


STATIN
NEWSLETTER

CC(C)C1=C(C(=O)Nc2ccccc2)C(=C(C3=CC=CC=C3)N1CC(O)C(O)CC(=O)O)c4ccc(F)cc4

A CURATED WEEKLY OVERVIEW OF ALL STATIN PUBLICATIONS

Update week 49 & 50 - 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. Stopping statins in elderly; not so fast!
2. Reducing VTE's in women on HRT, and using statin
3. Comprehensive review on statins effects on coagulation
4. Statins and Cognitive, more benefits than harms?
5. Inadequate lipid targets in patients having a first ASCVD event.

WORLD CONGRESS
OF INTERNAL MEDICINE

THE 37TH WCIM 2024
PRAGUE
CZECH REPUBLIC

30. 10. – 2. 11. 2024

ABSTRACT SUBMISSION
IS OPEN

SUBMIT YOUR ABSTRACT UNTIL 31 MAY 2024

WWW.WCIM2024.COM



Key publications

Observational study on the effects of Statins in elderly veterans with CKD

The study, focusing on U.S. veterans older than 65 years with chronic kidney disease (CKD), stages 3 to 4, aimed to determine the association of statin initiation with all-cause mortality and major adverse cardiovascular events (MACE). It employed a target trial emulation design using a vast dataset from the Veterans Affairs Healthcare System, Medicare, and Medicaid. The study included 14,828 veterans, primarily male and white, with a mean age at CKD diagnosis of 76.9 years. Through propensity score adjustment and nonparametric bootstrapping, the analysis showed a statistically significant 9% lower risk of all-cause mortality for statin initiators compared to non-initiators, although it did not show a statistically significant reduction in MACE.

The findings challenge the growing inclination towards deprescribing statins in older adults with CKD for primary prevention. The study's strength lies in its large sample size, long follow-up, and robust methodological approach to minimize confounding. However, the predominantly male and white cohort limits the generalizability of the findings. Also, the observational design, although well-executed, inherently carries the risk of residual confounding. The study didn't evaluate the per-protocol effect size for statin use after the initial prescription or the dose or duration of statin therapy, which could further inform the clinical application of its findings.

In conclusion, the study provides compelling evidence supporting the use of statins for primary prevention of all-cause mortality in older adults with moderate CKD but raises questions about their impact on MACE. The call for a randomized clinical trial is well-founded and necessary to confirm these results and guide clinical practice. Until then, the evidence suggests a cautious approach towards deprescribing statins in this population, considering the individual patient's context and risk profile.

Statins, Mortality, and Major Adverse Cardiovascular Events Among US Veterans With Chronic Kidney Disease. [JAMA network open](#) 2023; 6:e2346373 Barayev O, Hawley CE, Wellman H *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38055276>

VTE risk in post-menopausal women on HRT and statins

The complex interplay between statin use, hormone therapy (HT), and the risk of venous thromboembolism (VTE) in perimenopausal women is reviewed in this retrospective observational study. The authors used nested case-control design based on data collected in a large US claims database, it involved women aged 50 to 64 years taking HT, with or without concurrent statin therapy. The robust sample size of 223,949 participants allowed for a detailed exploration of these associations. The findings indicate that HT alone is associated with a 53% increased risk of VTE. However, when combined with statin therapy, the risk is reduced, though not entirely mitigated. Statins alone were associated with a 12% decrease in VTE risk. Importantly, the study demonstrates a dose-response effect; higher intensity statin therapy correlates with a more significant reduction in VTE risk. The study stands out for its large, diverse cohort and detailed analysis of drug exposures. It controls for a wide range of potential confounders, including comorbidities and various lifestyle factors. Moreover, the study's design, which pairs a stringent case definition with confirmatory events, strengthens the validity of its findings. However, as a nested case-control study, it cannot establish causality. It's also limited by the typical constraints of claims data, such as lack of detailed patient characteristics and potential misclassification of exposures. The findings are compelling but underscore the need for randomized controlled trials to confirm the potential protective role of statins in women taking HT. This study provides valuable insights into how statin therapy might modulate the risk of VTE in women undergoing hormone therapy. The findings suggest a nuanced approach to prescribing HT in perimenopausal women, especially those at higher cardiovascular risk, and highlight the potential of statins to improve the risk-benefit profile of hormone therapy.

Statin Use and the Risk of Venous Thromboembolism in Women Taking Hormone Therapy. [JAMA network open](#) 2023; 6:e2348213 Davis JW, Weller SC, Porterfield L *et al.*

Review: statins effect on coagulation

The authors present comprehensive review on the multifaceted role of statins in blood coagulation and thromboembolic disease management. Statins have shown to exert significant anticoagulant and antiplatelet effects. These effects are attributed to the downregulation of tissue factor (TF) expression, reduced thrombin generation, impaired fibrinogen cleavage, modulation of various coagulation factors, and enhanced endothelial thrombomodulin expression. The review highlights the pleiotropic effects of statins that extend beyond cholesterol reduction, contributing to their efficacy in cardiovascular disease management. In vitro and in vivo studies demonstrate statins' influence on platelet aggregation, TF gene expression, von Willebrand factor, D-dimer levels, and several coagulation factors. Statins also impact the protein C pathway, a critical regulator of thrombin formation, and the tissue factor pathway inhibitor (TFPI), affecting the TF-FVIIa complex activity. The review underscores the variability in statins' effects on different coagulation factors and acknowledges the need for further research to clarify these mechanisms. Clinically, statins have been associated with primary and secondary prevention of venous thromboembolism (VTE), with studies indicating a potential reduction in VTE recurrences and mortality. However, the evidence is mixed, and the review calls for more targeted intervention studies to conclusively determine statins role in VTE management. The potential risks, such as increased bleeding in certain contexts and other documented side effects like myopathy and diabetes, are also discussed. While statins antithrombotic properties are promising, their impact on VTE's require further clarification through dedicated research. This review provides a critical understanding of statins complex role in coagulation and their potential therapeutic implications in thromboembolic disease management.

Statins Effects on Blood Clotting: A Review. *Cells* 2023; 12Siniscalchi C, Basaglia M, Riva M *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38067146>

The potential of atorvastatin to mitigate cognitive impairment

Remarkable findings in this basic science study using ApoE^{-/-} mouse model, investigated the therapeutic potential of Atorvastatin in mitigating memory deficits and brain monocyte infiltration caused by chronic hypercholesterolemia, Mild Cognitive Impairment (MCI) is prevalent in individuals over 60 and is exacerbated by hypercholesterolemia, leading to neuron damage and cognitive impairment through neuroinflammation, BBB dysfunction, and monocyte infiltration. The study suggests that hypercholesterolemia-induced changes, including increased plasma cholesterol, reduced Recognition Index (RI) in memory tests, decreased mobility, and downregulated PSD-95 and BDNF, are significantly reversed by Atorvastatin. Moreover, Atorvastatin notably represses increased brain and blood Ly6Chi CD45⁺ cells, plasma IL-12/IL-23, and IL-17 levels, all indicators of inflammation and immune activation. The authors also highlight that Atorvastatin prevents the increased permeability of the blood-brain barrier (BBB) and restores the expression of tight junction proteins (ZO-1 and occludin) and KLF2, a transcriptional factor regulating these proteins. This suggests its role in protecting against BBB disruption and suppressing neuroinflammation, thereby mitigating cognitive impairment. The methodology involves using aged ApoE^{-/-} mice to mimic chronic hypercholesterolemia and assessing the effects of Atorvastatin treatment on various physiological and molecular markers related to memory, inflammation, and BBB integrity. Atorvastatin demonstrates a promising therapeutic potential in reducing memory deficits and monocyte infiltration in the brain, possibly through mechanisms involving lipid-lowering, anti-inflammatory effects, and BBB protection. This suggests its potential utility in treating hypercholesterolemia-related cognitive impairments, though further investigation is needed to understand the underlying mechanisms and its effectiveness in human subjects.

Atorvastatin mitigates memory deficits and brain monocyte infiltration in chronic hypercholesterolemia. *Aging* 2023; 15Gong F, Shi Q, Mou X *et al.*

<http://www.ncbi.nlm.nih.gov/pubmed/?term=38048213>

The HEARTBEAT study confirms inadequate lipid targets in high risk

primary prevention patients suffering a first ASCVD event

The HEARTBEAT study, a retrospective multicentre observational study conducted in Spain, evaluated the attainment of low-density lipoprotein cholesterol (LDL-C) targets in patients on lipid-lowering therapy (LLT) before experiencing a first major acute cardiovascular event (MACE). The study encompassed 334 patients, predominantly male and Caucasian, with a median age of 72 years, most of whom were at high or very high cardiovascular risk prior to MACE. Astonishingly, 87.5% and 89.7% of patients at high and very high cardiovascular risk, respectively, failed to achieve the LDL-C targets. Furthermore, only a small fraction had received high-intensity LLTs before MACE, indicating that patients were generally undertreated and far from lipid targets. The significance of managing dyslipidemia, particularly LDL-C, as a major risk factor for cardiovascular disease (CVD) is well-established. Lowering LDL-C has been shown to significantly reduce the incidence of major cardiovascular events, and specific LDL-C targets have been recommended for patients based on their risk levels. However, the study reveals a concerning gap between these guidelines and real-world practices, with a high incidence of failure to meet LDL-C targets among patients on LLT for primary prevention. This suboptimal performance in reaching LDL-C targets and undertreatment highlights a significant issue in the management of CVD risk, especially considering that nearly 70% of the patients were at high or very high cardiovascular risk before their first major cardiovascular event. The findings are in line with previous reports of suboptimal LDL-C target achievements in primary prevention in Europe and Spain. It points out the need for increased awareness and adherence to international guidelines among healthcare professionals to improve the use of LLTs in clinical practice and help more patients achieve their LDL-C goals. The authors call for action to optimize primary prevention strategies using more effective/intensive LLTs tailored to cardiovascular risk to avoid the first occurrence of MACE.

Patients who suffer a first atherosclerotic cardiovascular event while taking statins are often far off of lipid targets. [Nutrition, metabolism, and cardiovascular diseases : NMCD 2023; Masana L, Díaz Moya G, Pérez de Isla L. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38092606>](https://pubmed.ncbi.nlm.nih.gov/38092606/)

Relevant Publications

1. Statin use moderates APOE's and CRP's associations with dementia and is associated with lesser dementia severity in $\epsilon 4$ carriers. [Alzheimer's & dementia : the journal of the Alzheimer's Association 2023; Royall DR, Palmer RF. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38055626>](https://pubmed.ncbi.nlm.nih.gov/38055626/)
2. Unveiling the Rare Complication: Statin-Induced Immune-Mediated Necrotizing Myopathy. [Am J Case Rep 2023; 24:e941387Chowdhury FH, Mahneva O, Maharaj M, Marciales W. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38087774>](https://pubmed.ncbi.nlm.nih.gov/38087774/)
3. Association of health information technology-driven multidisciplinary approaches with low-density lipoprotein cholesterol target achievement in patients with an acute coronary syndrome. [Am J Prev Cardiol 2024; 17:100613Chen YS, Lin HH, Tsai HY et al. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38077651>](https://pubmed.ncbi.nlm.nih.gov/38077651/)
4. Cardiovascular Events After Coronavirus Disease 2019 Vaccinations Versus Long Coronavirus Disease. [Anatol J Cardiol 2023; 27:735-736Jargin SV. <http://www.ncbi.nlm.nih.gov/pubmed/?term=37842757>](https://pubmed.ncbi.nlm.nih.gov/37842757/)
5. Discovery of Natural Potent HMG-CoA Reductase Degradators for Lowering Cholesterol. [Angew Chem Int Ed Engl 2023:e202313859Su XZ, Zhang LF, Hu K et al. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38055195>](https://pubmed.ncbi.nlm.nih.gov/38055195/)
6. Trends in Primary Prevention Statin Use by Cardiovascular Risk Score From 1999 to 2018: A Repeated Cross-Sectional Study. [Annals of internal medicine 2023; Kim CJ,](https://pubmed.ncbi.nlm.nih.gov/38055195/)

Sussman JB, Mukamal KJ *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38048586>

7. Eicosapentaenoic and docosahexaenoic acid supplementation and coronary artery calcium progression in patients with coronary artery disease: A secondary analysis of a randomized trial. *Atherosclerosis* 2023; 387:117388Hariri E, Asbeutah AA, Malik A *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38056242>
8. When the same treatment has different response: The role of pharmacogenomics in statin therapy. *Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie* 2023; 170:115966Zheng E, Madura P, Grandos J *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38061135>
9. Status of lipid control in Bangladeshi subjects with type 2 diabetes mellitus on lipid-lowering drugs: a multicenter, facility-based, cross-sectional study. *BMC endocrine disorders* 2023; 23:268Selim S, Alam MS, Talukder SK *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38053073>
10. Advances in the management of chronic kidney disease. *Bmj* 2023; 383:e074216Chen TK, Hoenig MP, Nitsch D, Grams ME. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38052474>
11. Make My Day: primary prevention of stroke using engaging everyday activities as a mediator of sustainable health - a randomised controlled trial and process evaluation protocol. *BMJ Open* 2023; 13:e072037Patomella AH, Guidetti S, Hagströmer M *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38056945>
12. Effect of statins combined with PCSK9 inhibitors on the prognosis of patients with acute coronary syndromes after interventional therapy. *Cell Mol Biol (Noisy-le-grand)* 2023; 69:262-267Shi L, Ye Z, Gu Q, Li Y. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38063128>
13. Current Research on the Influence of Statin Treatment on Rotator Cuff Healing. *Clin Orthop Surg* 2023; 15:873-879Yoon JP, Park SJ, Kim DH *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38045588>
14. Retracted: Related Factors of Cerebral Hemorrhage after Cerebral Infarction and the Effect of Atorvastatin Combined with Intensive Nursing Care. *Comput Math Methods Med* 2023; 2023:9817935Methods In Medicine CAM. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38094432>
15. The relationship between plasma cystatin C, mortality and acute respiratory distress syndrome subphenotype in the HARP-2 trial. *Crit Care Resusc* 2022; 24:251-258McKelvey MC, Bradbury I, McDowell C *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38046206>
16. Inflammatory Myositis Following Statin Use in a Patient With Untreated Hypothyroidism. *Cureus* 2023; 15:e48463Renteria M, Jilani M, Brockman MJ, Davis HE. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38073998>
17. Bempedoic acid: a new player for statin-intolerant patients and beyond. *Current opinion in endocrinology, diabetes, and obesity* 2023; Giordano S, Spaccarotella CAM, Esposito G, Indolfi C. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38095480>
18. Bempedoic acid: new evidence and recommendations on use. *Curr Opin Lipidol* 2024; 35:41-50Paponja K, Pećin I, Reiner Ž, Banach M. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38085172>
19. Risk Factors Amenable to Primary Prevention of Type 2 Diabetes Among Disaggregated Racial and Ethnic Subgroups in the U.S. *Diabetes Care* 2023; 46:2112-2119Koyama AK, Bullard KM, Onufrak S *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38011520>
20. Letter: Statin use in patients with type 2 diabetes has lower risk of hip fractures. *Diabetes/metabolism research and reviews* 2023:e3756Huang SW, Jou IM, Chang R. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38093549>
21. Association between statin use on delirium and 30-day mortality in patients with chronic obstructive pulmonary disease in the intensive care unit. *European journal of medical research* 2023; 28:572Xia J, Hu C, Wang L, Zhang Y. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38062497>
22. Effects of proprotein convertase subtilisin-kexin type 9 inhibitors on inflammatory and hemostatic parameters in post myocardial infarction patients. *Eur J Pharmacol*

- 2023:176232Rehberger Likozar A, Ugovšek S, Šebeštjen M.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38070635>
23. The potential benefit of statin prescription based on prediction of treatment responsiveness in older individuals: An application to the PROSPER randomised controlled trial. *Eur J Prev Cardiol* 2023; Nguyen TL, Trompet S, Brodersen JB *et al*.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38085032>
24. Retracted: Additional Acupuncture Confers a Favorable Long-Term Prognosis for Elderly Hypertensive Patients with Carotid Atherosclerosis after Atorvastatin Treatment. *Evidence-based complementary and alternative medicine : eCAM* 2023; 2023:9780584And Alternative Medicine EC. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38074848>
25. An update on combination therapies for multiple sclerosis: where are we now? *Expert Rev Neurother* 2023:1-15Sorensen PS, Magyari M, Sellebjerg F.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38058171>
26. Ezetimibe and atherosclerotic cardiovascular disease: a systematic review and meta-analysis. *Frontiers in cardiovascular medicine* 2023; 10:1269172Omid F, Rahmannia M, Shahidi Bonjar AH *et al*. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38075958>
27. Association of HMGCR inhibition with rheumatoid arthritis: a Mendelian randomization and colocalization study. *Frontiers in endocrinology* 2023; 14:1272167Ma L, Du Y, Ma C, Liu M. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38047111>
28. The antihyperlipidemic effect of a combined supplement of standardized dry extracts of amla (*Embllica officinalis*), walnut (*Juglans regia*), olive (*Olea europaea*) and red yeast rice (*Monascus purpureus*) powder: Reduction in circulatory low-density lipoprotein-cholesterol (LDL-C) and remnant cholesterol (RC) levels in patients with hypercholesterolemia. *Frontiers in pharmacology* 2023; 14:1280234Hermans MP, Dierckxsens Y, Janssens I *et al*. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38089061>
29. Potential role of geranylgeraniol in managing statin-associated muscle symptoms: a COVID-19 related perspective. *Front Physiol* 2023; 14:1246589Tan B, Chin KY.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38046949>
30. Prasun P, Ganesh J. Lathosterolosis. In: GeneReviews®. Edited by: Adam MP, Feldman J, Mirzaa GM *et al*. Seattle (WA): University of Washington, Seattle
31. Copyright © 1993-2023, University of Washington, Seattle. GeneReviews is a registered trademark of the University of Washington, Seattle. All rights reserved.; 1993.
32. Impact of influenza, herpes zoster, and pneumococcal vaccinations on the incidence of cardiovascular events in subjects aged over 65 years: a systematic review. *Geroscience* 2023; 45:3419-3447Addario A, Célarier T, Bongue B *et al*.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=37269492>
33. Effects of Race and Gender Classifications on Atherosclerotic Cardiovascular Disease Risk Estimates for Clinical Decision-Making in a Cohort of Black Transgender Women. *Health Equity* 2023; 7:803-808Poteat T, Lett E, Rich AJ *et al*.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38076214>
34. Simultaneous acute portal vein thrombosis and ST elevation myocardial infarction in a Covid-19 patient - Case report. *Heliyon* 2023; 9:e22301Nournia E, Abbasi H, Bazrafshan M. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38074884>
35. Rationale and design of a randomized controlled trial: The effect of intensive lipid-lowering therapy with PCSK9 inhibitor on endothelial-coverage of stent strut after percutaneous coronary intervention (PCI) for patients with acute coronary syndrome (ACS): Optical coherence tomography (OCT) study (PIECES-OCT study). *Heliyon* 2023; 9:e22222Yin Z, Li ZF, Zhang WJ *et al*. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38045163>
36. Atorvastatin for patients with cirrhosis. A randomized, placebo-controlled trial. *Hepatol Commun* 2023; 7Kronborg TM, Schierwagen R, Trošt K *et al*.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38051553>
37. Global Burden of Cardiovascular Diseases and Risks, 1990-2022. *J Am Coll Cardiol* 2023; 82:2350-2473Mensah GA, Fuster V, Murray CJL, Roth GA.

- <http://www.ncbi.nlm.nih.gov/pubmed/?term=38092509>
38. New Statin Use, Mortality and First Cardiovascular Events in Older US Veterans by Frailty Status. J Am Geriatr Soc 2023; Orkaby AR, Lu B, Ho YL *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38055194>
 39. Using machine learning to enhance prediction of atrial fibrillation recurrence after catheter ablation. Journal of arrhythmia 2023; 39:868-875Brahier MS, Zou F, Abdulkareem M *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38045451>
 40. The relationship between statin administration timing and survival outcomes in patients with cancer receiving immune checkpoint blockade. J Chemother 2023;1-6Wang Z, See XY, Chiang CH *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38062978>
 41. Misperceptions and management of LDL-cholesterol in secondary prevention of patients with familial hypercholesterolemia in cardiology practice: Real-life evidence from the EPHESUS registry. J Clin Lipidol 2023; 17:732-742Kayıkcıoğlu M, Başaran Ö, Doğan V *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38072583>
 42. Evolution of More Aggressive LDL-Cholesterol Targets and Therapies for Cardiovascular Disease Prevention. Journal of clinical medicine 2023; 12Jones JE, Tang KS, Barseghian A, Wong ND. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38068483>
 43. Efficacy and Safety of Statin Treatment in Children with Familial Hypercholesterolemia: Outcomes of 20 Years of Experience. Journal of clinical medicine 2023; 12Motkowski R, Abramowicz P, Kubalska J *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38068249>
 44. Polypill Therapy for Cardiovascular Disease Prevention and Combination Medication Therapy for Hypertension Management. Journal of clinical medicine 2023; 12Narita K, Hoshida S, Kario K. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38068278>
 45. Efficacy of Topical Cholesterol and Statin Combination Therapy in the Treatment of Porokeratosis: A Systematic Review and Meta-Analysis. J Drugs Dermatol 2023; 22:1160-1165Casale F, Walters N, Peach A, Dong J.
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38051843>
 46. Comparison of the efficacy and safety of Shanhuang Jiangzhi tablets and atorvastatin in the treatment of patients with hyperlipidaemia. J Health Popul Nutr 2023; 42:143Sun G, Liang X. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38098069>
 47. Uncertain Benefit of Statins in Pediatric Heart Transplant Recipients: A PHTS Analysis. The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation 2023; Townsend M, Khoury M, Devin Koehl M *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38065240>
 48. Real-world effectiveness and safety of evolocumab in very high-risk atherosclerotic cardiovascular disease patients with acute ischemic stroke. Journal of thrombosis and thrombolysis 2023; Zhang T, Zhang Y, Yang Y *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38063944>
 49. Evidence-Based Checklist to Delay Cardiac Arrest in Brain-Dead Potential Organ Donors: The DONORS Cluster Randomized Clinical Trial. JAMA network open 2023; 6:e2346901Westphal GA, Robinson CC, Giordani NE *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38095899>
 50. New clarity for managing statin intolerance in diabetes. The lancet. Diabetes & endocrinology 2023; Hegele RA. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38061374>
 51. Efficacy and safety of bempedoic acid among patients with and without diabetes: prespecified analysis of the CLEAR Outcomes randomised trial. The lancet. Diabetes & endocrinology 2023; Ray KK, Nicholls SJ, Li N *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38061370>
 52. Genetic insights into the association of statin and newer nonstatin drug target genes with human longevity: a Mendelian randomization analysis. Lipids Health Dis 2023; 22:220Chen H, Zhou X, Hu J *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38082436>
 53. Enhanced therapeutic efficacy of doxorubicin/cyclophosphamide in combination with pitavastatin or simvastatin against breast cancer cells. Medical oncology.

- (Northwood, London, England) 2023; 41:7Dewidar SA, Hamdy O, Soliman MM *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38051378>
54. SLCO1B1 functional variants and statin-induced myopathy in people with recent genealogical ancestors from Africa: a population-based real-world study. medRxiv 2023; Yee SW, Haldar T, Kvale M *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38076949>
55. High-throughput target trial emulation for Alzheimer's disease drug repurposing with real-world data. Nature communications 2023; 14:8180Zang C, Zhang H, Xu J *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38081829>
56. The evaluation of atorvastatin as an adjunct to fluconazole for the anti-fungal prophylaxis in acute myeloid leukemia: a multicenter, triple-blinded, randomized clinical trial. Naunyn-Schmiedeberg's archives of pharmacology 2023; Saber-Moghaddam N, Nodeh MM, Ghavami V *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38095652>
57. Statins in Graves Orbitopathy: A New Therapeutic Tool. Ophthalmic plastic and reconstructive surgery 2023; 39:S29-s39Lanzolla G, Comi S, Cosentino G *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38054983>
58. Effect of statin treatment on metabolites, lipids and prostanoids in patients with Statin Associated Muscle Symptoms (SAMS). PLoS One 2023; 18:e0294498Garrett TJ, Puchowicz MA, Park EA *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38100464>
59. Proprotein convertase subtilisin/kexin type 9 inhibitors and small interfering RNA therapy for cardiovascular risk reduction: A systematic review and meta-analysis. PLoS One 2023; 18:e0295359Imran TF, Khan AA, Has P *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38055686>
60. ASSOCIATION OF SOLUTE CARRIER ORGANIC ANION TRANSPORTER 1B1 GENE POLYMORPHISM WITH RESPONSE TO ATORVASTATIN AND ASSOCIATED MYOPATHY IN IRAQI DYSLIPIDEMIA PATIENTS. PoI Merkur Lekarski 2023; 51:496-503Dheyaa Aziz N, Abbood SH, Al-Mayali AH, Hadi NR. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38069850>
61. Identical twins with statin-associated anti-3-hydroxy-3-methylglutaryl-coenzyme A reductase autoantibody-positive autoimmune myopathy. Scandinavian journal of rheumatology 2023:1-2Mali M, Piriälä L, Perander L *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38090763>
62. Using Artificial Intelligence to Semi-Quantitate Coronary Calcium as an 'Incidentaloma' on Non-Gated, Non-Contrast CT Scans, A Single-Center Descriptive Study in West Michigan. Spartan Med Res J 2023; 8:89132Kerndt CC, Chopra R, Weber P *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38084339>
63. Low-Density Lipoprotein Cholesterol and Statin Usage Are Associated With Rates of Pseudarthrosis Following Single-Level Posterior Lumbar Interbody Fusion. Spine 2023; Lavu MS, Eghrari NB, Makineni PS *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38073195>
64. Aortic Arch Plaques and the Long-Term Risk of Stroke and Cardiovascular Events in the Statin Era. Stroke 2023; Yoshida Y, Jin Z, Mannina C *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38063018>
65. Association of low-dose aspirin use for primary prevention with self-reported kidney stones prevalence: a cross-sectional study. World J Urol 2023; 41:3753-3758Yang M, Li Y, Chen Y, Huang F. <http://www.ncbi.nlm.nih.gov/pubmed/?term=37838641>
66. Effect of Berberine on Pharmacokinetics and Pharmacodynamics of Atorvastatin in Hyperlipidemia Rats. Xenobiotica 2023:1-27Wu F, Cui M, Wang S *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38054840>
67. [Study on vaccination in patients with Kawasaki disease]. Zhonghua Er Ke Za Zhi 2023; 61:1148-1151Xie LP, Liu F, Huang GY. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38018056>
-

Basic Science

1. Fabrication and characterizations of simvastatin-containing mesoporous bioactive glass and molybdenum disulfide scaffold for bone tissue engineering. APL Bioeng 2023; 7:046115Murugan SS, Dalavi PA, Surya S *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38058994>
2. Simvastatin/hydrogel-loaded 3D-printed titanium alloy scaffolds suppress osteosarcoma via TF/NOX2-associated ferroptosis while repairing bone defects. Bioact Mater 2024; 33:223-241Jing Z, Yuan W, Wang J *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38045570>
3. Inhibiting cholesterol de novo synthesis promotes hepatocellular carcinoma progression by upregulating prostaglandin E synthase 2-mediated arachidonic acid metabolism under high fatty acid conditions. Cancer science 2023; Zhao Z, Liu X, Xiang Y *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38081591>
4. Hydrogels Loaded with Atorvastatin-Metal Organic Framework Have a Preventive Effect on Coronary Heart Disease. Chem Biodivers 2023:e202301511Bai X, Jiang J, Tu S, Zhang W. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38063816>
5. Enhanced Neuroprotective Synergy of Atorvastatin and Magnesium L-Threonate in a Rat Model of Alzheimer's Disease Induced by Aluminum Chloride. Cureus 2023; 15:e48400Gangoda DM, Saiyed MS, Pathan SR *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38074017>
6. Retracted: Simvastatin in the Treatment of Colorectal Cancer: A Review. Evidence-based complementary and alternative medicine : eCAM 2023; 2023:9767203And Alternative Medicine EC. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38093875>
7. Corrigendum to "Atorvastatin induced hepatic oxidative stress and apoptotic damage via MAPKs, mitochondria, calpain and caspase12 dependent pathways" [Food Chem. Toxicol. 83 (2015) 36-47]. Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association 2023; 183 Suppl 1:114301Pal S, Ghosh M, Ghosh S *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38052113>
8. Determination of nine cardiovascular drugs in human plasma by QuEChERS-UPLC-MS/MS. Heliyon 2023; 9:e22543Jin C, Wang T, Zhao T *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38094060>
9. Effect of systemic atorvastatin on bone regeneration in critical-sized defects in hyperlipidemia: an experimental study. International journal of implant dentistry 2023; 9:50Öztürk K, Kuzu TE, Ayrikçil S *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38097856>
10. Inhibitors of 3-Hydroxy-3-methylglutaryl Coenzyme A Reductase Decrease the Growth, Ergosterol Synthesis and Generation of petite Mutants in *Candida glabrata* and *Candida albicans*. Int J Mol Sci 2023; 24Andrade-Pavón D, Sánchez-Sandoval E, Tamariz J *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38069194>
11. Lovastatin Treatment Inducing Apoptosis in Human Pancreatic Cancer Cells by Inhibiting Cholesterol Rafts in Plasma Membrane and Mitochondria. Int J Mol Sci 2023; 24Gyoten M, Luo Y, Fujiwara-Tani R *et al.*
<http://www.ncbi.nlm.nih.gov/pubmed/?term=38069135>
12. miR-612 Enhances RSL3-Induced Ferroptosis of Hepatocellular Carcinoma Cells via Mevalonate Pathway. J Hepatocell Carcinoma 2023; 10:2173-2185Xing K, Bian X, Shi D *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38084209>
13. Computer-Aided, Resistance Gene-Guided Genome Mining for Proteasome and HMG-CoA Reductase Inhibitors. J Ind Microbiol Biotechnol 2023; Jenkinson CB, Podgorny AR, Zhong C, Oakley BR. <http://www.ncbi.nlm.nih.gov/pubmed/?term=38061800>
14. A novel sustainable second-derivative synchronous spectrofluorimetric method for the simultaneous determination of olmesartan medoxomil and rosuvastatin calcium in bulk and formulations: Integrated greenness and whiteness evaluation. Luminescence : the journal of biological and chemical luminescence 2023;

Batakoushy HA, Nasr ZA, Soliman MM *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38062646>

15. Simvastatin Differentially Modulates Glial Functions in Cultured Cortical and Hypothalamic Astrocytes Derived from Interferon α/β Receptor Knockout mice. Neurochemical research 2023; Bobermin LD, Sesterheim P, da Costa DS *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38063948>
16. Simvastatin restores pulmonary endothelial function in the setting of pulmonary over-circulation. Nitric Oxide 2023; 142:58-68Boehme JT, Sun X, Lu Q *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38061411>
17. Impact of atorvastatin and mesenchymal stem cells combined with ivermectin on murine trichinellosis. Parasitol Res 2023; 123:57Hassan ZR, El-Sayed S, Zekry KM *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38105357>
18. Role of individual and combined impact of simvastatin and α -TCP in rat calvarial bone defect: An experimental study. Saudi Dent J 2023; 35:861-868Sugumaran S, Selvam D, Nivedhitha MS *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=38077229>

To subscribe to the Statin Literature Update Service Click [HERE](#)



Facebook



Twitter



Website

mailing address:
lansberg@gmail.com

© P.J. Lansberg