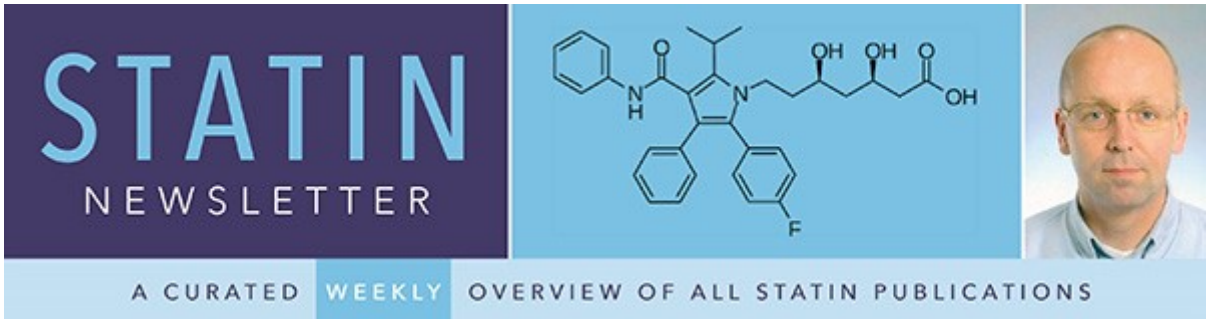

Update week 39 & 40 - 2023

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

---

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

For live updates you can follow me on twitter

Key Publications

1. **Statins work; as long as you use them....**
2. **Are statins protective in dialysis patients? An update from the 4D study**
3. **Statin treatment strategies tested in LODESTAR study**
4. **Rosuvastatin and renal safety; AKI in post cardiac surgery patients**
5. **Case series of HK patients that developed rhabdomolysis on rosuvastatin 40 mg**

Join us in Prague!

Key publications

Statin non-adherence a challenge with dire consequences

The authors examined the crucial issue of statin adherence and its impact on patients with coronary artery disease (CAD) in real-world practice. The research, based on data from the CREDO-Kyoto Registry Cohort-3, offers several notable findings.

Firstly, the study reveals that approximately one in five patients discontinue statin therapy within a median follow-up period of six years after undergoing coronary revascularization. This rate is significantly higher than what was observed in clinical trials like ISCHEMIA and REVIVED, highlighting the importance of examining real-world adherence.

Secondly, the reasons for statin discontinuation were varied, with nonadherence, side effects, and worsening co-morbidities being the most common causes. Notably, patients who discontinued due to nonadherence were often younger, male, had acute coronary syndrome, and were current smokers, underscoring the need for targeted interventions in this group.

The study also found a strong association between statin discontinuation and subsequent mortality. This association held true for various reasons, except for a small group with prescription errors.

The findings emphasize the importance of addressing statin adherence issues in CAD patients, especially in the context of shared decision-making around coronary revascularization. It also highlights the need for multidisciplinary approaches to improve adherence, manage statin intolerance, and educate patients about potential side effects. However, some limitations in the study, such as the high prevalence of patients with statin discontinuation for unknown reasons and the lack of central adjudication for side effects, should be considered when interpreting the results.

This study underscores the critical role of statins in CAD management and the challenges posed by nonadherence and side effects. It calls for a comprehensive approach to ensure that patients receive the full benefits of statin therapy after coronary revascularization in real-world clinical practice.

Statin Discontinuation After Coronary Revascularization. Am J Cardiol **2023; Yamamoto K, Morimoto T, Natsuaki M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37798170**

Statins in dialysis patients remains enigmatic – update from the 4D study

In this critical analysis the authors examine the complexities of cardiovascular risk management in a high-risk population. The 4D Study, a placebo-controlled trial, aimed to evaluate the impact of atorvastatin on major adverse cardiovascular events (MACEs) in patients with type 2 diabetes undergoing haemodialysis. The primary endpoint, which included death from cardiac causes, fatal stroke, non-fatal myocardial infarction (MI), and non-fatal stroke, did not show a significant benefit from atorvastatin.

This analysis delves deeper to examine recurrent events and the effects of previous clinical events on future outcomes. Notably, sudden cardiac death and death due to infection/sepsis were frequent in this high-risk population. The study suggests that atorvastatin may only stabilize cardiovascular risk after 1-2 years, with a possible positive effect on MI.

The findings underscore the unique risk profile of patients with type 2 diabetes on haemodialysis, with sudden cardiac death being a major concern. Previous hospitalizations were identified as a significant predictor of future events, emphasizing the need for comprehensive management beyond cardiovascular complications.

The use of statins in dialysis patients with chronic kidney disease (CKD) is a topic of ongoing debate and research. Dyslipidemia is common in CKD patients and can contribute to cardiovascular complications. However, the role of lifelong statin therapy in improving the long-term outcomes of dialysis patients is still not well-established.

In CKD patients who are not on dialysis, cholesterol-lowering treatment with statins is recommended based on studies like the Study of Heart and Renal Protection (SHARP) study and post hoc subgroup analyses of large, randomized trials. However, in dialysis patients,

the evidence is less clear. One recent post hoc analysis of the 4D study indicated that while there was no significant difference in major adverse cardiovascular events (MACE) and mortality between the statin-treated groups and the placebo group, there was a suggestion that the risk of MACE increased in the placebo group over time, while it remained stable in the atorvastatin group after about 1.5 years. However, this finding should be interpreted cautiously due to study limitations. It's important to note that the therapeutic potential of statins in CKD patients may be more related to reducing atherosclerotic cardiovascular diseases rather than non-atherosclerotic events like arrhythmias. As renal function declines, non-atherosclerotic cardiovascular events become more common. There are still many questions and uncertainties regarding statin therapy in dialysis patients, Observational data from certain regions suggest potential benefits of statins in this setting. Ultimately, while the paper by Marx et al. provides some interesting insights, guidelines for statin treatment in dialysis patients have not changed, and further research is needed to clarify the role and optimal use of statins in this patient population.

Recurrent cardiovascular events in patients with type 2 diabetes and haemodialysis: analysis from the 4D Study. Clinical kidney journal 2023; 16:1612-1621Marx N, Wanner C, Jankowski J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37779851

Lifelong statins for long life in dialysis patients? Clinical kidney journal 2023; 16:1541-1542Ebert T, Bárány P. http://www.ncbi.nlm.nih.gov/pubmed/?term=37779843

The LODESTAR Study – Treat to targets vs high intensity statins

The LODESTAR trial aimed to ascertain the comparative benefits of two lipid-lowering regimens in coronary artery disease (CAD) patients, primarily focusing on those with and without diabetes mellitus (DM). Participants were assigned to either a "treat-to-target" approach where the target LDL-C level was set between 50-70 mg/dL or a fixed high-intensity statin regimen. Over three years, the primary outcomes, including all-cause death, myocardial infarction, stroke, or coronary revascularization, were assessed. The study enrolled 4,400 CAD patients, with a third having DM. Results revealed no significant difference in primary outcomes between the two treatment groups for both DM and non-DM patients.

Interestingly, there was no significant difference in the risk of new-onset DM in the treat-to-target group compared to those using high-intensity statins for non-DM patients. Statin therapy is critical to managing patients with CAD and DM due to their increased risk. While high-intensity statin therapy is recommended for most patients, concerns about side effects, including potential exacerbation or onset of DM, persist. This study suggested that the treat-to-target approach, which focused on achieving an LDL-C range, performed comparably to the high-intensity statin therapy in terms of efficacy and safety over the three years. What makes this study hard to interpret is the absence of which statins and dosages were used in both treatment arms. Noteworthy are the observations that in the patients using high-intensity statins, CK elevations (supplemental table) were observed in only one nondiabetic patient (0 in the treat-to-target group) and five diabetic patients (4 in the treat-to-target group). Reports on muscle complaints were absent. The study limitations include being open-label and potential biases therein.

Additionally, while guidelines have recently shifted to recommend even lower LDL-C targets, the study's treat-to-target range was set at 50-70 mg/dL. The conclusions drawn might also suffer from insufficient power, given that it is based on a subgroup analysis. These findings necessitate further validation in larger, perhaps blinded, studies.

Treat-to-target versus high-intensity statin treatment in patients with or without diabetes mellitus: a pre-specified analysis from the LODESTAR trial. EClinicalMedicine 2023; 64:102227Lee SJ, Kang WC, Lee JY *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37767195

Rosuvastatin associated AKI post cardiac surgery

The The Statin Therapy In Cardiac Surgery (STICS) trial, was a randomized, double-blind, placebo-controlled study to investigate the impact of perioperative rosuvastatin on patients undergoing cardiac surgery. The primary focus was on assessing postoperative atrial

fibrillation and cardiac injury. Surprisingly, the study found that while rosuvastatin didn't significantly affect these primary outcomes, it was associated with a significantly higher incidence of acute kidney injury (AKI) compared to the placebo group. The study involved analyzing various biomarkers, including creatinine, cystatin C, and other inflammation-related markers. The results revealed that both creatinine and cystatin C-defined AKI were more common in the rosuvastatin group. Additionally, postoperative levels of kidney injury molecule-1 (KIM-1) were higher in the rosuvastatin group, suggesting potential renal proximal tubular injury. The findings from the STICS trial are crucial for clinical practice, as they indicate that perioperative rosuvastatin may increase the risk of AKI in cardiac surgery patients. This risk could have implications for the development of chronic kidney disease and future cardiovascular events. While further research is needed, it may be reasonable to consider temporarily discontinuing perioperative statin therapy in cardiac surgery patients on a case-by-case basis to mitigate this risk.
The authors concluded that the STICS trial highlights the unexpected association between rosuvastatin and increased AKI risk in cardiac surgery patients, emphasizing the importance of careful consideration when prescribing statins in this context.
Mechanisms of rosuvastatin-related acute kidney injury following cardiac surgery: the STICS trial. Eur Heart J 2023; Wijesurendra RS, Sardell R, Jayaram R *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37793132

Rhabdomyolysis after use Rosuvastatin 40 mg in HK patients

In this short article, based on data from the Hong Kong Poison Information Centre, the authors aim to warn healthcare providers on the use of rosuvastatin 40 mg in Asian patients. Between July 2022 and April 2023, 6 cases of severe rhabdomyolysis were reported. Pharmacogenetic factors predispose Asian patients to increased plasma levels of rosuvastatin. Pharmacokinetic and pharmacogenetics studies have observed a more than doubling of rosuvastatin plasma levels in Asians compared to Caucasians. The authors reflect on recommendations from China, the UK, Australia, and Canada, restricting the use of rosuvastatin to a maximum dosage of 20 mg in Chinese/Asian patients.
Cluster of cases of high-dose rosuvastatin-associated rhabdomyolysis and recent reduction of rosuvastatin dose for Asians in other countries. Hong Kong medical journal = Xianggang yi xue za zhi 2023; Tse ML. http://www.ncbi.nlm.nih.gov/pubmed/?term=37766464

Relevant Publications

1. Long-term safety and effectiveness of alirocumab and evolocumab in familial hypercholesterolemia (FH) in Belgium. Acta Cardiol 2023:1-8Snel M, Descamps OS. http://www.ncbi.nlm.nih.gov/pubmed/?term=37767917
2. The impact of pre-ictal statin use on vasospasm and outcome in aneurysmal subarachnoid hemorrhage. Acta neurochirurgica 2023; Andersen S, Western E, Sorteberg W, Sorteberg A. http://www.ncbi.nlm.nih.gov/pubmed/?term=37792050
3. Efficacy and Safety of Single-Pill Combination of Rosuvastatin and Ezetimibe in Chinese Patients with Primary Hypercholesterolemia Inadequately Controlled by Statin Treatment (ROZEL): A Randomized, Double-Blind, Double Dummy, Active-Controlled Phase 3 Clinical Trial. Adv Ther 2023; Su Q, Liu Y, Zhang G *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770770
4. Cardiovascular Disease Risk Estimation for Transgender and Gender-Diverse Patients: Cross-Sectional Analysis of Baseline Data From the LITE Plus Cohort Study. AJPM Focus 2023; 2:100096Poteat TC, Rich AJ, Jiang H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37790660
5. Peripheral Artery Disease Screening in the Community and 1-Year Mortality, Cardiovascular Events, and Adverse Limb Events. AJPM Focus 2022;

1:100016Smolderen KG, Ameli O, Chaisson CE *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37791014
6. Clinical Utility and Prognostic Value of Coronary Computed Tomography Angiography in Patients With Cancer. Am J Cardiol 2023; 207:448-454Nazir MS, Murphy T, Poku N *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37797552
7. Update about the management of low-density lipoprotein cholesterol and hypertriglyceridemia in lower extremity peripheral artery disease patients: consensus of the French Society of Vascular Medicine (SFMV) and the French Society for Vascular and Endovascular Surgery (SCVE). Annals of vascular surgery 2023; Mahé Md G, Boge Md G, Bura-Rivière Md A *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37806655
8. Impact of statin on renal cell carcinoma patients undergoing nephrectomy. Does it affect cancer progression and improves survival? A Systematic Review and Meta-Analysis. Arch Ital Urol Androl 2023; 95:11672Adli G, Yogiswara N, Gde Tirta Yoga Yatindra IB *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37791546
9. Atherosclerosis progression in the APPLE trial can be predicted in young people with juvenile-onset systemic lupus erythematosus using a novel lipid metabolomic signature. Arthritis & rheumatology (Hoboken, N.J.) 2023; Peng J, Dönnes P, Ardoin SP *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37786302
10. Effect of low-density lipoprotein level and mortality in older incident statin-naïve hemodialysis patients. BMC Nephrol 2023; 24:289Song JH, Park EH, Bae J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37784041
11. The role of systemic statins in the inception and healing of apical periodontitis: a systematic review. BMC oral health 2023; 23:730Ideo F, Manca MF, Niazi S *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37805447
12. Statins exposure and acute pancreatitis: a retrospective cohort study using a large national insurance database. BMJ Open 2023; 13:e077591Ba DM, Zhang Y, Chinchilli VM, Maranki J. http://www.ncbi.nlm.nih.gov/pubmed/?term=37758671
13. Geographical and sociodemographic differences in statin dispensation after acute myocardial infarction in Sweden: a register-based prospective cohort study applying analysis of individual heterogeneity and discriminatory accuracy (AIHDA) for basic comparisons of healthcare quality. BMJ Open 2023; 13:e063117Merlo J, Öberg J, Khalaf K *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770265
14. Statins Accelerate Coronary Calcification and Reduce the Risk of Cardiovascular Events. Cardiology in review 2023; 31:293-298Xinyu Z, Dongxia M, Yue H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37796966
15. Real-World Insights into Evolocumab Use in Patients with Hyperlipidemia Across Five Countries: Analysis from the ZERBINI Study. Cardiology and therapy 2023; Gupta M, Wani RJ, Al Faraidy K *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37804438
16. Multimodal Retinal Imaging of Intravascular Lipid in Severe/Extreme Hypertriglyceridemia. Case Rep Ophthalmol Med 2023; 2023:6698239Christakopoulos C. http://www.ncbi.nlm.nih.gov/pubmed/?term=37800092
17. Statins in Children with Neurofibromatosis Type 1: A Systematic Review of Randomized Controlled Trials. Children (Basel) 2023; 10Agouridis AP, Palli N, Karagiorga VE *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37761518
18. Statin Reduces Heart Disease Risk in Patients With HIV. Circulation 2023; 148:1053-1054Kuehn BM. http://www.ncbi.nlm.nih.gov/pubmed/?term=37747955
19. Prior statin use in acute ischemic stroke patients with mechanical thrombectomy: A prospective cohort study in China. Clin Neurol Neurosurg 2023; 234:107988Liu Q, He S, Lin Y *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37769498
20. Ticagrelor increases exposure to the breast cancer resistance protein substrate rosuvastatin. Clinical pharmacology and therapeutics 2023; Lehtisalo M, Tarkiainen EK, Neuvonen M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37786998
21. Impact of coronary CT angiography in selection of treatment modalities and subsequent cardiovascular events in Thai patients with stable CAD. Clinical research in cardiology : official journal of the German Cardiac Society 2023; Limpijankit T,

Jongjirasiri S, Meemook K *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37792021
22. Atherosclerotic Cardiovascular Disease in Women: Providing Protection With Lipid-Altering Agents. Clinical therapeutics 2023; Hiles M, Simmons A, Hilleman D *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770308
23. Management of Asymptomatic Severe Hypertriglyceridemia With Oral Therapy Only: A Case Study Shedding Light on Treatment Approaches and Potential Complications. Cureus 2023; 15:e44567Bhuiyan M, Pramanik O, Badar F. http://www.ncbi.nlm.nih.gov/pubmed/?term=37790029
24. Exploring the Synergistic Effect of Simvastatin in Oral Health Applications: A Literature Review. Cureus 2023; 15:e44411Kabra S, Thosar NR, Malviya NS. http://www.ncbi.nlm.nih.gov/pubmed/?term=37791218
25. Statin Use and Coronary Artery Calcification: a Systematic Review and Meta-analysis of Observational Studies and Randomized Controlled Trials. Curr Atheroscler Rep 2023; Shahraki MN, Jouabadi SM, Bos D *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37796384
26. Lipoprotein(a) and Benefit of PCSK9 Inhibition in Emergency Complex Higher-risk and Indicated Patients. Current medical science 2023; Jin ZL, He T, Peng L *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37755635
27. Impact of PCSK9 inhibitors on coronary atheroma phenotype following myocardial infarction: insights from intravascular imaging. Current opinion in cardiology 2023; 38:504-508Abrahams T, Fujino M, Nelson AJ, Nicholls SJ. http://www.ncbi.nlm.nih.gov/pubmed/?term=37751373
28. Contribution of intestinal triglyceride-rich lipoproteins to residual atherosclerotic cardiovascular disease risk in individuals with type 2 diabetes on statin therapy. Diabetologia 2023; Taskinen MR, Matikainen N, Björnson E *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37775612
29. Elevated remnant cholesterol and atherosclerotic cardiovascular disease in diabetes: a population-based prospective cohort study. Diabetologia 2023; Wadström BN, Pedersen KM, Wulff AB, Nordestgaard BG. http://www.ncbi.nlm.nih.gov/pubmed/?term=37776347
30. Effect and mechanism of HMG-CoA reductase inhibitor on the improvement of elderly essential hypertension-induced vascular endothelial function impairment based on the JAK/STAT pathway. Diagn Pathol 2023; 18:108Yuan W, Fan H, Yang H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37759223
31. Cardiac Computed Tomography Angiography in CAD Risk Stratification and Revascularization Planning. Diagnostics (Basel, Switzerland) 2023; 13Mehta CR, Naeem A, Patel Y. http://www.ncbi.nlm.nih.gov/pubmed/?term=37761268
32. Association of Strict Versus Lenient Cholesterol Lowering with Cardiac Outcomes, Diabetes Progression and Complications, and Mortality in Patients with Diabetes Treated with Statins: Is Less More? Drug Saf 2023; Odeleye V, Masarweh O, Restrepo J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37782373
33. Adverse effects of anthracyclines: does atorvastatin STOP-CArdiotoxicity? Eur Heart J 2023; Pedicino D, Patrono C. http://www.ncbi.nlm.nih.gov/pubmed/?term=37769344
34. Guideline adherence to statin therapy and association with short-term and long-term cardiac complications following noncardiac surgery: A cohort study. European journal of anaesthesiology 2023; 40:854-864Glarner N, Puelacher C, Gualandro DM *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37747427
35. Effect of timing of administration on lipid-lowering efficacy of statins-meta-analysis. Eur J Clin Pharmacol 2023; Wang C, Quan Y, Wang L, Li G. http://www.ncbi.nlm.nih.gov/pubmed/?term=37776377
36. Association between CYP3A4/CYP3A5 genetic polymorphisms and treatment outcomes of atorvastatin worldwide: is there enough research on the Egyptian population? European journal of medical research 2023; 28:381Maslub MG, Radwan MA, Daud NAA, Sha'aban A. http://www.ncbi.nlm.nih.gov/pubmed/?term=37759317
37. Effect of Ezetimibe combined with Simvastatin in the treatment of coronary heart disease: a retrospective analysis. Eur Rev Med Pharmacol Sci 2023; 27:8212-8217Li B, Li Y, Peng WZ *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37750649

38. Effect of atorvastatin on subclinical atherosclerosis in virally-suppressed HIV-infected patients with CMV seropositivity: a randomized double-blind placebo-controlled trial. F1000Research 2021; 10:151Yunihastuti E, Rusdi L, Syahrir Azizi M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37772075
39. Statins and risk of type 2 diabetes: mechanism and clinical implications. Frontiers in endocrinology 2023; 14:1239335Laakso M, Fernandes Silva L. http://www.ncbi.nlm.nih.gov/pubmed/?term=37795366
40. The impact of statin use before intensive care unit admission on patients with acute kidney injury after cardiac surgery. Frontiers in pharmacology 2023; 14:1259828Li S, Zhang Y, Yang Y *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37781714
41. An Opportunity to Seize From Low Hanging Fruits: Capitalising on Incidentally Reported Coronary Artery Calcification. Heart, lung & circulation 2023; Teng LE, Kennedy L, Lok SC *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37758636
42. Evaluating LDL-C control in Indian acute coronary syndrome (ACS) patients- A retrospective real-world study LDL-C control in ACS. Int J Cardiol Cardiovasc Risk Prev 2023; 19:200210Jain M, Sawant R, Panchal H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37771607
43. Comment on "Association of statin use after renal replacement therapy with mortality in patients with dialysis-requiring acute kidney injury". International urology and nephrology 2023; Zhuo N, Wang G, Wu G. http://www.ncbi.nlm.nih.gov/pubmed/?term=37782434
44. LDL-C Reduction With Lipid-Lowering Therapy for Primary Prevention of Major Vascular Events Among Older Individuals. J Am Coll Cardiol 2023; 82:1381-1391Andersson NW, Corn G, Dohlmann TL *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37758432
45. Childhood Screening for Familial Hypercholesterolemia: JACC Review Topic of the Week. J Am Coll Cardiol 2023; 82:1558-1563Gidding SS. http://www.ncbi.nlm.nih.gov/pubmed/?term=37793753
46. Performance of the ACC/AHA Pooled Cohort Cardiovascular Risk Equations in Clinical Practice. J Am Coll Cardiol 2023; 82:1499-1508Medina-Inojosa JR, Somers VK, Garcia M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37793746
47. Phosphate and Coronary Artery Disease in Patients with Chronic Kidney Disease. J Atheroscler Thromb 2023; Ogata H, Sugawara H, Yamamoto M, Ito H. http://www.ncbi.nlm.nih.gov/pubmed/?term=37766573
48. A Simple Strategy to Reduce Contrast Media Use and Risk of Contrast-Induced Renal Injury during PCI: Introduction of an "Optimal Contrast Volume Protocol" to Daily Clinical Practice. J Cardiovasc Dev Dis 2023; 10Zebrauskaite A, Ziubryte G, Mackus L *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37754831
49. First clinical experiences with inclisiran in a real-world setting. J Clin Lipidol 2023; Mulder J, Galema-Boers AMH, Roeters van Lennep JE. http://www.ncbi.nlm.nih.gov/pubmed/?term=37775462
50. Effect of High-Intensity Rosuvastatin vs. Combination of Low-Intensity Rosuvastatin and Ezetimibe on HbA1c Levels in Patients without Diabetes: A Randomized IDEAL Trial. Journal of clinical medicine 2023; 12Choe J, Lee SH, Ahn J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37763042
51. Present and Future of Dyslipidaemia Treatment-A Review. Journal of clinical medicine 2023; 12Merćep I, Vujević A, Strikić D *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37762780
52. A Review of the Efficacy of Topical Statins for Treating Disseminated Superficial Actinic Porokeratosis. J Drugs Dermatol 2023; 22:1053-1057Ghani H, Richards E, Truong TM *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37801522
53. Triglyceride-Rich Lipoproteins and Remnant Cholesterol in Cardiovascular Disease. J Korean Med Sci 2023; 38:e295Heo JH, Jo SH. http://www.ncbi.nlm.nih.gov/pubmed/?term=37750369
54. Effect of ABCA1-R219K Polymorphism in Serum Lipid Parameters in Patients under Statin Therapy Visiting Tertiary Cardiac Center of Nepal. Journal of laboratory physicians 2023; 15:510-517Ghimire S, Yadav BK, Shrestha S *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37780884

55. Effect of Statins on the Inflammatory Markers in Patients with Coronary Artery Disease. Journal of laboratory physicians 2023; 15:498-502Premnath SM, Nanda SK, Ray L, Arokiaraj MC. http://www.ncbi.nlm.nih.gov/pubmed/?term=37780883
56. Lipid-Lowering Efficacy of Combination Therapy With Moderate-Intensity Statin and Ezetimibe Versus High-Intensity Statin Monotherapy: A Randomized, Open-Label, Non-Inferiority Trial From Korea. J Lipid Atheroscler 2023; 12:277-289Choi H, Kang SH, Jeong SW *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37800112
57. Association between antihyperlipidemic agents and the risk of chronic periodontitis in patients with hyperlipidemia: A population-based retrospective cohort study in Taiwan. Journal of periodontology 2023; Wang AY, Lin GL, Keller JJ, Wang LH. http://www.ncbi.nlm.nih.gov/pubmed/?term=37793052
58. Long-lasting Control of LDL-Cholesterol Induces a Forty Percent Reduction in the Incidence of Cardiovascular Events: New Insights from a 7-year Study. J Pharmacol Exp Ther 2023; Trimarco V, Izzo R, Gallo P *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37775305
59. Inflammasome Signaling, Thromboinflammation, and Venous Thromboembolism. JACC. Basic to translational science 2023; 8:1245-1261Potere N, Abbate A, Kanthi Y *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37791298
60. Statins, commonly coprescribed drugs, and concomitant risk factors: A protective, neutral, or harmful association with common cancer types development: A 10-year multicentric retrospective lebanese study. Medicine (Baltimore) 2023; 102:e34562Chalhoub IG, Boulos RT, Dagher YG *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37773843
61. Flash'O real-world evidence programme - Attitude and practices toward the use of omega-3 FA by physicians from Middle East Countries. Medicine (Baltimore) 2023; 102:e35416Kinsara AJ, Sabbour H. http://www.ncbi.nlm.nih.gov/pubmed/?term=37800826
62. Efficacy of atorvastatin administration after surgery in patients with chronic subdural hematoma. Medicine (Baltimore) 2023; 102:e35379Xu W, Tang X, Liu S *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37773816
63. Association between genetically proxied HMGCR inhibition and male reproductive health: A Mendelian randomization study. Medicine (Baltimore) 2023; 102:e34690Yan Z, Xu Y, Li K, Liu L. http://www.ncbi.nlm.nih.gov/pubmed/?term=37773823
64. Development and Multinational Validation of a Novel Algorithmic Strategy for High Lp(a) Screening. medRxiv 2023; Aminorroaya A, Dhingra LS, Oikonomou EK *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37790355
65. Statins may increase the risk of being diagnosed with prostate cancer. Minerva Urol Nephrol 2023; Brassetti A, Tedesco F, Cacciatore L *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37795695
66. Statin therapy and the incidence of atherosclerotic cardiovascular events after kidney transplantation. Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association 2023; Nazoiri C, Liabeuf S, Brazier F *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37791395
67. Low- and High-Density Lipoprotein Cholesterol and Dementia Risk Over 17 Years of Follow-up Among Members of a Large Health Care Plan. Neurology 2023; Ferguson EL, Zimmerman SC, Jiang C *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37793911
68. Comparative outcomes of middle meningeal artery embolization with statins versus embolization alone in the treatment of chronic subdural hematoma: a systematic review and meta-analysis. Neurosurgical review 2023; 46:262Musmar B, Spellicy S, Salim H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37783962
69. Prevalence and predictive role of hypertriglyceridemia in statin-treated patients at very high risk: Insights from the START study. Nutrition, metabolism, and cardiovascular diseases : NMCD 2023; De Luca L, Temporelli PL, Gulizia MM *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37788956
70. Patient-reported muscle symptoms and their characterization in a hypertensive population eligible for statin therapy: An exploratory study. Nutrition, metabolism,

and cardiovascular diseases : NMCD 2023; Sarzani R, Allevi M, Giulietti F *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37798232
71. New opportunities in the management and treatment of refractory hypercholesterolemia using in vivo CRISPR-mediated genome/base editing. Nutrition, metabolism, and cardiovascular diseases : NMCD 2023; Srivastava RAK. http://www.ncbi.nlm.nih.gov/pubmed/?term=37805309
72. A case of anti-HMGCR myopathy in a patient with breast cancer and anti-Th/To antibodies. Oxford medical case reports 2023; 2023:omad097Chérif MY, Raftakis I, Weynand M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37771688
73. Modifiable Statin Characteristics Associated with Potential Statin-Related Prescribing Cascades. Pharmacotherapy 2023; Wang GH, Morris E, Vouri SM *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37771303
74. Prioritising cardiovascular disease risk assessment to high risk individuals based on primary care records. PLoS One 2023; 18:e0292240Chung R, Xu Z, Arnold M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37773956
75. The inverse association between the apolipoprotein E ε4 allele and C-reactive protein levels is stronger in persons with obesity and diabetes. Scand J Immunol 2023:e13323Giil LM, Hanseth S, Bojovic O *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37801334
76. New onset diabetes mellitus and cardiovascular outcomes according to statin intensity in patients after drug-eluting stent implantation in Asian patients. Scientific reports 2023; 13:16061Chung J, Kim HL, Lim WH *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37749120
77. Marginal structural models with latent class growth analysis of treatment trajectories: Statins for primary prevention among older adults. Stat Methods Med Res 2023:9622802231202384Diop A, Sirois C, Guertin JR *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37750253

Basic Science

1. Interplay of Cholesterol and Actin in Neurotransmitter GPCR Signaling: Insights from Chronic Cholesterol Depletion Using Statin. ACS Chem Neurosci 2023; Sarkar P, Chattopadhyay A. http://www.ncbi.nlm.nih.gov/pubmed/?term=37804226
2. The Influence of Statin Use on Chemotherapeutic Efficacy in Studies of Mouse Models: A Systematic Review. Anticancer research 2023; 43:4263-4275Tulk A, Watson R, Erdrich J. http://www.ncbi.nlm.nih.gov/pubmed/?term=37772570
3. Generation of a Cell Line Selectively Producing Functionally Active OATP1B1 Transporter. Biochemistry. Biokhimiia 2023; 88:1267-1273Kotliarova MS, Shchulkin AV, Erokhina PD *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770393
4. Short-term statin treatment reduces, and long-term statin treatment abolishes chronic vascular injury by radiation therapy. bioRxiv 2023; Ait-Aissa K, Guo X, Klemmensen M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37790532
5. Low-dose atorvastatin protects skeletal muscle mitochondria in high-fat diet-fed mice with mitochondrial autophagy inhibition and fusion enhancement. Eur J Pharmacol 2023:176085Zheng P, Zhang Q, Ma W *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37806539
6. Retraction Note: Effect of atorvastatin on pulmonary arterial hypertension in rats through PI3K/AKT signaling pathway. Eur Rev Med Pharmacol Sci 2023; 27:7881Wang YY, Cheng XD, Jiang H. http://www.ncbi.nlm.nih.gov/pubmed/?term=37750615
7. CCR9 overexpression promotes T-ALL progression by enhancing cholesterol biosynthesis. Frontiers in pharmacology 2023; 14:1257289Jamal M, Lei Y, He H *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37745085

8. Blocking cholesterol formation and turnover improves cellular and mitochondria function in murine heart microvascular endothelial cells and cardiomyocytes. Front Physiol 2023; 14:1216267Braczko A, Harasim G, Kawecka A *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37745244
9. The influence of OATP2B1 and atorvastatin on coproporphyrin isomers in rats. Journal of pharmacological sciences 2023; 153:170-174Kinzi J, Grube M, Hussner J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770158
10. CYP11A1 silencing suppresses HMGCR expression via cholesterol accumulation and sensitizes CRPC cell line DU-145 to atorvastatin. Journal of pharmacological sciences 2023; 153:104-112Tashiro J, Sugiura A, Warita T *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770151
11. Correspondence: Statin Use During Concurrent Chemoradiotherapy With Improved Survival Outcomes in Esophageal Squamous Cell Carcinoma. J Thorac Oncol 2023; 18:e107-e109Chen WM, Yu YH, Chen M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37758345
12. Correspondence: Statin Use During Concurrent Chemoradiotherapy With Improved Survival Outcomes in Esophageal Squamous Cell Carcinoma: A Propensity Score-Matched Nationwide Cohort Study. J Thorac Oncol 2023; 18:e105-e106Lin TA, Chen SY, Chang R, Sun CK. http://www.ncbi.nlm.nih.gov/pubmed/?term=37758344
13. The Development of Thermoresponsive Polymeric Simvastatin Prodrug for the Treatment of Experimental Periodontitis in Rats. Molecular pharmaceutics 2023; Xu X, Jia Z, Chen N *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37772991
14. A virus-like particle-based bivalent PCSK9 vaccine lowers LDL-cholesterol levels in non-human primates. NPJ Vaccines 2023; 8:142Fowler A, Van Rompay KKA, Sampson M *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37770440
15. Development of Simvastatin-Loaded Particles Using Spray Drying Method for Ex Tempore Preparation of Cartridges for 2D Printing Technology. Pharmaceutics 2023; 15Sterle Zorec B, Dreu R. http://www.ncbi.nlm.nih.gov/pubmed/?term=37765190
16. Characterizing the impact of simvastatin co-treatment of cell specific TCDD-induced gene expression and systemic toxicity. Scientific reports 2023; 13:16598Jurgelewicz A, Nault R, Harkema J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37789023
17. Low dosage combination treatment with metformin and simvastatin inhibits obesity-promoted pancreatic cancer development in male KrasG12D mice. Scientific reports 2023; 13:16144Teper Y, Ye L, Waldron RT *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37752238
18. Oatp (Organic Anion Transporting Polypeptide)-Mediated Transport: A Mechanism for Atorvastatin Neuroprotection in Stroke. Stroke 2023; Williams EI, Betterton RD, Stanton JA *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37750296
19. Differential effects of OATP2B1 on statin accumulation and toxicity in a beta cell model. Toxicol Mech Methods 2023:1-18Kwon J, Kim MS, Blagojevic C *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37771097
20. Animal experimental models of ischemic limbs - A systematic review. Vascul Pharmacol 2023:107237Lovasova V, Bem R, Chlupac J *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=37802406
21. Pretreatment with lovastatin improves depression-like behavior after traumatic brain injury through activation of the AMPK pathway. World neurosurgery 2023; Chen YT, Nyam TE, Tsai LC *et al.* http://www.ncbi.nlm.nih.gov/pubmed/?term=377

To subscribe to the Statin Literature Update Service Click HERE

mailing address:
lansberg@gmail.com