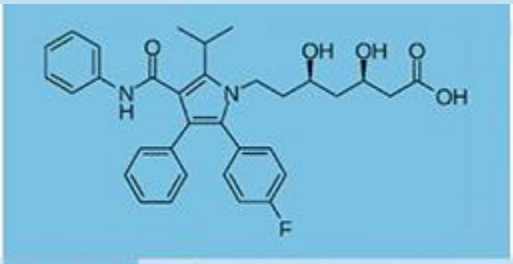
IAS STATIN NEWSLETTER



INTERNATIONAL ATHEROSCLEROSIS SOCIETY

A CURATED WEEKLY UPDATE OF ALL STATIN PUBLICATIONS

Update - Week 03, 2021

**Curated by Peter Lansberg,
a Dutch lipidologist and educator, and
reviewed by prof. Philip Barter, Past President of the
International Atherosclerosis Society.**

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

Post ACS, optimal medical therapy, including high intensity statins, saves lives

Guidelines recommend optimal medical therapy (OMT) for ACS patients after hospital discharge. The majority of regimens include five standard treatments: aspirin + P2Y12

inhibitors., statins, beta-blockers, and ACEi/ARB's. In this retrospective observational study, the impact of OMT vs. no OMT on 1-year all-cause mortality and secondary endpoints, major cardiovascular events (MACE) were analyzed. Data were collected in a single Thai tertiary care hospital between 2013 and 2018. Of the 3531patients included in the analysis, 42.6% received OMT. Only high-intensity statins prescription increased from 5.0% in 2013 to 38.3% in 2018 (P<0.001). OMT significantly reduced all-cause mortality; aHR: 0.77 (0.63-0.95; p=0.012). for the secondary MACE endpoints, a 16% risk reduction was noted; RH 0.84 ().71-0.00; P=0.044). When patients on OMT + high-intensity statins were compared with those on OMT + low or medium intensity statins, a 28% lower risk of dying was noted, aHR: 0.72(0.56-0.92; P=0.008). The authors concluded that despite the solid evidence reflected by ESC and ACC/AHA updated guideline, most Thai ACS patients did not receive OMT, the consequences of failing to use OMT, including high-intensity statins, negatively impacted overall survival and MACE.

Wongsalap Y, Kengkla K, Poolpun D, Saokaew S. **Trends in optimal medical therapy at discharge and clinical outcomes in patients with acute coronary syndrome in Thailand**. J Cardiol 2021. http://www.ncbi.nlm.nih.gov/pubmed/?term=33455848

5 simple steps to increase statin adherence

Adherence to preventive medications such as anti-hypertensives and statins remains a fundamental and problematic challenge for patients. To help healthcare providers with practical tips and tricks, this review provides a comprehensive systematic approach that has proven to boost confidence in statin safety/tolerability and motivates to reduce CVD risk. The five steps are relatively simple and easy to follow. 1. Proper evaluation before starting with a statin, this includes a medical history and physical examination. This includes a lab workup to rule out hepatic, renal, and thyroid abnormalities plus a lipid panel, HbA-1C, vitamin D. review medication that the patient is taking, and prior exposure to statins. Address predisposing SASE's factors and evaluate findings in a patient-focused discussion. 2. Start statin. 3. If a patient reports SASE's, re-evaluate relevant clinical, laboratory findings and reassess drug-interaction. 4. Distinguish true SASE's from other causes. 5. Choose alternative (non-statin) lipid-lowering options with true SASE, reassess tolerance and response. This approach will consume some time and resources from both the healthcare provider and patient; however it is a worthwhile investment in the future CVD health of the patient and outweighs by far the "laissez-faire" approach that is more commonly observed in clinical practice.

Pulipati VP, Davidson MH. H**ow I treat statin-associated side effects in an outpatient setting**. Future cardiology 2021. http://www.ncbi.nlm.nih.gov/pubmed/?term=33464124

COVID-19 and statins, a meta-analysis

Analysis of seven observational studies that included European and North American patients using statins. Of the 2398 included patients, 1075 (44.8%) used statins. Overall, statin use was associated with improved outcomes; patients using HMG-CoA reductase inhibitors had a 40% lower risk of the severe illness of death; OR: 0.59 (0.35-0.99). The patients who used statins at hospital admission for COVID-19 complications, and excluding those who started statin in the hospital, the observed benefits were enhanced, OR 0.51 (0.41-0.614). The results of this meta-analysis look promising but need to be confirmed by randomized controlled trials. More research to explore the potential benefits of statins as adjuvant therapy for improving outcomes in patients with SARS-CoV-2 infection is urgently warranted. Current evidence supports that statin therapy should at minimum not be suspended in patients with COVID-19.

Onorato D, Pucci M, Carpene G *et al.* **Protective Effects of Statins Administration in European and North American Patients Infected with COVID-19: A Meta-analysis.** Seminars in thrombosis and hemostasis 2021. http://www.ncbi.nlm.nih.gov/pubmed/?term=33482680

Comparing 20 mg with 10 mg atorvastatin in Korean patients

The use of high dose high-intensity statins in Asian patients is less common compared to Caucasian patients. The frequently used arguments for this strategy suggest enhanced lipid-lowering responsiveness as well as an increased risk for statins associated side effects in Asians. To evaluate the efficacy, safety, and cost-effectiveness, 250 Korean patients were allocated to atorvastatin 20 mg (N=124) or 10 mg (126). This 12-week open-label phase IV study was conducted between October 2017 and May 2019. LDL-c levels were reduced by 42.3% and 33.5%, respectively (P0.0001). LDL-c targets of <70 mg/dl (very high-risk patients) and <100 mg (high risk patients) was achieved by 40.3% in those taking 20 mg atorvastatin vs 25.6% the patients on 10 mg. Safety parameters, including myalgia and new-onset diabetes, were not statistically different between the two dosages and lower than reported in previous studies. Cost-effectiveness, based on the Korean health care system, was superior for the 20 mg dosage. The LDL-c reduction observed with 20 mg atorvastatin in Korean patients was comparable with LDL-c lowering in Caucasians. Atorvastatin 20 mg is a more appropriate dose of choice than atorvastatin 10 mg in Asian patients with a high or very high risk for CVD.

Kim JB, Song WH, Park JS *et al.* **A randomized, open-label, parallel, multi-center Phase IV study to compare the efficacy and safety of atorvastatin 10 and 20 mg in high-risk Asian patients with hypercholesterolemia.** PLoS One 2021; 16:e0245481. http://www.ncbi.nlm.nih.gov/pubmed/?term=33481866

AACE/ACE Consensus statement on the management of dyslipidemia

The updated guidelines from the American Association of Clinical Endocrinologists and the American Association of Clinical Endocrinologists follow the more stringent LDL-c control from and stepwise ESC/EAS recommendations. For those at extreme ASCVD risk the LDL-c target is < 55mg/dL; very high ASCVD risk <70 mg/dL; high - moderate ASCVD risk <100 mg/dL. First-line treatment is based on lifestyle improvement + statins. High-intensity statins for extreme- and very-high risk moderate-intensity statins can be used for high-moderate ASCVD risk patients. And LDL-c < 130 mg/dL is the target for low-risk patients. Those unable to reach recommended targets after using high-intensity statins at the maximum tolerated dosages should add non-statin lipid-lowering agents, e.g., ezetimibe, bile acid sequestrants, bempedoic acid, or PCSK9 inhibitors. For triglycerides (TG) the recommended target is < 150 mg/dL. Combing statins with agents that reduce triglycerides rich lipoproteins, e.g., fibrates and omega-3 fatty acids are recommended for all individuals with a baseline TG > 500 mg/dL. In those with established ASCVD or diabetes with ≥2 ASCVD risk factors with plasma TG between 135 – 500 mg/dL, icosapent ethyl should be combined with statins. Additional risk-factors, including Lp(a), should be properly controlled, and the guideline provides a simple algorithm to manage patients with statin intolerance.

Handelsman Y, Jellinger PS, Guerin CK *et al.* **Consensus Statement by the American Association of Clinical Endocrinologists and American College of Endocrinology on the Management of Dyslipidemia and Prevention of Cardiovascular Disease Algorithm - 2020 Executive Summary.** Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists 2020; 26:1196-1224. http://www.ncbi.nlm.nih.gov/pubmed/?term=33471721

Relevant publications

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3. Velarde GP, Choudhary N, Bravo-Jaimes K *et al.* Effect of atorvastatin on lipogenic, inflammatory and thrombogenic markers in women with the metabolic syndrome. Nutrition, metabolism, and cardiovascular diseases : NMCD 2020. http://www.ncbi.nlm.nih.gov/pubmed/?term=33485731
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5. Rymer JA, Swaminathan RV, Aday AW *et al.* The Current Evidence for Lipid Management in Patients with Lower Extremity Peripheral Artery Disease: What Is the Therapeutic Target? Current cardiology reports 2021; 23:13. http://www.ncbi.nlm.nih.gov/pubmed/?term=33483872
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7. Nicholls SJ, Lincoff AM, Bays HE *et al.* Rationale and design of the CLEAR-outcomes trial: Evaluating the effect of Bempedoic acid on cardiovascular events in patients with statin intolerance. Am Heart J 2020. http://www.ncbi.nlm.nih.gov/pubmed/?term=33470195
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12. Khazaei M, Khosravi M, Mazaheri S *et al.* The effect of atorvastatin on the common carotid artery intima-media thickness in patients with ischemic stroke. Acta clinica Croatica 2020; 59:223-226. http://www.ncbi.nlm.nih.gov/pubmed/?term=33456108
13. Huda SA, Yadava S, Kahlown S *et al.* Statin-induced necrotizing autoimmune myopathy. Proceedings (Baylor University. Medical Center) 2020; 34:185-186. http://www.ncbi.nlm.nih.gov/pubmed/?term=33456195

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Basic Science publications

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