroke. Successful recanalization has been observed in almost 80% of patients. However, 3-9% of treated patients experience re-occlusions <24 hrs after MT. This meta-analysis explored predictors and prognosis of post-MT re-occlusions. In total, 5 studies that included 1,883 confirmed acute ischemic stroke patients treated with
emergency MT, of which 126 patients suffered from re-occlusions. Predictors for re-occlusion were AF (OR: 0.36 [0.20–0.63]), cardiogenic embolism (OR: 0.35 [0.20–0.63]), long term statin use (OR: 0.39 [0.21–0.75]), long-term antiplatelet use (OR: 0.53 [0.31–0.92]) and target occlusion of the middle cerebral artery-M1 (OR: 0.39 [0.19–0.77]) and associated with a reduced risk for re-occlusion. A longer onset-to-reperfusion time, mean difference, 66.51 (36.66–96.35), was associated with increased re-occlusion risk. Patients that experience re-occlusion had early neurological deterioration (OR, 4.87; 95% CI, 2.08–11.40), 90-day modified Rankin Scale score ≤2 (OR, 0.28; 95% CI, 0.18–0.45), and 90-day death rate (OR, 1.85; 95% CI, 1.04–3.29). Actionable options to prevent MT associated re-occlusions long term statin and anti-platelet use and reduce onset to reperfusion time.


CAC score changes and statin use; a systematic review and meta-analysis

The coronary calcium score (CAC) has gained popularity as a surrogate marker of coronary atherosclerosis and was adopted by several major guidelines to assess CV risk. This meta-analysis explores the effects of CAC changes in patients using statins, compared to patients not using statins and the progression of CAC and ASCVD events. Included were seven studies, four randomized and 3 observational studies that examined 5050 patients, 1244 using statins, and 3806 controls. Only studies that reported Agatston scores at baseline and follow-up from patients with and without statin therapy were included. The patients who used statins had an insignificantly lower CAC score at follow-up than those that did not take statins. In subgroup analysis, statin use was associated with a mildly diminished CAC progression; in those with baseline CAC scores > 400, this regression was statistically significant (P<0.009). Patients with progression of calcification had worse CV outcomes compared to the patients without CAC progression. However, baseline CAC score was associated with more decisive effects on ASCVD complications. Patients using statins showed no increase in CV risk even when CAC score increased. The relationship between CAC progression, cardiovascular outcomes, and statin use needs to be explored further. Larger cohorts, with longer follow-up periods and individual patient data, are some of the critical elements that would enable the expansion of our current understating and ensure improved personalized treatment approaches for patients with a high or very high ASCVD risk.

Systematic review of 22 current lipid management guidelines

The different recommendations for lipid management, formulated in national and international guidelines, can be confusing and sometimes conflicting. This systematic review compared 22 guidelines for targeted plasma lipid levels and how frequently patients should be monitored in a secondary prevention setting. Of the 22 guidelines, only 17 provided a cholesterol target, mostly LDL-c, ranging from 1.0-2.6 mmol/L. The most frequently recommended target (in 12 guidelines) was an LDL-c <1.8 mmol/L. Follow-up recommendations varied significantly, ranging from annually (9 guidelines) to ranges between 3-12 months. Most follow-up recommendations were based on clinical opinion and lacked supportive evidence. The authors suggested that further research is needed for more evidence-based guidance on optimal lipid monitoring in secondary prevention. Although this might seem trivial to some, having an evidence-based approach would optimize costs and minimize unnecessary visits to general practitioners. This review provides a concise and up-to-date overview of all major lipid-management guidelines.


Relevant publications


Basic Science publications


