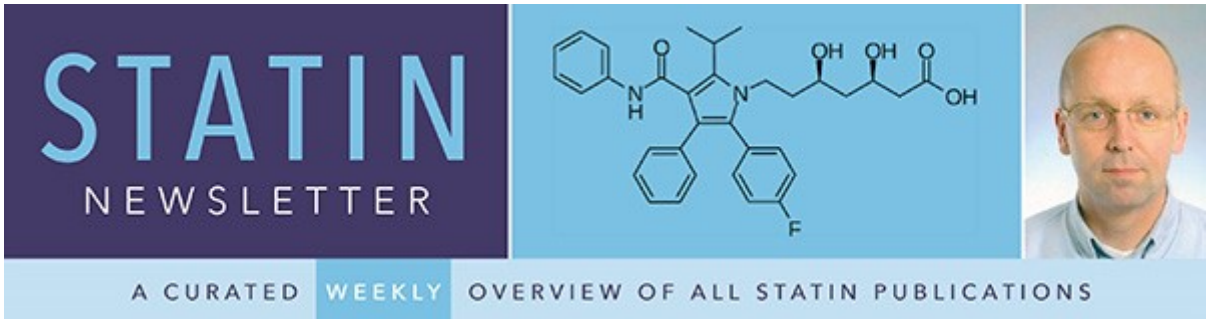

Update week 35 & 36 - 2023

Dr. Peter Lansberg is a Dutch lipidologist, educator and innovator. He has been instrumental in setting up The Dutch National Lipid Clinic Network, the Dutch Lipid Clinic Criteria for Familial Hypercholesterolemia (FH), and the Dutch National FH screening program

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The Statin Newsletter will keep you up-to-date with all recent statin publications. Based on a curated approach to select relevant articles.

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Key Publications

1. **Improving lipid management stratgies in primary care; lessons from Singapore.**
2. **Observational data from Korea re-affirms reduced mortality in CKD patients using statins.**
3. **Why do we fail to achieve Guideline recommended LDL-c targets in very-high-risk patients?**
4. **Lower LDL-c associated with cerebral micro bleeds but not in patients using atorvastatin.**
5. **The confusion regarding international guidelines and risk calculators; why are they different?**

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Key publications

Optimizing lipid management strategies in a primary care setting

This qualitative study sheds light on challenges and opportunities primary care physicians (PCPs) encounter when managing statin therapy for high CVD risk patients with hyperlipidaemia. The study reveals a complex web of barriers and facilitators. Barriers include patients' lack of knowledge and awareness about their condition, fear of statin side effects, negative influences from external sources, strained doctor-patient relationships, time constraints during consultations, physicians' unfamiliarity with guidelines, low health literacy among the local population, and the absence of robust national policies. Conversely, facilitators encompass patient education, continuity of care, enhanced electronic medical record systems, physician education, and public education. The findings underscore the need for multifaceted interventions to address these barriers at different levels, ultimately aiming to optimize statin use, reduce cardiovascular events, and enhance patient outcomes. The study's provides important directives for the development of a comprehensive approach to tackle these issues in the context of Singapore's healthcare system. These findings have the potential to inform healthcare policies and strategies, ultimately improving cardiovascular disease prevention and management in primary care settings.

Exploring barriers and facilitators of primary care physicians towards optimising statin therapy in patients with hyperlipidaemia in the very high-risk group: a qualitative study in Singapore. BMJ Open **2023; 13:e073125Beh CY, Fok RW, Goh LH. http://www.ncbi.nlm.nih.gov/pubmed/?term=37673455**

Observational data shows survival benefit in CKD patients using statins

Can statins improve outcomes in patients with chronic kidney disease? Data collected in the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM) and Korea National Health Insurance Claims Database" explores the contentious role of statins in managing chronic kidney disease (CKD) patients. Using two extensive databases, the authors sought to assess the impact of statin treatment on mortality across various CKD populations. The findings in this study indicate a favourable association between statin use and reduced mortality in CKD patients, irrespective of dialysis status or other risk factors. Statin users exhibited significantly lower risks of all-cause and cardiovascular mortality; a crucial finding given the elevated cardiovascular risk in CKD patients. However, the efficacy of statins in dialysis-dependent CKD patients had previously been uncertain due to conflicting results in randomized controlled trials. This study, based on real-world evidence, suggests a potential benefit of statins even in this specific population. The study's strengths lie in its reproducibility, with similar results obtained from two distinct databases. Despite these strengths, limitations include potential biases in the observational design, missing data on laboratory variables, and difficulties in defining statin users among heterogeneous CKD patients. In summary, this research contributes valuable insights by affirming the potential cardiovascular benefits of statins in CKD patients, including those on dialysis and young, low-risk individuals. However, the study highlights the need for further investigation and prospective studies to refine lipid management strategies in this complex patient population.

The Effect of Statins on Mortality of Patients With Chronic Kidney Disease Based on Data of the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM) and Korea National Health Insurance Claims Database. Front Nephrol **2021; 1:821585Kim JE, Choi YJ, Oh SW *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37674813**

Failed implementation of lipid management strategies in very-high risk patients

Despite the hard evidence summarized and distilled in (inter)national guidelines recommendations implementation of adequate lipid management strategies remains

problematic. This retrospective study of very high-risk post STEMI patients in a tertiary Austrian academic hospital re-affirms failing lipid management implementation LDL-c target achievements in patients at risk for subsequent ASCVD events, Patient were added to the registry in Salzburg, Austria, from 2018 to 2020. The authors show disappointing results, reflecting a real-world implementation of the European guidelines for managing dyslipidemias. The key findings reveal a glaring gap between guideline recommendations and clinical practice. Among STEMI patients, prior lipid lowering therapy (LLT) use was insufficient, with a predominant use of low-intensity statins and limited adoption of using high-intensity dosages or combination therapies with Ezetimibe and/or PCSK9ab. LDL-C target achievement was observed in fewer than 22% of very-high-risk patients reaching the recommended <55 mg/dL LDL-C level. The study exposes critical healthcare delivery deficits, where a significant proportion of very-high-risk patients were not prescribed LLTs, despite being treated for comorbid conditions like hypertension and diabetes. The authors highlight missed opportunities for optimizing LLT, controlling LDL-C levels, and managing other cardiovascular risk factors. This study underscores the urgent need for improving LLT implementation, optimizing therapy, and enhancing healthcare coordination to mitigate the risk of recurrent cardiovascular events in very-high-risk STEMI patients. It highlights the alarming discord between guidelines and real-world practice, emphasizing the pressing need for better adherence to evidence-based recommendations and closer monitoring of patients to bridge these critical care gaps.

Missed Opportunities in Implementation and Optimization of Lipid-Lowering Therapies in Very-High-Risk Patients Presenting with ST-Segment Elevation Myocardial Infarction. Journal of clinical medicine 2023; 12Kopp K, Motloch L, Berezin A *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37685752

Cerebral micro-bleeds associated with low LDL-c in contrast with atorvastatin use that showed protective effect

The "CIRCLE study" explores the complex interplay between low-density lipoprotein cholesterol (LDL-C) levels, statin therapy, and the development of cerebral microbleeds (CMBs) in a stroke-free population. CMBs are considered precursors of intracerebral hemorrhage, making this research relevant to public health. The study, conducted over a decade, involved 209 participants aged 40 or older, with imaging markers of cerebral small vessel disease. The key findings suggest that individuals with lower baseline LDL-C levels, particularly those with levels at or below 1.76 mmol/L, had a higher risk of developing new deep CMBs. This implies a threshold effect, with very low LDL-C levels associated with increased CMB risk. However, the study also revealed that statin therapy itself did not elevate the risk of new CMBs. In fact, atorvastatin, one of the statins used in the study, demonstrated a protective effect against CMB development. The study's strengths include accurate LDL-C measurement methods and extensive control of confounding factors. However, it had limitations, such as potential selection bias and a limited sample size for certain analyses. The authors concluded that while low LDL-C levels were associated with increased CMB development, statin therapy did not pose a significant risk. The protective effect of atorvastatin suggests that the benefits of statins may outweigh concerns about CMBs, reinforcing their role in primary prevention. These findings contribute valuable insights into the complex relationship between cholesterol, statins, and cerebral microbleeds.

Low-density lipoprotein cholesterol, statin therapy, and cerebral microbleeds: The CIRCLE study. Neuroimage Clin 2023; 39:103502Zhao Y, Zhou Y, Zhou H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37643520

A critical review of current international lipid management guidelines on statin initiation in primary prevention

Guidelines can be confusing and despite using the same evidence-based data can come up with different and sometimes conflicting recommendations. The authors of this critical guideline and risk calculator review examine the disparities among international risk assessment algorithms used to recommend statin therapy for primary prevention of cardiovascular disease. The study highlights the significant variations in recommendations for statin use based on different risk algorithms, ultimately raising concerns about the

limitations of current risk-based approaches in addressing lipid-specific risk in primary prevention. The authors created a simulated, diverse population and applied several widely used risk algorithms from North America and Europe, such as the Framingham Risk Score (FRS), Pooled Cohort Equation (PCE), Systematic Coronary Risk Evaluation 2 (SCORE2), and the Multi-Ethnic Study of Atherosclerosis (MESA) algorithm. The findings revealed substantial discordance among these algorithms, leading to inconsistent identification of individuals at high, intermediate, and low risk for cardiovascular events. One notable observation was the significant gender disparity in treatment recommendations, even for individuals with identical risk profiles. Moreover, the study pointed out the challenges of ancillary testing and risk modifiers for patients classified as having moderate risk, which further complicates treatment decisions. In the conclusion section of the article the authors suggest that there is a need for a simplified, internationally accepted "statin-eligible primary prevention patient profile" based on evidence from primary prevention trials. This approach could help reduce international variance and streamline statin therapy recommendations. **Recommendations for statin management in primary prevention: disparities among international risk scores.** Eur Heart J 2023; Mancini GBJ, Ryomoto A, Yeoh E *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37638490

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