



Update - Week 06, 2021



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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.

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## Key publications

### Co-payment and statins adherence

Co-payment for statins can potentially reduce medication adherence. This Australian study evaluated the effect of a co-payment increase on hospitalizations for ACS and stroke. Patients that started statins in 2004 and 2005 were divided into statin adherent patients and those that discontinued or reduced statins the first 6-months after co-payments increase. The primary outcome was two-year hospitalizations for ASC or stroke. Of the 207 066 patients that used statins before the co-payment increase, 12.5% changed their statin dosage, and 3.3% stopped taking statins, and 84.2% continued their medication. Over a period of 2-years, 4343 hospitalizations for ACS or stroke were recorded. An 18% (0.1-40%) increase in the risk of hospitalizations was noted for those who discontinued statins. This risk reached 54-63% in men < 70years, compared to patients that continued statins. These findings underline the importance of continued statin use in younger men. Discontinuations can have an adverse impact on morbidity and mortality but could potentially off-set the savings of co-payments due to the increased costs associated with hospital admission for ACS and stroke-related

complications.

Seaman KL, Bulsara MK, Sanfilippo FM *et al.* Exploring the association between stroke and acute myocardial infarction and statins adherence following a medicines co-payment increase. *Research in social & administrative pharmacy : RSAP* 2021.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=33558155>

### **Gap between guidelines recommendations and real-world practice**

The updated European lipid management guidelines advise aiming for lower LDL-c targets and recommend using non-statin add-on therapy if the LDL-c targets are not reached. The EU-Wide Cross-Sectional Observational Study of Lipid-Modifying Therapy Use in secondary and Primary Care (DA VINCI study) provides recent information on how well the guidelines recommendations are integrated into diverse healthcare settings. Data were collected between June 2017 and November 2018 in 18 EU countries. Overall records of 5 888 individuals were collected (3000 primary prevention and 2 888 secondary prevention patients). The primary endpoint was the 2016 ESC recommendations for LDL-c; however, the new 2019 goals were assessed as well. LDL-c targets were reached by 54% (52-56%) and 33% (32-35%) for the 2016 and 2019 recommendations respectively. The use of high-intensity statins was noted in 20% of the very high risk and 38% of the secondary prevention patients. Of the very-high risk primary prevention patients, 22% and 17 % reached the 2016 and 2019 goals. For secondary prevention, this was achieved by 45% and 22% of the patients, respectively. Ezetimibe combined with statins was used by 9% of the participants, and PCSK9ab in only 1%. Of the patients that used combination therapy with ezetimibe, 53% and 20% reached the 2016 and 2019 targets. Combination therapy with PCSK9ab enabled 67% and 58% of the patients to achieve 2016 and 2019 LDL-c targets. Based on these figures, the authors concluded that a significant gap remains between real-world practice and ESC guideline recommendations. More efforts to address the observed treatment inertia are warranted to ensure that very high CVD risk patients receive the therapy they are entitled to.

Ray KK, Molemans B, Schoonen WM *et al.* EU-Wide Cross-Sectional Observational Study of Lipid-Modifying Therapy Use in Secondary and Primary Care: the DA VINCI study. *Eur J Prev Cardiol* 2020. <http://www.ncbi.nlm.nih.gov/pubmed/?term=33580789>

### **Statins in very elderly post ischemic stroke patients; what can we expect**

The debate if statins should be used in the very elderly continues, the authors of this study explored the effects of statins post-ischemic stroke in a cohort of patients >80 years of age. Out of a cohort of 5000 65 years and older, 3157 were > 80years of age. All patients were hospitalized for a first ischemic stroke between 1999 and 2016; compared were > 2 years of statin prescription (started after their first ischemic stroke) and those who remained untreated or took statins < 2-years. Patients that used statins >2 years showed a lower risk of recurrent stroke, myocardial infarction, and cardiovascular mortality; aHR: 0.80 (0.62-1.02) and mortality was significantly reduced as well; aHR:0.67

(0.57-0.80). This translated into an NNT of 64 for the composite endpoint of recurrent stroke, myocardial infarction, cardiovascular mortality, and an NNT of 19 for all-cause mortality; After a median follow-up of 3.9 years. These findings confirm the benefits of statin use in the very elderly (>80 years of age), hospitalized for a first ischemic stroke. Lefeber GJ, Knol W, Souverein PC *et al.* **Statins After Ischemic Stroke in the Oldest: A Cohort Study Using the Clinical Practice Research Datalink Database.** *Stroke* 2021;Strokeaha120030755.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=33563018>

### **Are lipids well controlled in newly diagnosed diabetic patients?**

For this analysis, 288 consecutive Mexican diabetic patients (54±9 years, 53.8% women), time since T2DM diagnosis 1 (0-5) yr., were evaluated. Statins were used by 10.8% of the patients at baseline. Lipid-lowering drugs used were moderate-intensity 46.5% and high-intensity 4.6% statins: fibrates and combined treatment in 8.3% and 4.2%, respectively. After 3-months, 41.6% of the patients used combination therapy, but this decreased to 20.8% at baseline and 38.9% after two years. LDL-c and TG goals were achieved after 3 months by 17.0% and 59.7%; after 1-year by 17.0% and 26.7% and 17.0% and 29.9% after 2-years. This deterioration of adequate lipid control was related to reduced adherence. The reasons for stopping medications were 1. The medication was not considered important (39.7%), and 2. suspension of lipid-lowering drugs by another physician (31.3%). Despite the protocolized and comprehensive management strategies, a major gap persists in optimal lipid control of newly diagnosed diabetic patients. The authors recommended focused education sessions for both patients and physicians it increased knowledge and awareness of stringent lipid control in very high CVD risk diabetic patients.

García-Ulloa AC, Lechuga-Fonseca C, Del Razo-Olvera FM *et al.* **Clinician prescription of lipid-lowering drugs and achievement of treatment goals in patients with newly diagnosed type 2 diabetes mellitus.** *BMJ open diabetes research & care* 2021; 9.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=33568360>

### **Viral infections and statins - impact on survival**

The COVID-19 pandemic has sparked a renewed interest in the pleiotropic, non-LDL-related effects of statins. This single-center retrospective observational study evaluated the association between statin use and mortality due to respiratory viral infections (RVI) in hospitalized Spanish patients. In this single-center study, all patients with PCR confirmed RVI (October 2, 2017 - May 20, 2018) were followed for 1-year. The primary endpoint of this study was mortality. Included were 448 patients; statin use was noted in 154 (34.4%). Statin users were older and had more comorbidities. During the follow-up period of 1-year, 67 patients died; 17 (11.05) of the statins users and 50 (17.1% of those that did not use statins. Using a Multivariate Cox analysis, statin use was associated with mortality benefit; HR: 0.47 (0.26-0.83; P=0.01). Based on a univariate propensity score-matched analysis (101 statin users vs. 101 patients that refrained from statins), a

mortality benefit was observed as well; HR: 0.32 (0.14-0.72; P=0.006). The main driver of the observed benefit was non-cardiovascular mortality; HR: 0.31 (0.13-0.73; P=0.004). The authors concluded that chronic statin use was associated with improved survival with laboratory-confirmed RVI. These findings are intriguing and potentially support the use of statins in patients with RVI, including SARS-CoV2 infections.

Franco-Pelàez JA, Esteban-Lucia L, Zambrano Chacòn M *et al.* **Statin use is associated with reduced mortality after respiratory viral infection.** *ERJ Open Res* 2021; 7.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=33569498>

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## Relevant publications

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- retrospective observational registry study. Medicine (Baltimore) 2021; 100:e24733. <http://www.ncbi.nlm.nih.gov/pubmed/?term=33578620>
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## Basic Science publications

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- P.J. Lansberg