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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

Selecting dialysis patients that benefit from statins

In patients with advanced renal disease using statins to prevent their increased CVD risk has remained a conundrum. From earlier studies in patients on dialysis, conflicting outcomes have added to the confusion. The principal investigators of the German Diabetes Dialysis (4D) study have explored existing patient-specific biomarkers to distinguish those patients that benefit from those that do not- or even experienced worse outcomes. Based on 23 markers – including 17 easily accessible biomarkers. In this post hoc analysis, they explored the impact of this score on composite cardiovascular endpoints. Of 1255 included patients, 458 patients (36%) had a score < 26; this was associated with an HR: 1.52 (1.16-2.03), indicating harm. A neutral effect was noted in those with a score of 26-31; HR: 1.03 (0.72-1.58); 331 patients (26%) were in this category. Benefits of statin in dialysis patients were found in 466 patients (38%), with a score of >31; HR:0.43 (0.30-0.60). In this category, patients had reduced mortality as well. The simple score with 17 biomarkers showed similar results; however, the number of patients who showed benefits was slightly smaller, 360 patients.

Genser B, Wanner C, März W. A scoring system for predicting individual treatment effects of statins in type 2 diabetes patients on haemodialysis. Eur J Prev Cardiol 2021; 28:838-851. <http://www.ncbi.nlm.nih.gov/pubmed/?term=34298559>

Should AF patients add statins to oral anticoagulants

All major Guidelines indicate the use of statins in post-ischemic stroke patients. Data on primary prevention in patients at risk for stroke are scarce—this multi-center, retrospective analysis aimed to evaluate the effects of statins in well-controlled AF patients. The registry collected data on 2309 acute stroke patients; 533 were eligible to be included in the analysis (well-controlled AF patients). Patients with statins on board had a better neurological deficit on the National Institutes of Health Stroke Scale, both at admission and at discharge ($P < 0.001$). Similar outcomes were observed for in-hospital mortality ($P < 0.001$). Based on these findings, the authors suggest the addition of statins in AF patients using oral anticoagulants. Wańkiewicz P, Staszewski J, Dębiec A *et al.* Pre-Stroke Statin Therapy Improves In-Hospital Prognosis Following Acute Ischemic Stroke Associated with Well-Controlled Nonvalvular Atrial Fibrillation. Journal of clinical medicine 2021; 10. <http://www.ncbi.nlm.nih.gov/pubmed/?term=34300202>

Improving lipid management in very- and extremely high-risk patients

Managing lipids in very and high-risk patients is relatively simple if appropriate lipid-lowering medications are used. In this retrospective analysis of a cohort of extreme and very high CVD risk patients in Croatia, LDL-c levels were controlled according to ESC guidelines in only a small group of patients. To determine risk level, the American Association of Clinical Endocrinologists criteria were used. Extremely elevated (ER) risk was observed in 48 patients compared to 41 patients categorized as very high risk (VHR). All patients used statins, but high-intensity statin in 81.3% of the ER and 75.6% of the VHR patients. Add-on non-statin lipid-lowering drugs were noted in 16.7% of the ER and 7.3% of the VHR patients. Median LDL-c levels in ER: 2.1 (1.5-3.1) mmol/L and 1.9 (1.6-2.4) mmol/L in the VHR group. Guideline dictated LDL-c targets of < 1.42 mmol/L (ER) and < 1.8 mmol/L (VHR) were reached by 27.1% (15.3-41.9) and 41.5% (26.3-57.9) respectively. The authors pointed out for secondary prevention ER and VHR patients, treatment improvements are warranted. The use of high-intensity statins and the addition of newer non-statin LDL-c lowering drugs are urgently needed to ensure an adequate treatment in patients. Failure to do so will result in preventable major cardiovascular complications and fatal events. Pintarić H, Knezović Florijan M, Bridges I *et al.* Management of Hyperlipidemia in Very High and Extreme Risk Patients in Croatia: an observational study of treatment patterns and lipid control. Acta clinica Croatica 2020; 59:641-649.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=34285435>

Educating HCP on FH guidelines needs to be intensified.

With the introduction of new potent LDL-c lowering drugs, attention on Familial Hypercholesterolemia (FH) has intensified, reflected by publications, international conferences, and recently updated US and European Lipid Management Guidelines. This study explored the attitude and skills of US primary care physicians (N=500) and cardiologists (N=500) in managing FH patients. Contacted physicians received a questionnaire to query their management practice. Cascade screening of FH family members was done by 54% of cardiologists; however, 68% would cascade screen individuals with a strong family history of high cholesterol or premature ASCVD. Approximately 74% would screen the children of an FH patient. If the FH diagnosis were confirmed, the age physicians would likely start a statin was 18-29 years. Only 17% would prescribe a statin to a pediatric male and 14% if this child were a female FH patient. Those who have diagnosed an FH patient were more likely to initiate statins in a child, for males, OR: 1.34 (0.99-1.84) for females OR:1.31 (0.99-1.72). Physicians were more willing to cascade screen family members with high cholesterol or premature ASCVD than a family history of FH. Although most physicians accepted pediatric FH screening, they were more reluctant to initiate statin therapy at a young age, despite guideline recommendations. These findings underline the importance of educating more health care practitioners on FH managing to increase knowledge and awareness of recently updated FH guidelines.

Peterson AL, Bang M, Block RC *et al.* Cascade Screening and Treatment Initiation in Young Adults with Heterozygous Familial Hypercholesterolemia. Journal of clinical medicine 2021; 10. <http://www.ncbi.nlm.nih.gov/pubmed/?term=34300259>

Statins prevent thrombotic complications in APS patients

The antiphospholipid syndrome is a serious and elusive disease with severe consequences. Recurrent thrombotic complications are frequently observed, reaching almost 17 % over five years, despite antithrombotic prophylaxis. Trials using statins in pregnant women suffering from antiphospholipid syndrome (APS) revealed protective effects for the mother and fetus. For this analysis, patient data were collected from two tertiary referral hospitals between 2005 and 2020 in Seoul, South Korea. Included were 184 patients with thrombotic APS. Hazard ratios were calculated using six different statistical methods. Of the 184 patients, 103 (56%) used statins prior to the APS thrombotic recurrence, and 81 (44%) did not. Over 48.5 (34.9) months, 22 patients (12%) developed a thrombotic recurrence over an observation period. All models showed consistent protective effects in the patients that used statins. The HR's for experiencing a thrombotic complication varied from 0.24 to 0.28 in the statin-using patients, all statistically significant. The authors concluded that the

observed association between reduced risk for thrombotic complications in statin use supports their use in APS patients.

Kwon OC, Park YB, Park MC. Effect of statins on the prevention of recurrent thrombosis in thrombotic antiphospholipid syndrome. Rheumatology (Oxford) 2021.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=34289012>

Relevant publications

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<http://www.ncbi.nlm.nih.gov/pubmed/?term=34303265>

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Basic Science publications

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