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

Mortality risk modifiers in ACS patients that present with cardiogenic shock and/or heart failure

Cardiogenic shock (CS) and heart failure (HF) prompting hospital admission carry a substantial short-term mortality risk. Less clear are the long-term mortality risks in patients that survived 30-days after the acute event. In this Japanese multi-center prospective register (J-MINUET), 3263 patients eligible for this sub-study. Patients were divided into 3 groups: CS-/HF- (N=2467, 75.6%), CS-/HF+ (N=479, 14.7%) and CS+ (N=317, 9.7%). The 30-day mortality in CS+ patients (32.8%) was significantly greater compared to CS- patients. Risk modifiers with significant impact on 30-day mortality were: statin use prior to admission, OR: 0.32 (0.14-0.66, p=0.002); impaired renal function, OR: 8.72 (2.81-38.67, P<0.0001) and thrombolysis in infarction flow grade, OR: 0.42 (0.18-0.99, p=0.046). Mortality beyond 30-days were comparable in the CS+ and CS-/HF+ groups, HR 1.03 (0.63-1.68, P=0.09). Patients in whom CS and HF were absent did much better than CS+ patients, HR:0.55 (0.32-0.59, P<0.0001). Based on these findings, CS+ patients are not only at greater...
risk to die within 30-day after their index event, but those that survive also have a greater mortality risk compared to patients that did not present with CS+. Of note, CS-/HF+ patients should be intensively monitored after hospital discharge to prevent life-threatening complications.


Pharmacists actively involved in patient education on statin therapy

Improving statin initiation and adherence remains one of the most significant challenges for healthcare providers managing patients at risk for ASCVD complications. This study uses online questionnaires before and post face-to-face pharmacists centered education regarding the benefits and harms of statin use. Participants were aged 40-70, had received at least two fills of diabetes medication in the last year, and lacked statin prescriptions. A total of 10 patients completed both the surveys and educational interventions. Prior to the intervention, none of the participants could identify statin benefits other than cholesterol-lowering. After the education activity, 80% were able to identify at least one additional benefit from statin therapy. Starting statins was contemplated by 30% of the participating patients; this increased to 80% after the educational activity. None of the participants felt they needed statin therapy, while 40% stated that they were candidates for statin therapy after the intervention. The outcome of this, albeit relatively small, study shows that patients are willing to receive education from pharmacists about their medication and are willing to do so. Lack of knowledge and understanding on statins, including their benefits beyond lowering cholesterol, are clearly insufficiently addressed; providing educational support by pharmacists is an attractive option that deserves further exploration.


Statins are absent in 25% of patients using non-statin LLT despite having or being at risk for ASCVD

The PALM registry collects data on lipid-lowering therapy (LLT) of ASCVD patients treated in 125 US clinics (starting in 2015). Of the 7720 patients in the registry, 1930 (25.0%) received a non-statin LLT; Fish oil (N=1249), fibrates (N=447), ezetimibe (N=329) and niacin (N=196). Overall, 73.3% of patients used a statin combined with non-statin LLT, 45.4% were using a lower dose as recommended by current guidelines. Compared to patients who used statin monotherapy, those who used combination LLT were more likely to be male, white, and perceived themselves as having a higher ASCVD risk (38.5% s 34.9%, p=0.047). Patients
using only non-statin LLT were less likely to see themselves as having a high ASCVD risk, 27.4%. Almost three-quarters of the patients receiving non-statin LLT reported never having received a statin, despite 30.8% of these patients qualifying for secondary prevention preventive therapies. Of those patients who used statin before, 59.3% were willing to try statin therapy again. The authors concluded that non-statin LLT is used by one in four US patients in the PALM registry with or at risk for ASCVD. This contrasts with guideline recommendations that emphasize the use of high intensity, high dose statins as the first step after lifestyle improvement, emphasizing the need to establish statins as a first-line therapeutic strategy in patients with or at risk for ASCVD.


Cholesterol burden in FH patients and impact on MACE

The cholesterol burden comprises a combination of plasma LDL-c levels and lifelong exposure. Familial Hypercholesterolemia (FH) patients are characterized by a very high LDL-c from birth onwards. In this retrospective analysis of 1 050 Japanese FH patients, the impact of cholesterol burden on MACE (including death from any cause and ASCVD related hospitalization were evaluated. The cumulative cholesterol-year-score was calculated as LDL-Cmax (age at diagnosis/statin initiation) + LDL-C at inclusion (age at inclusion − age at diagnosis/statin initiation). The median follow-up period for MACE evaluation was 12.3 (9.1–17.5) years. The cholesterol-year-score showed a robust and significant relationship with MACE, HR:1.37 (1.07–1.53, p=0.0034)/1000 mg/dL-year. This relationship was independent of age, CV risk factors, and LDL-c. The use of the cholesterol-year-score significantly improved the C-statistics compared to other risk factors for ASCVD events, C-index: 0.901 vs. 0.889 (P=0.00473). The impact of cumulative cholesterol exposure on ASCVD events underlines the need for early intervention to prevent premature MACE in (Japanese) FH patients.


Lowering statin intensity post stroke is associated with increased mortality risk

The Importance of using high intensity – high dose statins is reflected in this retrospective observational analysis in an extensive US veterans registry of post-stroke/TIA patients.
Included were 9,380 patients hospitalized for a stroke or TIA in 2011 in any 134 VA hospitals. In total, 3,194 patients (34.1%) were discharged without a statin. De-intensification of the statin was observed in 1,312 patients (14%), and 1,925 patients (20.5%) did not use statin before hospital admission and were not started on statins at discharge. Compared with patients that used appropriate statin type and dosage at admission and discharge, those that experienced statin de-intensification and patients that did not use statins when admitted and discharged had a higher mortality risk; OR: 1.26 (1.02-1.57) and OR: 1.59 (1.30-1.93), respectively. The authors suggested that lowering statin dosage immediately after stroke has no benefit and the potential for harm. Therefore, healthcare quality care systems should assess statin prescription at discharge and monitor for statin potency and dose as well.


### Relevant publications


29. Hosio M, Urpilainen E, Hautakoski A et al. Association of antidiabetic medication and statins with survival from ductal and lobular breast carcinoma in women with
http://www.ncbi.nlm.nih.gov/pubmed/?term=34001921


Basic Science publications


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