FPSC133 – 10 Readings
FPSC 133 – Sat 7th and Sun 8th March 2026, 2.00 pm – 5.30 pm (via Zoom)
A Selection of Ten
A Selection of 10 Readings on topics related to
Chronic Disease Management 2026
All are in Free Full Text
Selection of readings made by A/Prof Goh Lee Gan

READING 1 – EVALUATION OF IMPLEMENTATION OF AN INSULIN PATIENT DECISION AID

Tong WT(1)(2), Ng CJ(3)(4)(5), Lee YK(3), Lee PY(6). Evaluation of the implementation of an insulin patient decision aid for patients with type 2 diabetes in an academic primary care clinic in Malaysia: a mixed method study. BMC Health Serv Res. 2025 Mar 27;25(1):450. PMID: 40148948.

doi: 10.1186/s12913-025-12588-x. PMID: 40148948. Free full text

Author information:
(1)Department of Primary Care Medicine, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia. tongwenting@um.edu.my. (2)Centre for Behavioural and Implementation Science Interventions, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore. tongwenting@um.edu.my. (3)Department of Primary Care Medicine, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia. (4)Centre for Population Health Research and Implementation, SingHealth Regional Health System, Singapore, Singapore. (5)Department of Research, SingHealth Polyclinics, Singapore, Singapore. (6)eHealth Unit, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia.

ABSTRACT
BACKGROUND: Literature surrounding patient decision aid (PDA) focus on testing effectiveness such as measuring patient or practice outcomes, while few studies looked into evaluation of implementation outcomes. It is important to assess implementation outcomes because in order for PDA to deliver its intended effects, they should first be effectively implemented. This study aimed to evaluate the implementation of an insulin PDA in an academic primary care clinic specifically measuring implementation outcomes.

METHODS: A mixed-methods sequential explanatory design was used. This study was conducted at a primary care clinic in an academic hospital from April - November 2018. The insulin PDA was implemented using a tailored implementation intervention, which comprised of 11 strategies aiming to overcome 13 prioritised implementation barriers. Evaluation data were collected from: healthcare administrators such as the head of department, the clinic coordinator, and the nursing officer who oversees the clinic operations, doctors whose tasks were to deliver the insulin PDA to patients, nurses who were responsible for making sure the insulin PDAs were available, and patients with

type 2 diabetes who were offered the insulin PDA. The study commenced with the quantitative approach to assess 'Reach', 'Adoption', 'Implementation' and 'Maintenance'of the insulin PDA. Subsequently, qualitative approach was employed and qualitative interviews were conducted with the relevant stakeholders to explain the quantitative outcomes. A total of six IDIs and six FGDs were conducted with healthcare providers (healthcare policymakers: 3, doctors: 35, and staff nurses: 5), and 62 IDIs were conducted with patients.

RESULTS: For 'Reach', 88.9% (n = 48/54) of doctors and 55% (n = 11/20) of nurses attended the insulin PDA training workshops. This was attributed to their self-motivation and the mandate from the Head of Department. The PDA reached 387 patients and was facilitated by the doctors who delivered the PDA to them and their own desire to know more about insulin. Doctors' 'Adoption' of the PDA was high (83.3%, n = 45/54) due to the positive personal experience with the usefulness of the PDA. Only 65.7% (n = 94/143) of patients who received the PDA read it. The degree of 'Implementation' of the PDA varied for different tasks (ranged from 19.2 to 84.9%) and was challenged by patient and system barriers. For 'Maintenance', 80% of the doctors were willing to continue using the PDA due to its benefits.

CONCLUSION: This study highlighted that the implementation of an insulin PDA in a primary care setting is promising. Addressing the issues of social hierarchy, and healthcare providers' roles and responsibilities can further improve implementation outcomes.

READING 2 -- BENEFITS AND POTENTIAL RISKS OF METFORMIN ACROSS DIVERSE POPULATIONS, WITH A PARTICULAR EMPHASIS ON WOMEN IN THE PERIMENOPAUSAL PHASE.

Lim BSY(1), Chen M(2), Li HY(3), Li LJ(4)(5)(6)(7). Metformin use in prediabetes: A review of evidence and a focus on metabolic features among peri-menopausal women. Diabetes Obes Metab. 2025 Jun;27 Suppl 3(Suppl 3):3-15. PMID: 40329646.

doi: 10.1111/dom.16442. PMID: 40329646. Free full text.

Author information:
(1)Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore. (2)Faculty of Science, National University of Singapore, Singapore, Singapore. (3)Division of Endocrinology and Metabolism, Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan. (4)Department of Obstetrics & Gynaecology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore. (5)Global Centre for Asian Women's Health, Human Potential Translational Research Programme, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore. (6)NUS Bia-Echo Asia Centre for Reproductive Longevity and Equality (ACRLE), Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore. (7)Institute for Human Development & Potential (iHPP), Agency for Sciences, Technology & Research (A*STAR), Singapore, Singapore.

ABSTRACT

The prevalence of prediabetes has more than doubled over the past two decades. Although hormones associated with the menstrual cycle may offer some protection against diabetes by enhancing insulin sensitivity and suppressing gluconeogenesis, the prevalence of diabetes among women remains high at 10.5%. Notably, among the perimenopausal population, the prevalence catches up to-and even surpasses-that of men starting from the 70-74 age group, according to the 2021 International Diabetes Federation (IDF) report.

This narrative review examines the benefits and potential risks of metformin across diverse populations, with a particular emphasis on women in the perimenopausal phase. Metformin's interaction with hormonal regulation significantly influences both its therapeutic efficacy and long-term side effect profile, contributing to sex-specific differences in treatment response.

Consequently, its effectiveness varies among women at different stages of menopause, potentially due to differential impacts on inflammatory markers and modulation of the hypothalamic-pituitary-ovarian (HPO) and hypothalamic-pituitary-thyroid (HPT) axes.

Emerging evidence also highlights metformin's potential in managing conditions such as polycystic ovary syndrome (PCOS), breast tissue inflammation and endometrial disorders within this demographic.

Given these potential and multifaceted benefits, this review highlights the need for further randomized controlled trials (RCTs) to investigate metformin's role among perimenopausal and menopausal women and to better understand how menopausal status may influence its efficacy.

READING 3 – SARCOPENIA AND SARCOPENIC OBESITY IN CARDIOVASCULAR DISEASE

Tan LF(1)(2), Sia CH(2)(3), Merchant RA(2)(4). Sarcopenia and sarcopenic obesity in cardiovascular disease: a comprehensive review. Singapore Med J. 2025 Aug 1. PMID: 40759432.

doi: 10.4103/singaporemedj.SMJ-2024-233. PMID: 40759432. Free full text.

Author information:
(1)Healthy Ageing Programme, Alexandra Hospital, National University Health System, Singapore. (2)Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore. (3)Department of Cardiology, National University Heart Centre, Singapore. (4)Division of Geriatric Medicine, Department of Medicine, National University Hospital, Singapore.

ABSTRACT

Sarcopenia is the loss of muscle strength, mass and function. It is often exacerbated by chronic comorbidities such as cardiovascular diseases (CVDs).

There is a bidirectional relationship between sarcopenia and CVD. Sarcopenia can lead to increased adiposity, insulin resistance and chronic inflammation, predisposing adults to developing cardiovascular events.

Chronic inflammation and decreased physical activity observed in cardiac patients can lead to accelerated muscle loss and the development of sarcopenia.

Sarcopenia is linked to faster CVD progression, higher mortality and reduced quality of life. The co-occurrence of obesity with sarcopenia is termed sarcopenic obesity (SO). This condition is associated with worse outcomes than either condition individually. Early detection is crucial, as interventions can slow or reverse sarcopenia and improve cardiovascular outcomes.

This review summarises evidence on the interplay between CVD and sarcopenia, discusses diagnostic approaches and management strategies, and identifies knowledge gaps for future research.

READING 4 – IS TYPE 2 DIABETES A MODIFIABLE RISK FACTOR OR CAUSATIVE FACTOR FOR HEART FAILURE WITH A PRESERVED EJECTION FRACTION (HFPEF) ?

Packer M(1), Lam CSP(2), Butler J(3), Zannad F(4), Vaduganathan M(5), Borlaug BA(6). Is Type 2 Diabetes a Modifiable Risk Factor for the Evolution and Progression of Heart Failure With a Preserved Ejection Fraction? J Am Coll Cardiol. 2025 Nov 18;86(20):1917-1931. PMID: 40960442.

doi: 10.1016/j.jacc.2025.07.052. PMID: 40960442. Free full text.

Author information:
(1)Baylor Heart and Vascular Institute, Dallas, Texas, USA; Imperial College, London, United Kingdom. Electronic address: milton.packer@baylorhealth.edu. (2)Cardiovascular and Metabolic Disorders Programme, Duke-National University of Singapore Medical School, and the National Heart Centre Singapore, Singapore; Baylor Scott and White Research Institute, Dallas Texas, USA; University of Mississippi School of Medicine, Jackson, Mississippi, USA. (3)Baylor Scott and White Research Institute, Dallas Texas, USA; University of Mississippi School of Medicine, Jackson, Mississippi, USA. (4)Université de Lorraine, Centres d'Investigation Clinique, INSERM, Centre Hospitalier Régional Universitaire de Nancy, Nancy, France. (5)Division of Cardiovascular Medicine Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA. (6)Department of Cardiovascular Medicine, Mayo Clinic, Rochester, Minnesota, USA.

ABSTRACT

BACKGROUND: Type 2 diabetes is associated with an increased risk of heart failure with a preserved ejection fraction (HFpEF), but it is not clear whether this metabolic disorder is causal or represents a modifiable risk factor. Mechanisms by which diabetes may be associated with HFpEF can be grouped into the following: 1) those related to hyperglycemia and amenable to antihyperglycemic drugs; and 2) those related to the association of type 2 diabetes with obesity and visceral adiposity, and thus, treatable with interventions that reduce adipose tissue mass or improve adipocyte biology.

EVIDENCE AGAINST A ROLE FOR HYPERGLYCEMIA: Experimentally, acute and chronic hyperglycemia caused by islet cell destruction can lead to cardiac dysfunction, but these models resemble type 1 (not type 2) diabetes. Heightened levels of environmental glucose can cause enzymatic or nonenzymatic modification of proteins and signaling through the polyol pathway, but interference with these mechanisms has not produce clinical benefits in patients with heart disease and type 2 diabetes. Furthermore, lowering of blood glucose in type 2 diabetes with insulin, sulfonylureas, dipeptidyl peptidase-4 inhibitors and thiazolidinediones has not reduced the risk of heart failure.

EVIDENCE FOR A MEDIATING ROLE FOR ADIPOSITY: In marked contrast, experimental models that link type 2 diabetes to HFpEF are typically accompanied by excess adiposity. Epidemiological studies demonstrate that the association between type 2 diabetes and HFpEF is mediated primarily through a common link with central obesity and an expanded visceral fat mass. Changes in the biology of adipocytes as a result of visceral adiposity are sufficient to cause systemic insulin resistance and diabetes. Interestingly, the primary metabolic defect in the diabetic heart is lipid overload, not an impairment in glucose uptake or insulin resistance. Adiposity can promote HFpEF through the secretion of proinflammatory adipokines that lead to sodium retention and cardiac steatosis and fibrosis. Additionally, excess adiposity can drive the production of and enhance cardiac sensitivity to advanced glycation end products. Glucagon-like peptide receptor agonists and sodium-glucose cotransporter reduce the risk or progression of HFpEF, but this benefit is not related by the presence of diabetes or to the glucose-lowering effects of these drugs. Instead, their favorable cardiac effects may be mediated by their action to induce or mimic a state of caloric deprivation, thus restoring adipokine balance and alleviating the state of cardiac steatosis. Similarly, bariatric surgery alleviates both visceral adiposity and type 2 diabetes and reduces the risk of HFpEF.

CONCLUSIONS: Taken together, these findings suggest that diabetes-associated HFpEF is mediated primarily through its association with excess adiposity. Diabetes is a modifiable risk factor if treatment is directed toward adiposity rather than hyperglycemia. .

READING 5 – HIGHER PROPORTION OF DAYS COVERED (PDC) FOR ANY DM DRUG WAS ASSOCIATED WITH IMPROVED HBA1C RESULTS

Higher PDC for any DM drug and oral DM drugs during the observation period was significantly associated with clinically relevant HbA1c improvements.

Chan SL(1)(2), Yap CJQ(3), Xu Y(4), Chia SY(5), Mohamed Salim NNB(5), Lim DM(6), Choke E(7), Carmody D(8), Tan GCS(9), Goh SY(8), Bee YM(8), Chong TT(3). **Relationship between anti-diabetic medication use and glycaemic control: a retrospective diabetes registry-based cohort study in Singapore. BMJ Open. 2025 Sep 18;15(9):e098650. PMID: 40973363.**

doi: 10.1136/bmjopen-2024-098650. PMID: 40973363. Free full text.

Author information:
(1)Health Services Research Centre, Singapore Health Services Pte Ltd, Singapore gmscsli@nus.edu.sg. (2)Health Services & Systems Research, Duke-NUS Medical School, Singapore. (3)Department of Vascular Surgery, Singapore General Hospital, Singapore. (4)Singapore Health Services Pte Ltd, Singapore. (5)Health Services Research Unit, Singapore General Hospital, Singapore. (6)Department of General Surgery, Changi General Hospital, Singapore. (7)Department of Surgery, Sengkang General Hospital, Singapore. (8)Department of Endocrinology, Singapore General Hospital, Singapore. (9)SingHealth Polyclinics, Singapore.

ABSTRACT

OBJECTIVE: This study aimed to determine the association between diabetes mellitus (DM) medication use and glycaemic control.

DESIGN: This was a retrospective diabetes registry-based cohort study.

SETTING: Singapore.

PARTICIPANTS: Patients aged 18 and above with incident DM in the SingHealth Diabetes Registry from 2013 to 2020 were included. The entire study period included a 1 year baseline period, a 1 year observation period and a 3 month outcome period.

OUTCOME MEASURES: Drug use was measured using the proportion of days covered (PDC), and the changes in glycated haemoglobin (HbA1c) between the outcome and baseline periods were assessed. The associations between baseline HbA1c and PDC ≥0.80 and between PDC and change in HbA1c were analysed using logistic regression and the Kruskal-Wallis test, respectively.

RESULTS: Of 184 646 unique patients in the registry from 2013 to 2020, 36 314 met the inclusion and exclusion criteria and were included in the analysis. The median PDC for any DM drug, oral DM drugs and insulin during the observation period was 20.3%, 16.8% and 0%, respectively. Those who had good glycaemic control at baseline were less likely to receive DM drugs and those with poor baseline glycaemic control or

missing baseline HbA1c were more likely to be consistent users (PDC >80%) (p<2.2 × 10-16).

CONCLUSION: The relationship between DM drug use and glycaemic control is complex and non-monotonic. Higher PDC for any DM drug and oral DM drugs during the observation period was significantly associated with clinically relevant HbA1c improvements.

READING 6 -- INDIVIDUAL EMPOWERMENT, IN PARTNERSHIP WITH COMMUNITY AND HEALTHCARE PROVIDERS AND SUPPORTED BY RESEARCH AND INNOVATION OF CARE DELIVERY, IS KEY TO BUILDING A HEALTHIER AND STRONGER NATION.

Khoo J(1)(2), Lim RLC(3), Ng LP(3), Phoon IKY(3), Gani L(1), Puar THK(1)(2), How CH(2)(4), Loh WJ(1)(2). Metabolic health and strategies for a Healthier SG. Singapore Med J. 2025 Oct 1;66(Suppl 1):S30-S37. PMID: 41090312.

doi: 10.4103/singaporemedj.SMJ-2025-157. PMID: 41090312. Free full text

Author information:
(1)Department of Endocrinology, Changi General Hospital, Singapore. (2)Duke-NUS Medical School, Singapore. (3)SingHealth Polyclinics, Singapore. (4)Department of Family Medicine, Changi General Hospital, Singapore.

ABSTRACT
This review examines strategies for the prevention and management of obesity, hypertension, type 2 diabetes mellitus and dyslipidaemia, conditions that are increasing in Singapore, as components of individualised health plans in 'Healthier SG' and beyond. We describe cardiometabolic disease prevention and management initiatives in Changi General Hospital (CGH), including collaborations with SingHealth Polyclinics, Active SG, Exercise is Medicine Singapore and community partners in the Eastern Community Health Outreach programme, and highlight advances in curable hypertension (e.g., primary hyperaldosteronism) and novel cardiovascular risk markers such as lipoprotein(a).

We also outline technology-based interventions, notably the CGH Health Management Unit, which demonstrate the utility and convenience of telemedicine, and digital therapeutics in the form of apps that have been shown to improve treatment adherence and clinical outcomes.

Individual empowerment, in partnership with community and healthcare providers and supported by research and innovation of care delivery, is key to building a healthier and stronger nation.

READING 7 – FITTERLIFE (A COMMUNITY-BASED VIRTUAL WEIGHT MANAGEMENT PROGRAMME FOR OVERWEIGHT ADULTS) WAS EFFECTIVE IN ACHIEVING CLINICALLY SIGNIFICANT SHORT-TERM WEIGHT LOSS IN A REAL-WORLD SETTING.

Ge L(1), Lim FS(2), Lin S(3), Molina JAC(1), Pereira MJ(1), Manohari A(1), Tan D(2), Tan E(3). Effectiveness of FitterLife: A Community-Based Virtual Weight Management Programme for Overweight Adults. Nutrients. 2025 Dec 19;18(1):17. PMID: 41515134

doi: 10.3390/nu18010017. PMID: 41515134. Free full text.

Author information:
(1)Health Services and Outcomes Research, National Healthcare Group, NHG Health (Annex), 1 Mandalay Road, Singapore 308205, Singapore. (2)National Healthcare Group Polyclinics, National Healthcare Group, NHG Health (Annex), 1 Mandalay Road, Singapore 308205, Singapore. (3)Clinical Transformation, National Healthcare Group, NHG Health (Annex), 1 Mandalay Road, Singapore 308205, Singapore.

ABSTRACT

Background: The high prevalence of overweight and obesity in Singapore necessitates scalable primary prevention strategies. This study evaluated the short-term effectiveness of FitterLife, a 12-week, digitally delivered, group-based behavioural weight management programme targeting at-risk adults without diabetes or hypertension in the community.

Methods: In a retrospective matched cohort study, we compared 306 FitterLife participants (enrolled from October 2021 to January 2025) with 5087 controls identified from a population health data mart, matched on age, sex, ethnicity, and baseline body mass index (BMI). The primary outcome was achieving ≥5% weight loss or a ≥1 kg/m2 BMI reduction at 12 weeks. Programme effectiveness was analysed using propensity score matching (1:1) and inverse probability weighted regression. Mixed-effects models assessed weight/BMI trajectories and modified Poisson regression identified behavioural factors associated with success.

Results: After matching, FitterLife participants were more likely to achieve the weight loss target than controls (45.7% vs. 13.7%, coefficient = 0.32, 95% confidence interval [CI]: 0.26-0.38) and were over three times as likely to succeed (Adjusted incidence rate ratio [aIRR] = 3.37, 95% CI: 2.87-3.93). The programme group showed significant reductions in weight (-2.23 kg, 95% CI: -2.57 to -1.90) and BMI (-0.86 kg/m2, 95% CI: -0.95 to -0.73) at the end of programme. Higher session attendance and improved behavioural factors were associated with success.

Conclusions: FitterLife was effective in achieving clinically significant short-term weight loss in a real-world setting. The findings demonstrate the potential of a scalable, behavioural theory-informed, virtual group model as a viable primary prevention strategy within national chronic disease management efforts.

.

READING 8 -- ALBUMINURIA EMERGED AS AN IMPORTANT PREDICTOR OF FRACTURE RISK. ESPECIALLY IN NON-OBESE INDIVIDUALS.

Xiong X(1)(2)(3)(4), Lui DTW(5)(6), Ju C(3), Liu X(2)(7), Wei L(2)(3)(8), Chandran M(6)(9)(10), Wong CKH(2)(11)(12). Associations of Albuminuria and Metabolic Syndrome Traits With Fracture Risk in Patients With Type 2 Diabetes: A Population-Based Cohort Study. J Cachexia Sarcopenia Muscle. 2026;17(1):e70215. PMID: 41630354

doi: 10.1002/jcsm.70215. PMID: 41630354. Free full text.

Author information: (1)Centre for Safe Medication Practice and Research, Department of Pharmacology and Pharmacy, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China. (2)Laboratory of Data Discovery for Health (D24H), Hong Kong Science and Technology Park, Hong Kong SAR, China. (3)Research Department of Practice and Policy, School of Pharmacy, University College London, London, UK. (4)Department of Non-Communicable Disease Epidemiology, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK. (5)Department of Medicine, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China. (6)Asia Pacific Consortium on Osteoporosis (APCO), Hong Kong SAR, China. (7)Department of Surgery, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China. (8)Centre for Medicines Optimization Research and Education, University College London Hospitals NHS Foundation Trust, London, UK. (9)Osteoporosis and Bone Metabolism Unit, Department of Endocrinology, Singapore General Hospital, Singapore, Singapore. (10)DUKE NUS Medical School, Singapore, Singapore. (11)School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China. (12)Department of Infectious Disease Epidemiology & Dynamics, Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK.

ABSTRACT

BACKGROUND: Type 2 diabetes is associated with an increased risk of fragility fractures. While obesity may protect against fractures, individuals with type 2 diabetes often exhibit other metabolic syndrome (MetS) traits and albuminuria. We evaluated their roles and synergistic implications on incident fractures, stratified by obesity status.

METHODS: Patients with type 2 diabetes were identified from territory-wide electronic health records in Hong Kong (2000-2018). MetS-related traits included albuminuria and individual MetS traits (obesity, hypertension, low HDL-cholesterol and hypertriglyceridemia). Outcomes were hip and major osteoporotic fractures (MOF). Patients were followed until fracture, death or 31 December 2020. Adjusted hazard ratios (aHRs) were estimated using multivariable Cox models.

RESULTS: Among 165 289 patients with type 2 diabetes (median age: 60.0 years; 54.2% men), 1583 (0.96%) experienced hip fractures, and 3393 (2.05%) had MOF over a

median follow-up of 5.3 years. Albuminuria was the strongest risk factor for hip fractures (obese: aHR 1.33, 95% CI 1.11-1.60; non-obese: 1.54, 1.33-1.78) and MOF (obese: 1.13, 1.01-1.26; non-obese: 1.28, 1.15-1.43). Hypertension was a significant risk factor only in non-obese patients. In the non-obese group, each additional MetS-related trait was associated with an increased risk of hip fracture and MOF. When stratified by diabetes duration, albuminuria remained a significant risk factor across different diabetes durations, while suboptimal glycaemic control became a significant risk factor particularly when diabetes duration ≥ 5 years.

CONCLUSIONS: In this large population-based cohort of patients with type 2 diabetes predominantly of Asian descent from Hong Kong, albuminuria emerged as an important predictor of fracture risk. MetS traits compound this risk, especially in non-obese individuals. These findings could be instrumental in shaping screening initiatives for fracture risk optimization in type 2 diabetes.

READING 9 -- NO STATISTICALLY SIGNIFICANT DIFFERENCE IN THE RISK OF CARDIOVASCULAR EVENTS WAS OBSERVED IN PEOPLE WITH CHRONIC KIDNEY DISEASE WHO WERE NEWLY PRESCRIBED FEBUXOSTAT COMPARED WITH THOSE NEWLY TREATED WITH ALLOPURINOL.

Inoue R(1), Yamaguchi S(1), Okada A(1), Yamauchi T(2), Kadowaki T(1)(2)(3), Nangaku M(4). Allopurinol Versus Febuxostat Use and the Risk of Cardiovascular Disease in People With Chronic Kidney Disease: A New-User Active Comparator Cohort Study. Nephrology (Carlton). 2025 Nov;30(11):e70149. PMID: 41262068

doi: 10.1111/nep.70149. PMID: 41262068. Free full text.

Author information:
(1)Department of Prevention of Diabetes and Lifestyle-Related Diseases, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan. (2)Department of Diabetes and Metabolic Diseases, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan. (3)Toranomon Hospital, Tokyo, Japan. (4)Division of Nephrology and Endocrinology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan.

ABSTRACT
AIM: Hyperuricaemia, a common comorbidity among people with chronic kidney disease, is widely treated with uric acid-lowering agents such as allopurinol and febuxostat. Cardiovascular outcomes of people with chronic kidney disease receiving allopurinol or febuxostat have been controversial. The present study evaluated the risk of cardiovascular events associated with allopurinol or febuxostat treatment in people with chronic kidney disease.

METHODS: We conducted a new-user active comparator cohort study using a nationwide insurance claims database in Japan. Individuals with an estimated glomerular filtration rate < 60 mL/min/1.73 m2 who were newly prescribed allopurinol or febuxostat were included. The primary outcome was a composite of cardiovascular events, including fatal and non-fatal acute myocardial infarction, fatal and non-fatal

stroke, and all-cause death. Hazard ratios were estimated using a multivariate Cox regression model. A sensitivity analysis was performed using an inverse probability of treatment weighting (IPTW) Cox regression model. RESULTS: A total of 1673 and 7805 individuals were included in the allopurinol and febuxostat treatment groups, respectively. The febuxostat group had a similar incidence of the composite outcome as the allopurinol group (hazard ratio 0.93, 95% confidence interval: 0.79-1.08, p = 0.33). The hazard ratio for febuxostat compared with allopurinol treatment did not vary across different estimated glomerular filtration rate levels. The sensitivity analysis using IPTW showed similar results.

CONCLUSION: In conclusion, no statistically significant difference in the risk of cardiovascular events was observed in people with chronic kidney disease who were newly prescribed febuxostat compared with those newly treated with allopurinol.
.

READING 10 – TREATMENT WITH DAPAGLIFLOZIN RESULTED IN A HIGHER PROPORTION OF PARTICIPANTS WITH METABOLIC DYSFUNCTION-ASSOCIATED STEATOHEPATITIS (MASH) IMPROVEMENT

Lin J(1)(2)(3)(4), Huang Y(5)(3)(4), Xu B(1)(2)(3)(4), Gu X(6), Huang J(1)(2)(3)(4), Sun J(7), Jia L(8), He J(9)(10), Huang C(1)(2)(3)(4), Wei X(1)(2)(3)(4), Chen J(11), Chen X(12), Zhou J(13), Wu L(14), Zhang P(15)(2)(3)(4), Zhu Y(8), Xia H(6), Wen G(16), Liu Y(1)(2)(3)(4), Liu S(1), Zeng Y(1), Zhou L(1), Jia H(1), He H(17), Xue Y(1), Wu F(1), Zhang H(15)(2)(5)(3)(4). **Effect of dapagliflozin on metabolic dysfunction-associated steatohepatitis: multicentre, double blind, randomised, placebo controlled trial. BMJ. 2025 Jun 4;389:e083735. PMID: 40467095.**

doi: 10.1136/bmj-2024-083735. PMID: 40467095. Free full text.

Author information:
(1)Department of Endocrinology and Metabolism, Nanfang Hospital, Southern Medical University, Guangzhou, China. (2)State Key Laboratory of Organ Failure Research, National Clinical Research Centre for Kidney Disease, Nanfang Hospital, Southern Medical University, Guangzhou, China. (3)Research Institute of Metabolic Disease, Nanfang Hospital, Southern Medical University, Guangzhou, China. (4)Guangdong Provincial Key Laboratory of Cellular Metabolic Homeostasis and Major Chronic Diseases, Guangdong Provincial Key Laboratory of Shock and Microcirculation, Southern Medical University, Guangzhou, China. (5)Department of Food Safety and Health Research Centre, School of Public Health, Southern Medical University, Guangzhou, China. (6)Department of Endocrinology, First Affiliated Hospital of Wenzhou Medical University, Wenzhou, China. (7)Department of Endocrinology and metabolism, Zhujiang Hospital, Southern Medical University, Guangzhou, China. (8)Department of Endocrinology, Shenzhen People's Hospital, Shenzhen, China. (9)Department of Epidemiology, Peter O'Donnell Jr School of Public Health, UT Southwestern Medical Center, Dallas, TX, USA. (10)Departments of Internal Medicine and Neurology, UT Southwestern Medical Center, Dallas, TX, USA. (11)Hepatology Unit, Department of Infectious Diseases, Nanfang Hospital, Southern Medical University,

Guangzhou, China. (12)Department of Endocrinology, Zhongshan Hospital of Xiamen University, Xiamen, China. (13)Department of Gastroenterology, Zhongshan Hospital of Xiamen University, Xiamen, China. (14)Department of Infectious Diseases, First People's Hospital of Foshan, Foshan, China. (15)Department of Endocrinology and Metabolism, Nanfang Hospital, Southern Medical University, Guangzhou, China huijiezhang2005@126.com. (16)Medical Imaging Centre, Nanfang Hospital, Southern Medical University, Guangzhou, China. (17)Department of Epidemiology, Tulane University School of Public Health and Tropical Medicine, New Orleans, LA, USA.

ABSTRACT

OBJECTIVE: To assess the efficacy and safety of the sodium-glucose cotransporter 2 inhibitor dapagliflozin in participants with metabolic dysfunction-associated steatohepatitis (MASH).

DESIGN: Multicentre, double blind, randomised, placebo controlled trial.

SETTING: Six tertiary hospitals in China from 23 November 2018 to 28 March 2023.

PARTICIPANTS: 154 adults with biopsy diagnosed MASH, with or without type 2 diabetes.

INTERVENTIONS: All participants were randomly assigned to receive 10 mg orally of dapagliflozin or matching placebo once daily for 48 weeks.

MAIN OUTCOME MEASURES: The primary endpoint was MASH improvement (defined as a decrease of at least 2 points in non-alcoholic fatty liver disease activity score (NAS) or a NAS of ≤3 points) without worsening of liver fibrosis (defined as without increase of fibrosis stage) at 48 weeks. The secondary endpoints included the MASH resolution without worsening of fibrosis and fibrosis improvement without worsening of MASH. Analyses used the intention-to-treat dataset. RESULTS: MASH improvement without worsening of fibrosis was reported in 53% (41/78) of participants in the dapagliflozin group and 30% (23/76) in the placebo group (risk ratio 1.73 (95% confidence interval (CI) 1.16 to 2.58); P=0.006). Mean difference of NAS was -1.39 (95% CI -1.99 to -0.79); P<0.001). MASH resolution without worsening of fibrosis occurred in 23% (18/78) of participants in the dapagliflozin group and 8% (6/76) in the placebo group (risk ratio 2.91 (95% CI 1.22 to 6.97); P=0.01). Fibrosis improvement without worsening of MASH was reported in 45% (35/78) of participants in the dapagliflozin group, as compared with 20% (15/76) in the placebo group (risk ratio 2.25 (95% CI 1.35 to 3.75); P=0.001). The percentage of individuals who discontinued treatment because of adverse events was 1% (1/78) in the dapagliflozin group and 3% (2/76) in the placebo group.

CONCLUSION: Treatment with dapagliflozin resulted in a higher proportion of participants with MASH improvement without worsening of fibrosis, as well as MASH resolution without worsening of fibrosis and fibrosis improvement without worsening of MASH, than with placebo.