

Malaltia cardiovascular, diabetis mellitus i malaltia renal crònica

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- Fundación redGDPS

Potenciales conflictos de intereses



Becas de investigación

- | | | | | |
|----------|--------------|-------|---------------|------------|
| - Sanofi | - Boehringer | - MSD | - AstraZeneca | - Almirall |
| - Esteve | - Novartis | - GSK | | |

Aseorías

- | | | | | |
|------------|--------------|---------|---------------|------------|
| - Sanofi | - Boehringer | - MSD | - AstraZeneca | - Almirall |
| - Esteve | - Novartis | - GSK | - Ferrer | - Novo |
| - Abbott | - BMS | - Bayer | - Jansen | - Lacer |
| - Menarini | - Roche | - Rubió | - Servier | - Lilly |

Conferencias

- | | | | | |
|------------|--------------|---------|---------------|-------------|
| - Sanofi | - Boehringer | - MSD | - AstraZeneca | - Almirall |
| - Esteve | - Novartis | - GSK | - Ferrer | - Novo |
| - Abbott | - BMS | - Bayer | - Jansen | - Lacer |
| - Menarini | - Roche | - Rubió | - Servier | - Lilly |
| - Pensa | - Pfizer | - Roche | - Ordesa | - .../... ? |

Laborales

- Institut Català de la Salut

... es que sóc molt conflictiu

Lamento el olvido involuntario de alguna empresa y no estar al día de las últimas fusiones

Un darrer consell:

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Red de Grupos de Estudio de la Diabetes
EN ATENCI3N PRIMARIA DE LA SALUD

Web redGDPS P3gina principal Sobre este blog Publicar un comentario Recomendaciones ¿Qui3nes somos?

Post TOP 2015 Post TOP 2016 Post TOP 2017 Post TOP 2018 Acr3nimos

Jueves, 23 de mayo de 2019

La pioglitazona un f3rmaco antidiab3tico costeeffectivo y cardioprotector



La pioglitazona un f3rmaco antidiab3tico costeeffectivo y cardioprotector

Sabemos que la glucemia tiene un efecto relativamente d3bil en las complicaciones macrovasculares del paciente con diabetes tipo 2 (DM2), no as3 la presi3n arterial (PA) y la dislipemia que han sido asociadas con beneficios a nivel cardiovascular (CV) en pacientes con DM2.

3ltimamente se han publicado estudios que han relacionado f3rmacos antidiab3ticos no insul3nicos (ADNI) con la prevenci3n de eventos cardiovasculares (EvCV) y renales, todo ello independientemente de su potencia hipogluc3mica. Los inhibidores de los cotransportadores 2 de la bomba de sodio-glucosa (SGLT2) y los an3logos de los receptores del p3ptico similar al glucag3n (aGLP-1). Esto ha supuesto un cambio en el tratamiento del paciente con DM2 al desligar el tratamiento mediante ADNI del control gluc3mico de las complicaciones CV. En este marco es en el que se encuadran la familia de las glitazonas (GTZ), en concreto de la 3nica comercializada la pioglitazona (PIO), habida cuenta sus conocidos efectos antiaterog3nicos en la prevenci3n de EvCV; unos efectos conocidos desde hace a3os a partir del estudio PROactive (PROspective pioglitAZone

Clinical Trial In macroVascular Events) que mostr3 en 5238 pacientes con DM2 evolucionada a los 2,9 a3os una reducci3n de un 16%, (hazard ratio -HR- 0,84 -p 0,027) en un objetivo compuesto CV (IAM, AVC y muerte cardiovascular -MVC). A nivel particular aquellos pacientes con IAM previo (2445) o AVC previo (948) la PIO redujo tanto una complicaci3n como otra en un 28% y un 47% respectivamente. De la misma forma la PIO en el estudio Insulin Resistance Intervention after Stroke (IRIS) ya vimos como en individuos sin DM2 pero resistentes a la insulina (INS) con accidente isqu3mico transitorio (AIT) reciente a los 4,8 a3os reduc3a en un 24% el AVC y el IAM, HR 0,76 (p=0,007). Seguimiento del mismo han mostrado reducciones del riesgo de AVC de un 25% (p 0,01) y del s3ndrome coronario agudo en un 29% (p 0,02) resultados comparables con los que aportan los f3rmacos antiagregantes o las estatinas, afirman.

Metaan3lisis al respecto a instancias de la Food and Drug Administration (FDA) han demostrado reducciones de un 25% en los EvCV. Un an3lisis retrospectivo del UK Research General Practice Database (GPRD) sobre 91.511 pacientes seguidos durante 7,1 a3os mostraron como la PIO redujo la MCC en un 39% frente a la metformina (MET).

El estudio PERISCOPE mostr3 como la PIO frente a la glimepirida retarda la progresi3n de la arteriosclerosis coronaria.

El estudio Thiazolidinediones Or Sulphonylureas and Cardiovascular Accidents.Intervention Trial (TOSCA.IT), del que tambi3n hemos hablado, en 3041 pacientes (solo con un 11% de ECV previa) con mal control metab3lico con MET en monoterapia, la aleatorizaci3n entre PIO o sulfonilureas -SU- (b3sicamente glimepirida y gliclacida) y durante 4,8 a3os mostr3 como la frecuencia del objetivo primario (MCC, IAM, revascularizaci3n coronaria y AVC) fue parecida entre ambas mol3culas (6,8 frente a 7,2%, HR 0,96, p=0,40). Las bajas tasas de EvCV 1,5 por 100 personas impidieron obtener resultados significativos.

Sin embargo, los resultados del PROactive frente a la IC crearon una cierta preocupaci3n, habida cuenta que la PIO genera una cierta retenci3n de sodio y con ello de edema. El 50% de los pacientes con DM2 e IC mueren en 5 a3os, por lo que no es un tema balad3.

Con todo, aunque en el PROactive aument3 la incidencia de IC la mortalidad en el grupo de ICC no se aument3 si no que se redujo, lo que lleva a pensar, dada la alta mortalidad, que probablemente esta ICC no hubiera sido bien diagnosticada. En el IRIS los casos de IC no se incrementaron. Por otro lado, la PIO no tiene efectos negativos en la funci3n ventricular izquierda, y existen evidencias que mejora la disfunci3n diast3lica, reduce la PA e incrementa la sensibilidad insul3nica del miocardio. A su vez existen metaan3lisis que sugieren que la PIO tambi3n reducir3a el debut y la recurrencia de la fibrilaci3n auricular (FA).

Todos estos efectos CV nos sugiere que la PIO podr3a ser una buena opci3n en asociaci3n con los SGLT-2 o los aGLP-1.

El documento desarrolla todos los efectos metab3licos de esta GTZ enmarcada en el s3ndrome de insulinorresistencia, sus propiedades como insulinosensibilizador y en el control del perfil lip3dico, y otras caracter3sticas que lo har3an un agente antiaterog3nico de la pared arterial. Tambi3n mejora la funci3n de la c3lula betapancre3tica mejorando la durabilidad de la misma m3s all3 de 5 a3os, seg3n diversos estudios. Y dem3s ser3a el f3rmaco con m3s experiencia y eficacia en el tratamiento de la esteatosis y esteatohepatitis no alcoh3lica del paciente con DM, y a su vez, el 3nico hasta el momento que ha demostrado revertir la fibrosis hep3tica por este motivo.

En cuanto a los efectos secundarios se analizan los efectos sobre el peso (incremento entre 2-3 kg a partir del a3o) aunque es dosis dependiente y se minimiza cuando se combina con la MET, o se reduce si se combina con los SGLT2 o los aGLP-1. La retenci3n h3drica y el riesgo de edema e IC, ya

"look at the page in your preferred language"
visualiza la p3gina en el idioma que prefieras

Selecciona el idioma Tecnología de Google Traductor

Signos en Facebook

Redgedaps Diabetes | Crea tu insignia

Nombre: Diabetes Redgedaps

Buscar este blog

Recibe novedades por correo electr3nico

Email address...

Twitter

Tweets por @redGDPS

redGDPS-diabetes retweeted

Javier Cornejo Mart3n
@cornejo_79

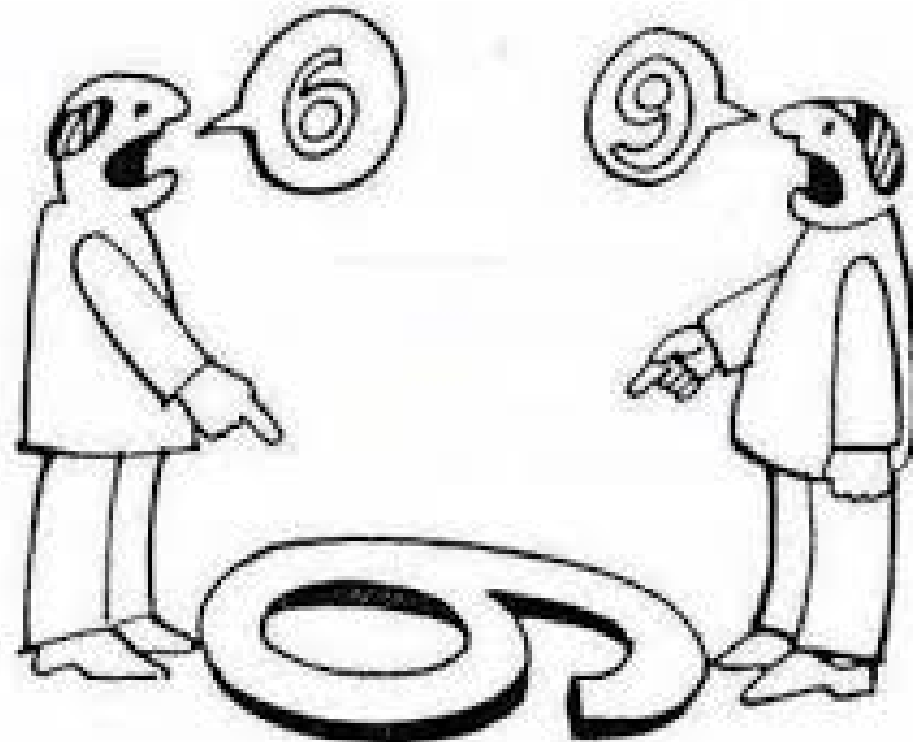
A pesar de todos los avances terap3uticos en #diabetESP solo logramos un buen control en aprox el 60% de nuestros pacientes, incluso despu3s de individualizar el objetivo de control@anicobrian en #semFYCdiabetes



redGDPS-diabetes retweeted 17d

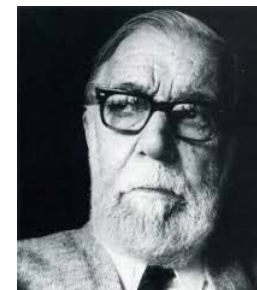
redGDPS-diabetes retweeted

Jaime Amor
@jaimeamorvalero



**“En aquesta vida tot és relatiu,
aproximat i provisional”**

Pere Quart (Joan Oliver, 1899-1986)



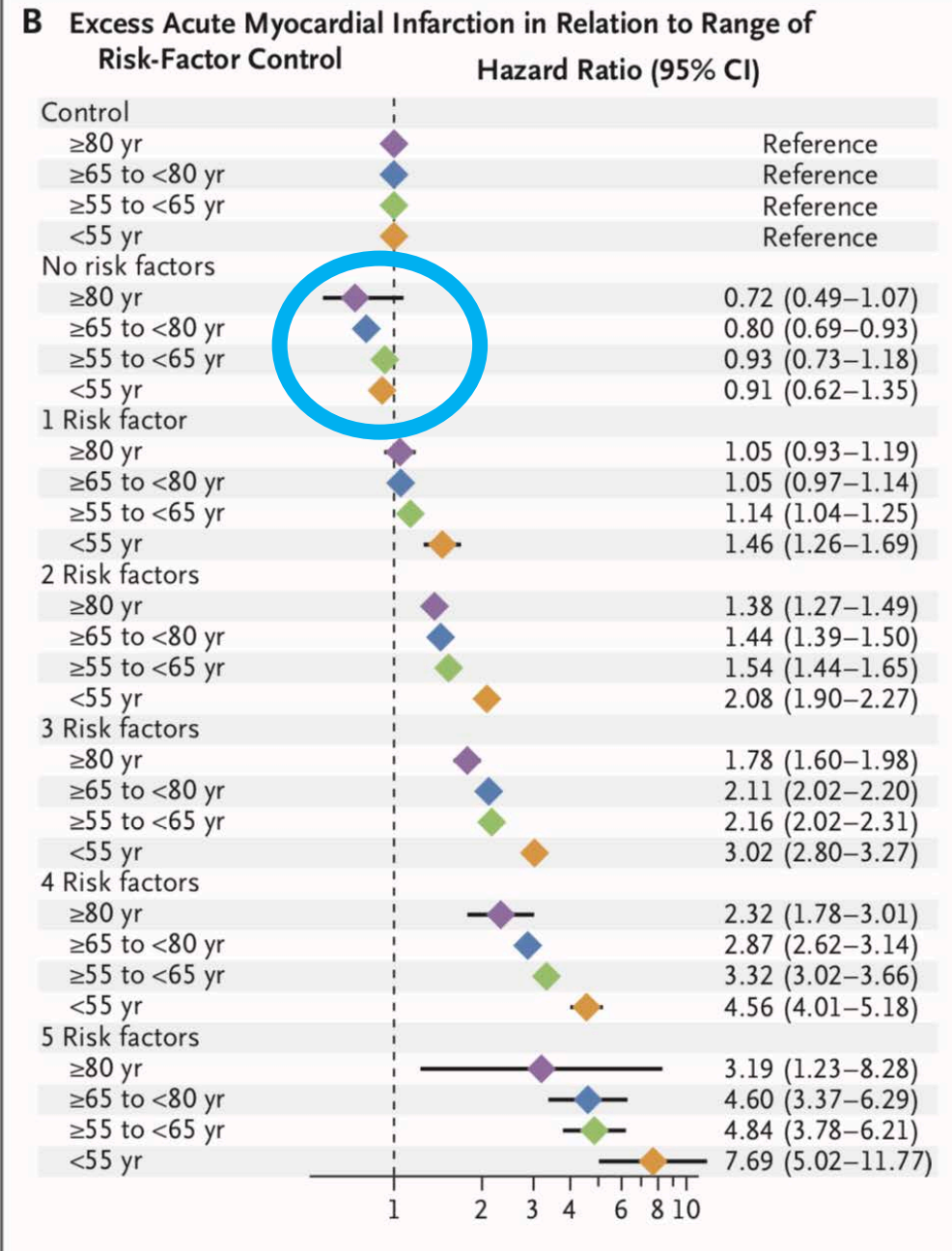
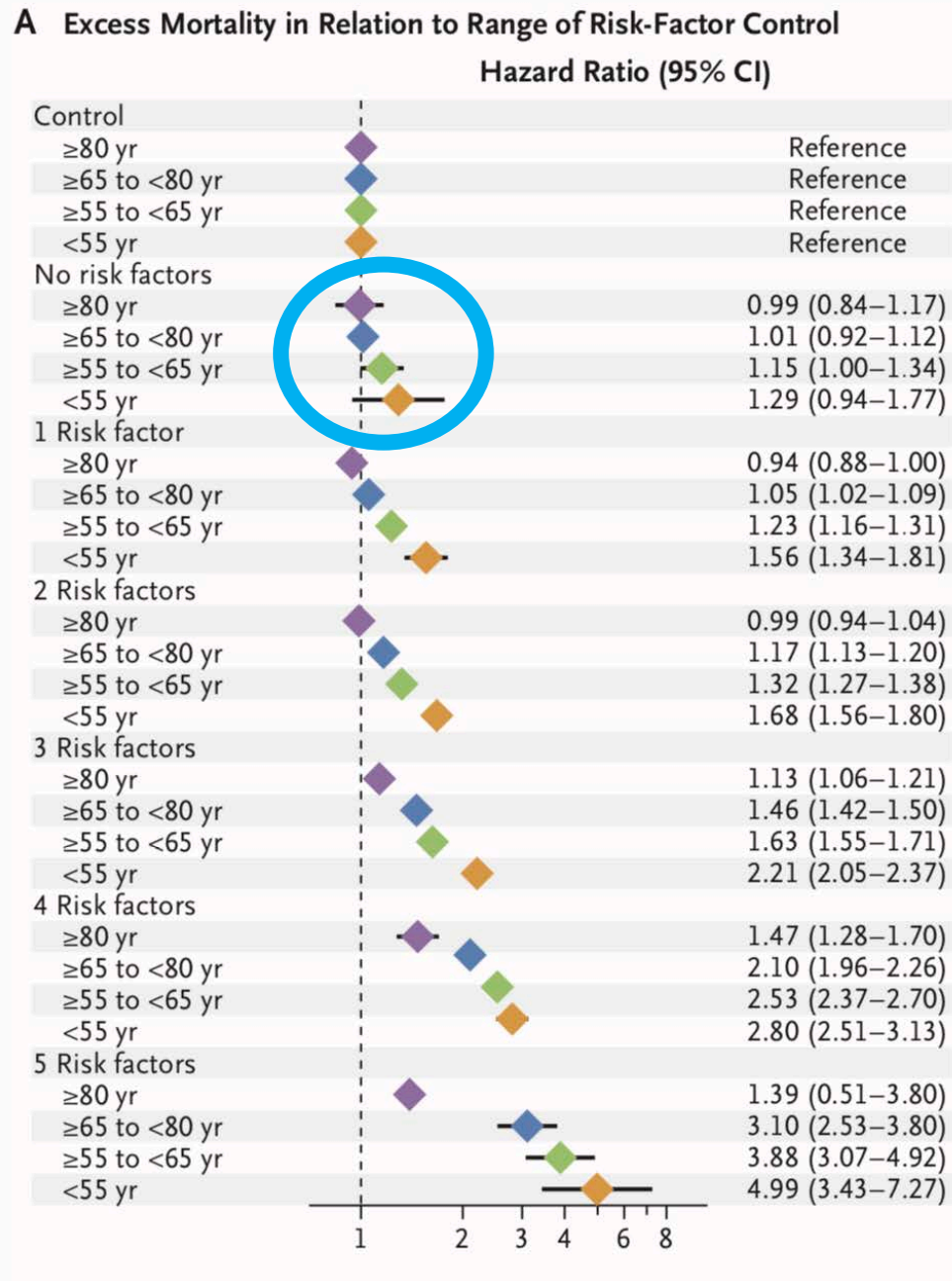
Risk Factors, Mortality, and Cardiovascular Outcomes in Patients with Type 2 Diabetes

Aidin Rawshani, M.D., Araz Rawshani, M.D., Ph.D., Stefan Franzén, Ph.D.,
Naveed Sattar, M.D., Ph.D., Björn Eliasson, M.D., Ph.D., Ann-Marie Svensson, Ph.D.,
Björn Zethelius, M.D., Ph.D., Mervete Miftaraj, M.Sc.,
Darren K. McGuire, M.D., M.H.Sc., Annika Rosengren, M.D., Ph.D.,
and Soffia Gudbjörnsdottir, M.D., Ph.D.

Registre suec: 271.174 DM2 i 1.355.870 controls aparellats per edat, gènere i regió. Seguits 5,7 anys

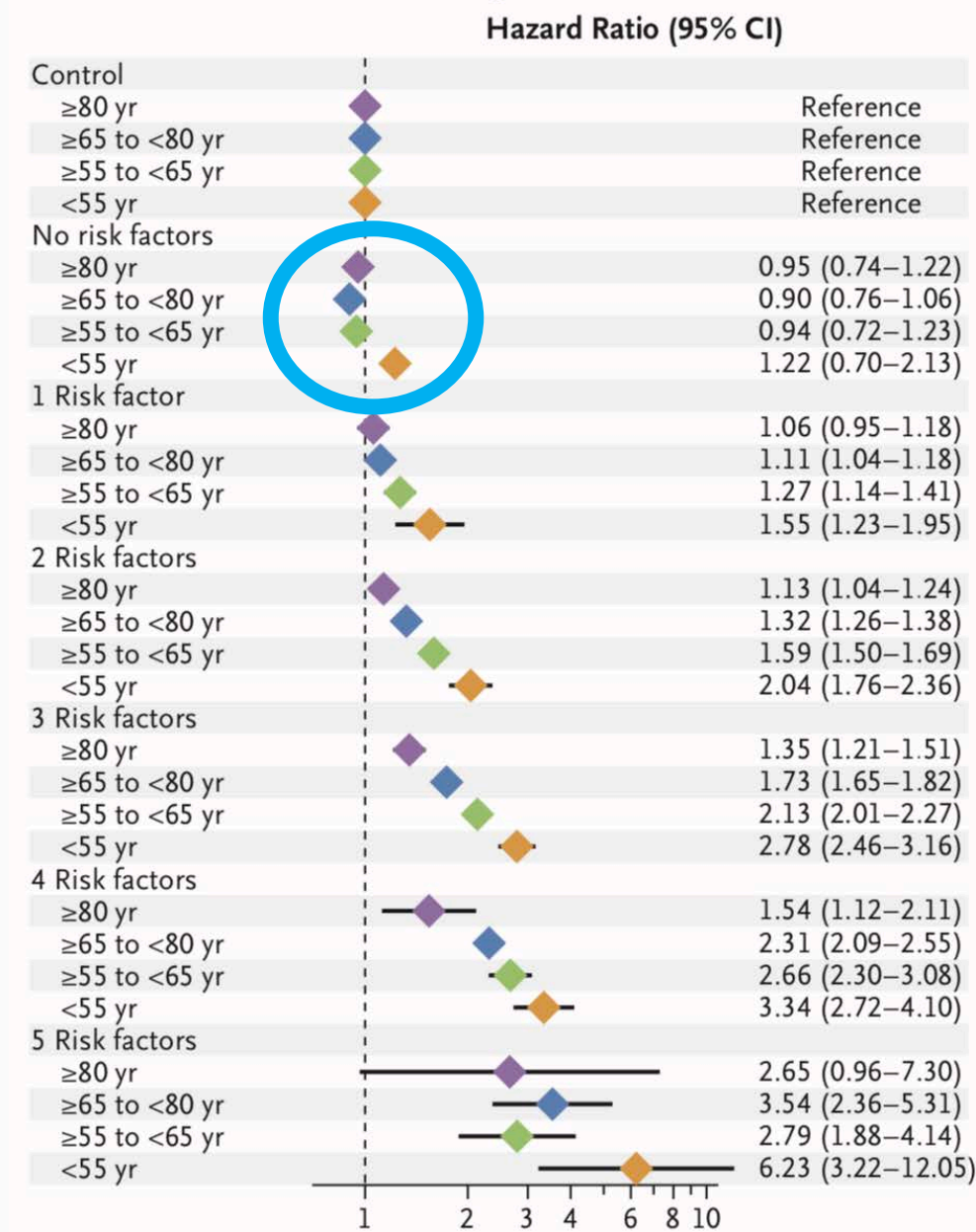
- Anàlisi de la presència de control dels 5 FRCV: HbA1c, LDLc, albuminuria, fumar i Hta
- Anàlisi del excess de risc de Mort, AIM, AVC i hospitalització per insuf cardíaca

En el DM2 quants més FRCV descontrolats ... pitjor mortalitat, més IAM

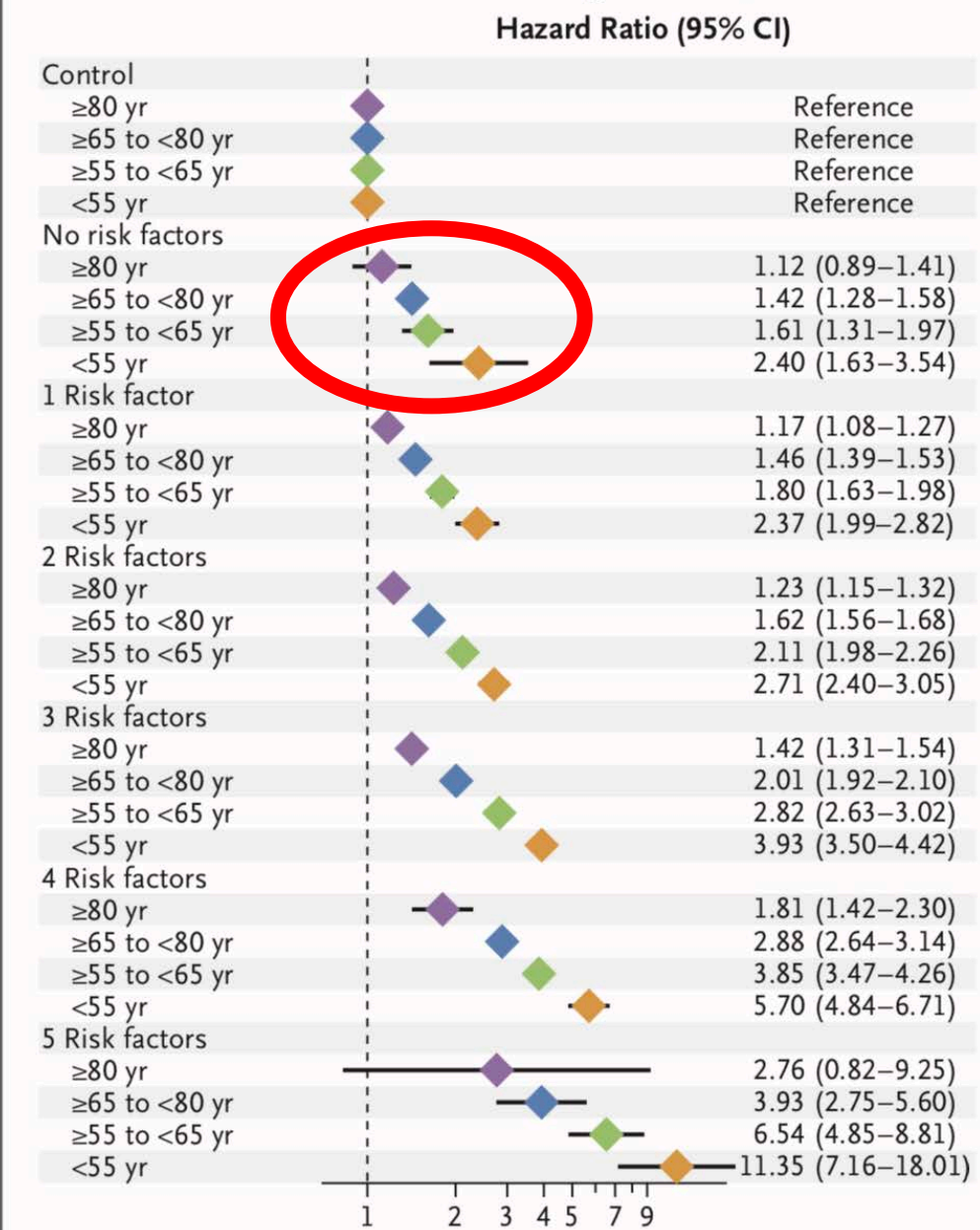


... ni més AVC ... però sí més hospitalitzacions per insuf cardíaca (HR1.45)

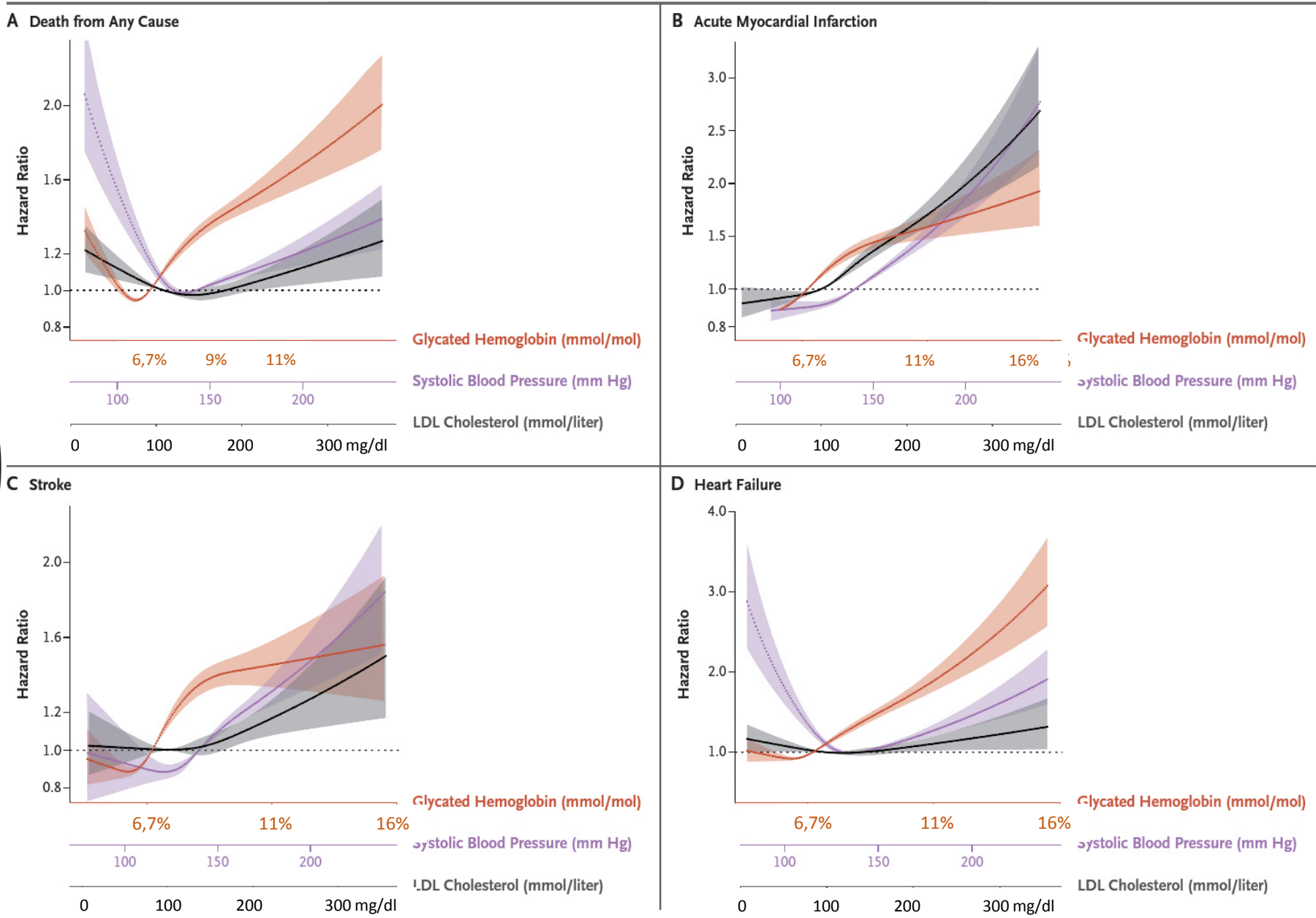
C Excess Stroke in Relation to Range of Risk-Factor Control



D Excess Heart Failure in Relation to Range of Risk-Factor Control



Associació entre HbA1c, PAS i LDLc amb la Mort per qualsevol causa, IAM, AVC i la insuficiència cardíaca



ORIGINAL RESEARCH ARTICLE

Age at Diagnosis of Type 2 Diabetes Mellitus and Associations With Cardiovascular and Mortality Risks

Findings From the Swedish National Diabetes Registry

Registre Suec (1998-2012): 318.083 DM2 i 1.600.000 controls. Seguiment mig de 5.63 anys
Resultats: Mortalitat, mortalitat CV, malaltia coronària, IAM, AVC, IC, ACxFA
Anàlisi de l'expectativa de vida segons l'edat en que es va diagnosticar la DM2

Sattar, N; et al.: Circulation. 2019;139:00–00.
DOI: 10.1161/CIRCULATIONAHA.118.037885

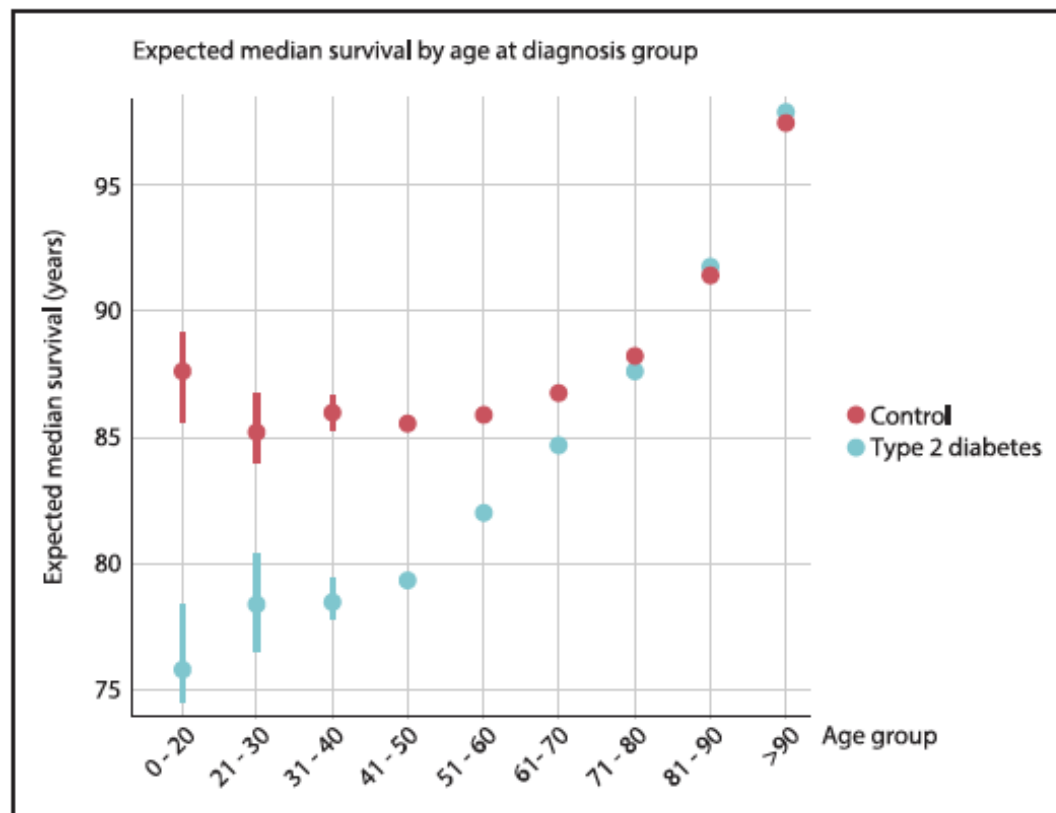
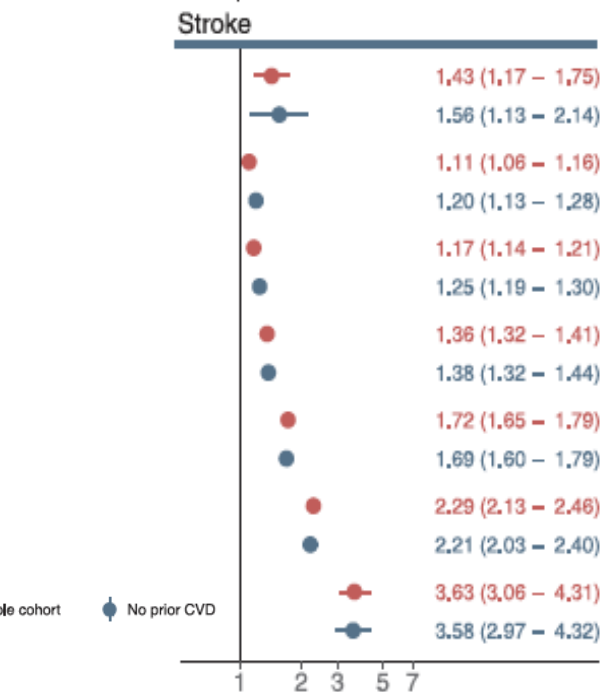
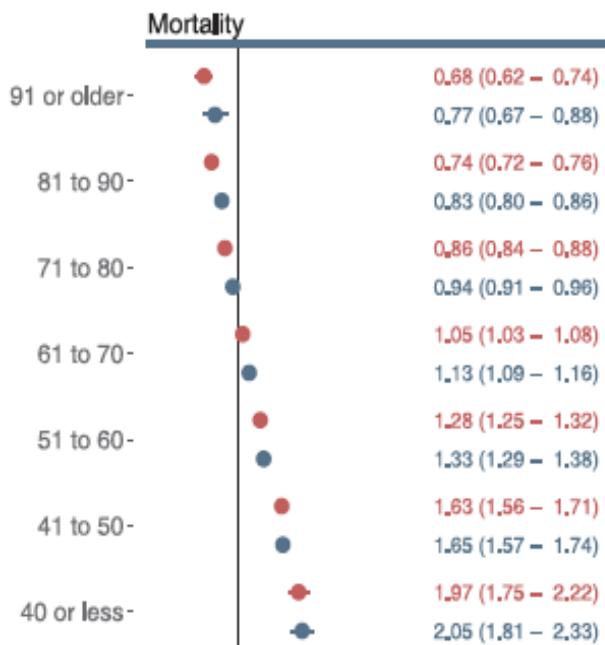
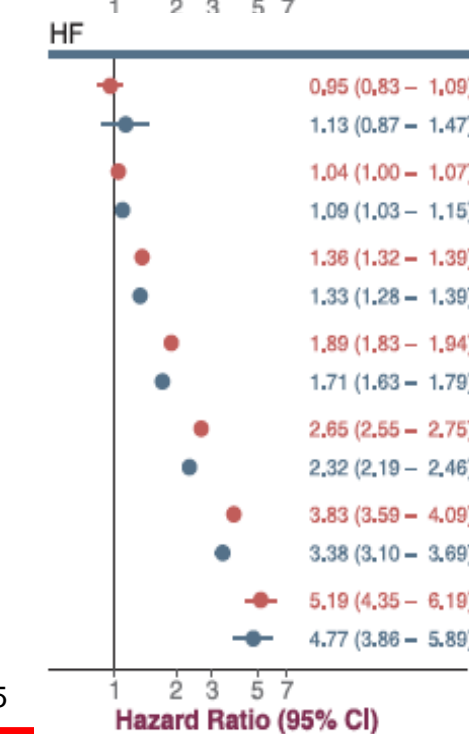
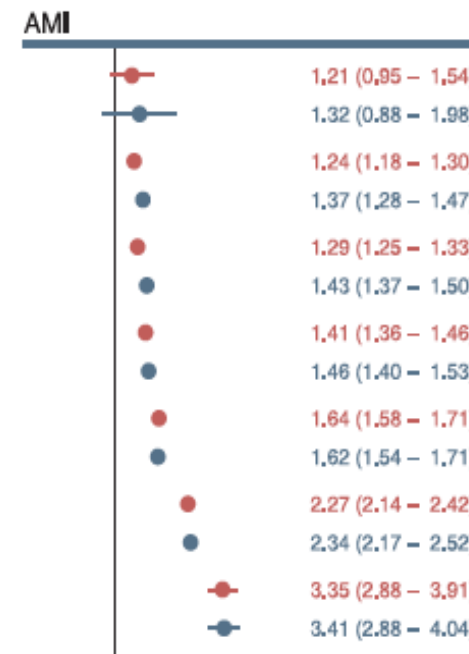


Figure 4. Age at diagnosis of type 2 diabetes mellitus and loss of life-years in persons without previous cardiovascular disease and without any restriction on the duration of type 2 diabetes mellitus.



CV outcome trials: different CV event rates

Controlar els FRCV és important però el objectiu final hauria de ser evitar la mort i la malaltia CV

| Trial | SGLT- 2 inhibitors | | | GLP-1 receptor agonist | | | | DPP-4 inhibitors | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| | EMPA-REG ¹ | CANVAS ² | DECLARE ³ | LIXA ⁴ | LEADER ⁵ | SUSTAIN ⁶ | HARMONY ⁷ | SAVOR ⁸ | EXAMINE ⁹ | TECOS ¹⁰ | CARMELINA ¹¹ |
| | Empagliflozin | Canagliflozin | Depagliflozin | Lixisenatide | Liraglutide | Semaglutide | Albiglutide | Saxagliptin | Alogliptin | Sitagliptin | Linagliptina |
| 3pt MACE | 0.86 0.74-0.99 | 0.86 0.75-0.97 | 0.93 0.84-1.03 | 1.02 0.89-1.17 | 0.87 0.78-0.97 | 0.74 0.58-0.95 | 0.78 0.68-0.90 | 1.0 0.89-1.08 | 0.96 upper 1.16 | 0.98 0.89-1.08 | 1.02 0.89-1.17 |
| CV death | 0.62 0.49-0.77 | 0.87 0.72-1.06 | 0.98 0.82-1.17 | 0.98 0.78-1.22 | 0.78 0.66-0.93 | 0.98 0.65-1.48 | 0.93 0.73-1.19 | 1.03 0.87-1.22 | 0.79 0.60-1.04 | 1.03 0.89-1.19 | 0.96 0.81-1.14 |
| Non-fatal MI | 0.87 0.70-1.09 | 0.85 0.69-1.05 | 0.89 0.77-1.01 | 1.03 0.87-1.22 | 0.88 0.75-1.03 | 0.74 0.51-1.08 | 0.75 0.61-0.90 | 1.95 0.80-1.22 | 1.08 0.88-1.33 | 0.95 0.81-1.11 | 1.12 0.90-1.40 |
| Non-fatal stroke | 1.24 0.92-1.67 | 0.90 0.71-1.15 | 1.01 0.84-1.21 | 1.12 0.79-1.58 | 0.89 0.72-1.11 | 0.61 0.38-0.99 | 0.86 0.66-1.14 | 1.11 0.88-1.39 | 0.91 0.55-1.50 | 0.97 0.89-1.08 | 0.91 0.67-1.23 |
| Hospitalized HF | 0.65 0.50-0.85 | 0.67 0.52-0.87 | 0.73 0.61-0.88 | 0.96 0.75-1.23 | 0.87 0.73-1.05 | 1.11 0.77-1.61 | 0.85 0.70-1.04 | 1.27 1.07-1.51 | 1.07 0.78-1.15 | 1.00 0.83-1.20 | 0.90 0.74-1.08 |
| All cause death | 0.68 0.57-0.82 | 0.87 0.74-1.01 | 0.93 0.82-1.04 | 0.94 0.78-1.13 | 0.85 0.74-0.97 | 1.05 0.74-1.50 | 0.95 0.79-1.16 | 1.11 0.96-1.27 | 0.88 0.71-1.09 | 1.01 0.90-1.14 | 0.98 0.84-1.13 |
| * primary end-point Death CV or Hospital for HF | | | 0.83 0.73-0.95 | | | | | | | | |

EMPA-REG , CANVAS , DECLARE, LEADER, SUSTAIN, HARMONY, SAVOR, EXAMINE, CARMELINA (3-point MACE: Time to first occurrence of CV death, non-fatal MI or non-fatal stroke)
TECOS , LIXA (4-point MACE: Time to first occurrence of: CV death, non-fatal MI or non-fatal stroke, hospitalization for unstable angina).

1. N Engl J Med 2015; 373:2117-2128, 2. N Engl J Med 2017; 377:644-657, 3. N Engl J Med 2018; 10 october 4. N Engl J Med 2015;373:2247-57 5. N Engl J Med 2016; 375:311-322
6. N Engl J Med 2016;375:1834-1844, 7. The Lancet ; October 2, 2018 8. N Engl J Med 2013;369:1317-26 9. N Engl J Med 2013;369:1327-35 10. N Engl J Med 2015;373:232-5 11. JAMA 2018; online november



Comparison of the Effects of Glucagon-Like Peptide Receptor Agonists and Sodium-Glucose Cotransporter 2 Inhibitors for Prevention of Major Adverse Cardiovascular and Renal Outcomes in Type 2 Diabetes Mellitus

Systematic Review and Meta-Analysis of Cardiovascular Outcomes Trials

- Revisió sistemàtica i metanàlisis
- Objectiu primari: anàlisi comparatiu dels iSGLT2 i arGLP1 estudiar MACEs , insuficiència cardíaca i progressió de la malaltia renal

Prevençió secundària

Prevençió primària

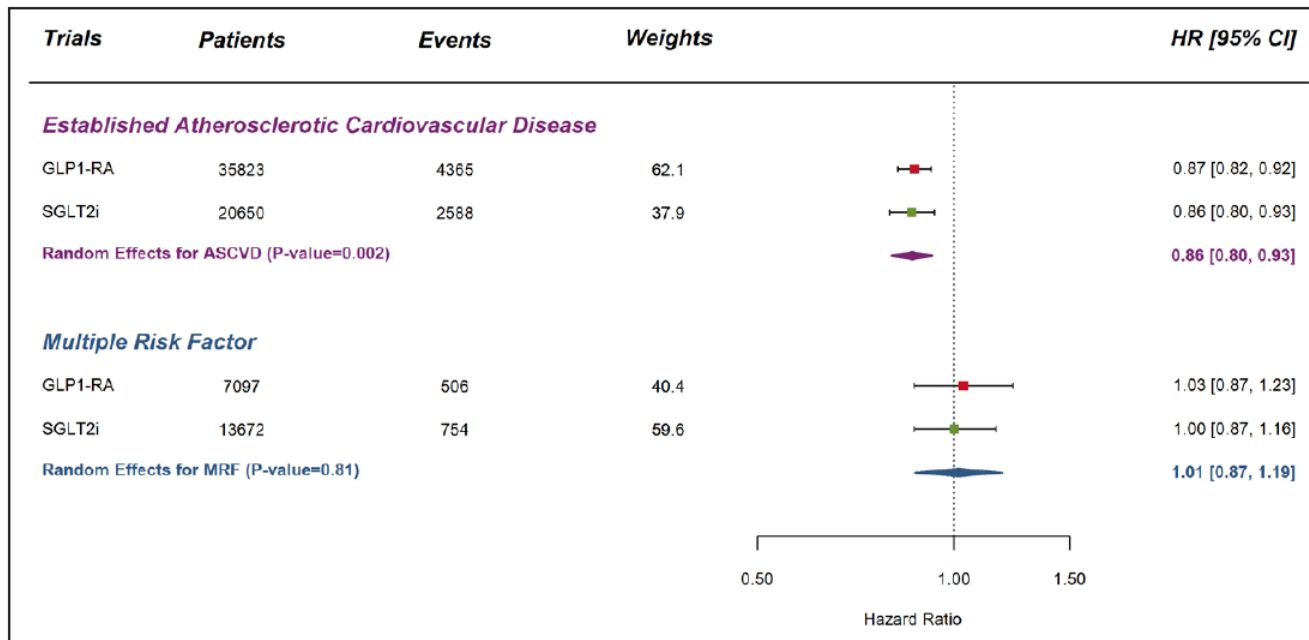


Figure 1. Meta-analysis of glucagon-like peptide 1 receptor agonist (GLP1-RA) and sodium-glucose cotransporter-2 inhibitor (SGLT2i) trials on the composite of myocardial infarction, stroke, and cardiovascular death stratified by the presence of atherosclerotic cardiovascular disease.

Pero en la hospitalització per insuficiència cardíaca, els iSGLT2 > arGLP1

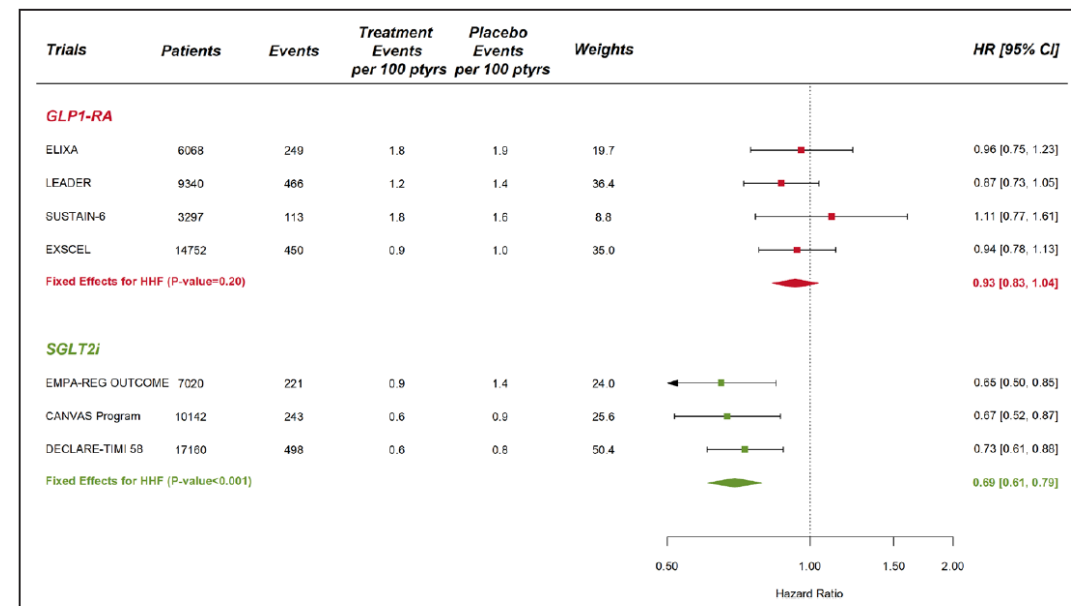
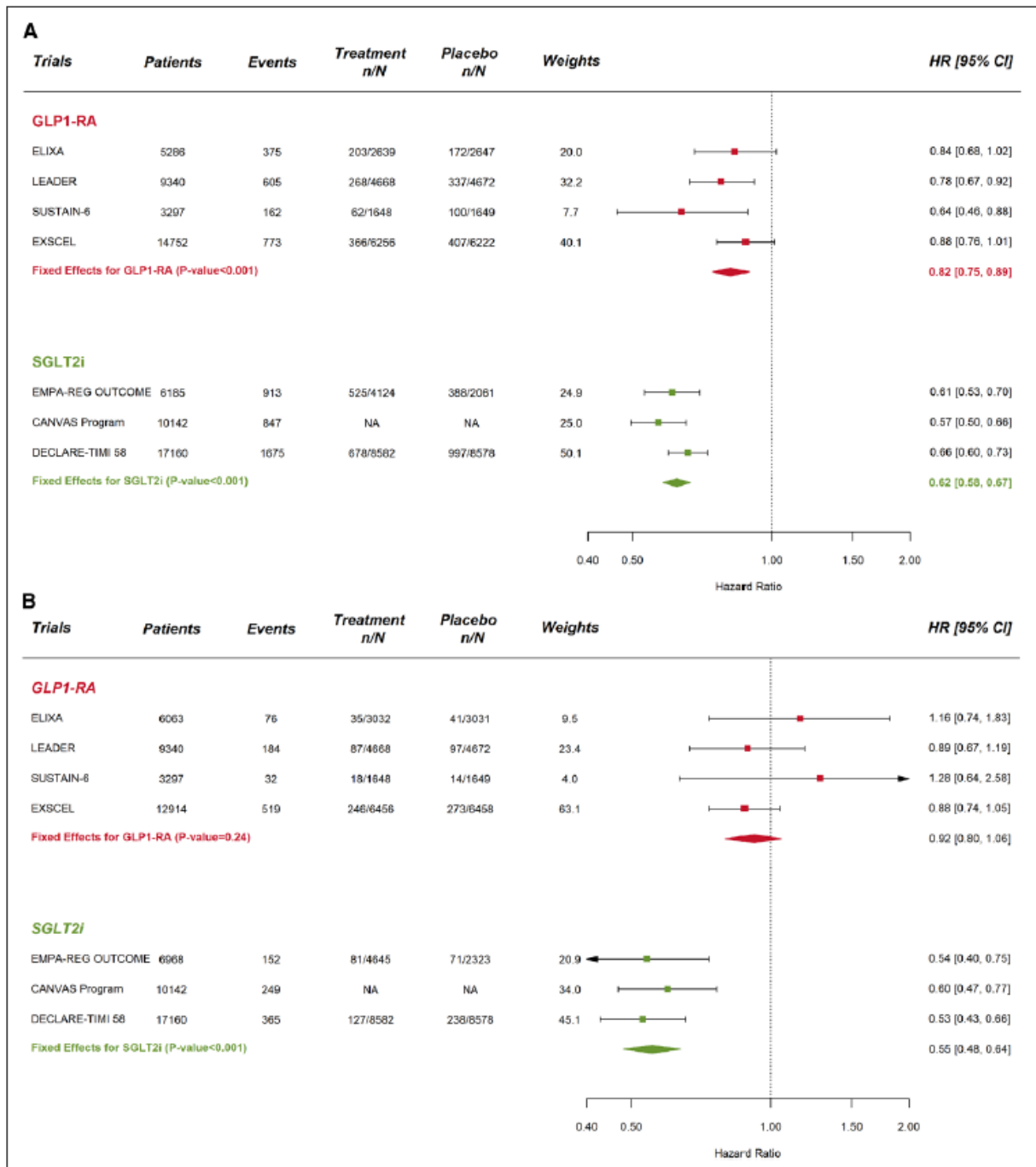


Figure 2. Meta-analysis of glucagon-like peptide 1 receptor agonist (GLP1-RA) and sodium-glucose cotransporter-2 inhibitor (SGLT2i) trials on hospitalization for heart failure (HHF) stratified by drug class.

Esdeveniments renals (MARE):

- Aparició de macroalbuminúria
- Doblament de la creatinina
- Reducció del 40% del Fge
- Malaltia renal terminal
- Mort de causa renal

En MARE exclosa la macroalbuminúria



Canagliflozin and Renal Outcomes in Type 2 Diabetes and Nephropathy

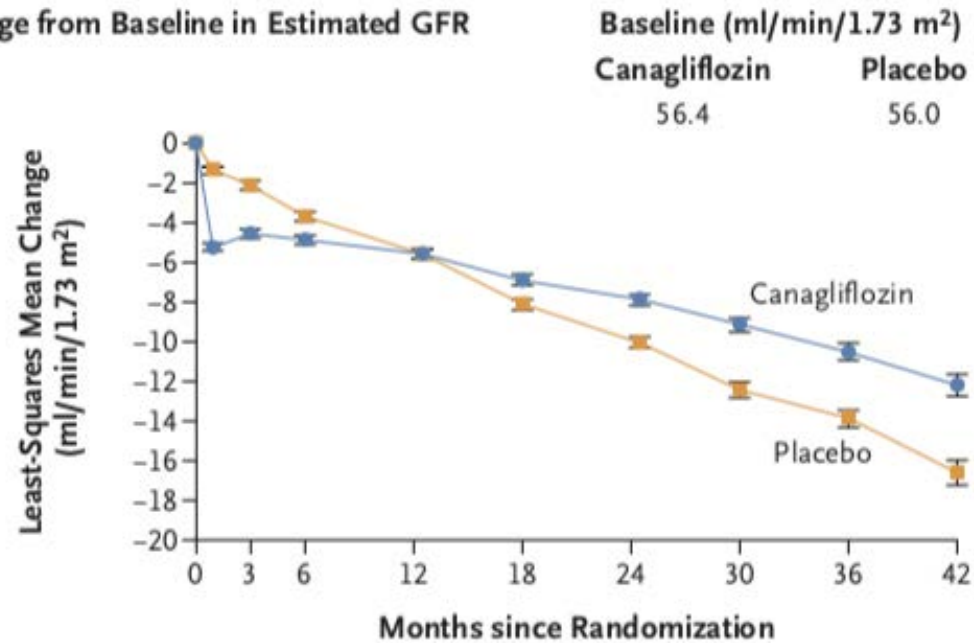
V. Perkovic, M.J. Jardine, B. Neal, S. Bompoint, H.J.L. Heerspink, D.M. Charytan, R. Edwards, R. Agarwal, G. Bakris, S. Bull, C.P. Cannon, G. Capuano, P.-L. Chu, D. de Zeeuw, T. Greene, A. Levin, C. Pollock, D.C. Wheeler, Y. Yavin, H. Zhang, B. Zinman, G. Meininger, B.M. Brenner, and K.W. Mahaffey, for the CREDENCE Trial Investigators*

- ECA, multicéntrico y controlado por placebo. n= 4401 pacientes con DM2 y ERC.
- Pacientes asignados aleatoriamente por emparejamiento recibieron **canagliflozina** (100 mg /día) o **placebo** con estratificación según categoría de FGe en el momento de la captación (30-45 ml, 45-60 ml o 60-90 ml/min/1,73 m²).
- *Criterios inclusión:* > 30 años, estadios 2 o 3 de ERC y un CAC > 300, bloqueo del sistema renina-angiotensina-aldosterona >4 semanas antes de la asignación al azar y DM2 en terapia básica durante dos semanas. Un 60% tenía un FGe de 30-60 ml.
- El **objetivo primario** compuesto de **ERC terminal** (diálisis, trasplante renal o un FGe < 15 ml durante 30 días), **duplicar la creatinina** o la **muerte por ERC o CV**.
- Los **objetivos secundarios** incluyeron resultados CV: MCV, ICC, IAM o ACV.
- El ensayo se interrumpió antes de lo previsto (una media de seguimiento de 2,62 años) después de que en un análisis intermedio se detectase que se había alcanzado el objetivo primario.

Perkovic V, Jardine MJ, Neal B, et al. Canagliflozin and renal outcomes in type 2 diabetes and nephropathy. N Engl J Med 2019 April 14. doi: 10.1056/NEJMoa1811744.

En pacientes con DM2, el uso de Canagliflozina mejora la caída del filtrado glomerular y la progresión de la albuminuria (HR: 0,73)

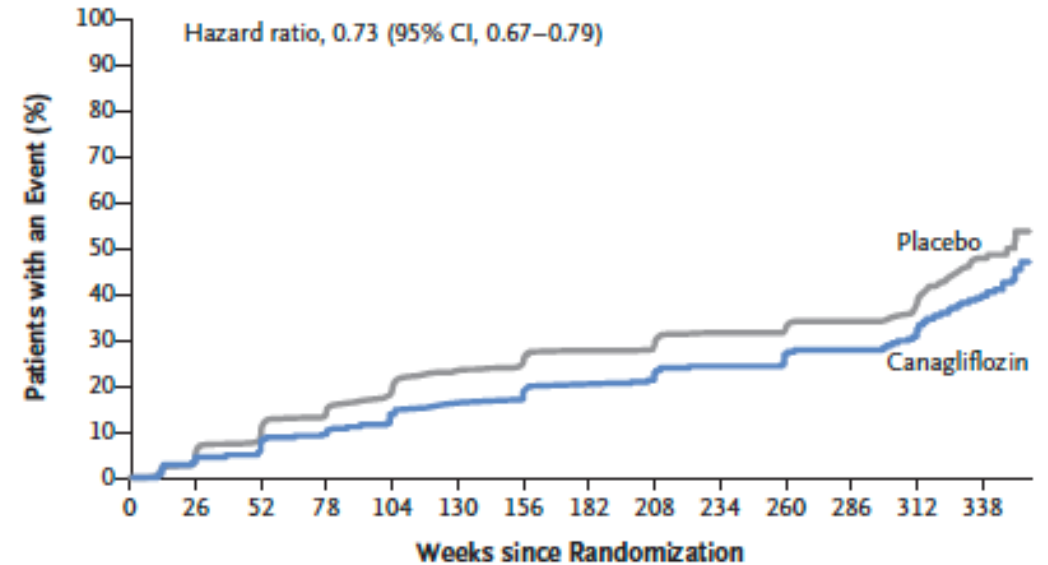
B Change from Baseline in Estimated GFR



No. of Patients

| | | | | | | | | |
|---------------|------|------|------|------|------|------|-----|-----|
| Placebo | 2178 | 1985 | 1882 | 1720 | 1536 | 1006 | 583 | 210 |
| Canagliflozin | 2179 | 2005 | 1919 | 1782 | 1648 | 1116 | 652 | 241 |

C Progression of Albuminuria



No. at Risk

| | | | | | | | | | | | | | | |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| Placebo | 3819 | 3473 | 3096 | 2700 | 1690 | 877 | 724 | 652 | 626 | 565 | 548 | 485 | 303 | 67 |
| Canagliflozin | 5196 | 4791 | 4475 | 4027 | 2968 | 1951 | 1730 | 1593 | 1528 | 1408 | 1354 | 1213 | 775 | 185 |

Statins for primary prevention of cardiovascular events and mortality in old and very old adults with and without type 2 diabetes: retrospective cohort study

Rafel Ramos,¹⁻⁴ Marc Comas-Cufí,^{1,2} Ruth Martí-Lluch,¹⁻³ Elisabeth Balló,¹⁻⁴ Anna Ponjoan,¹⁻³ Lia Alves-Cabratosa,^{1,2} Jordi Blanch,^{1,2} Jaume Marrugat,^{5,6} Roberto Elosua,^{5,6} María Grau,^{5,6} Marc Elosua-Bayes,^{1,2} Luis García-Ortiz,⁷ Maria Garcia-Gil²⁻⁴

Objectiu: veure si el tractament amb estatines s'associa a una reducció de la malaltia CV en els vells i molt vells

SIDIAP. 46.864 persones de >75 anys sense malaltia CV

Separant DM i no DM

Separant els que no fan servir estatines i els nous usuaris de estatines

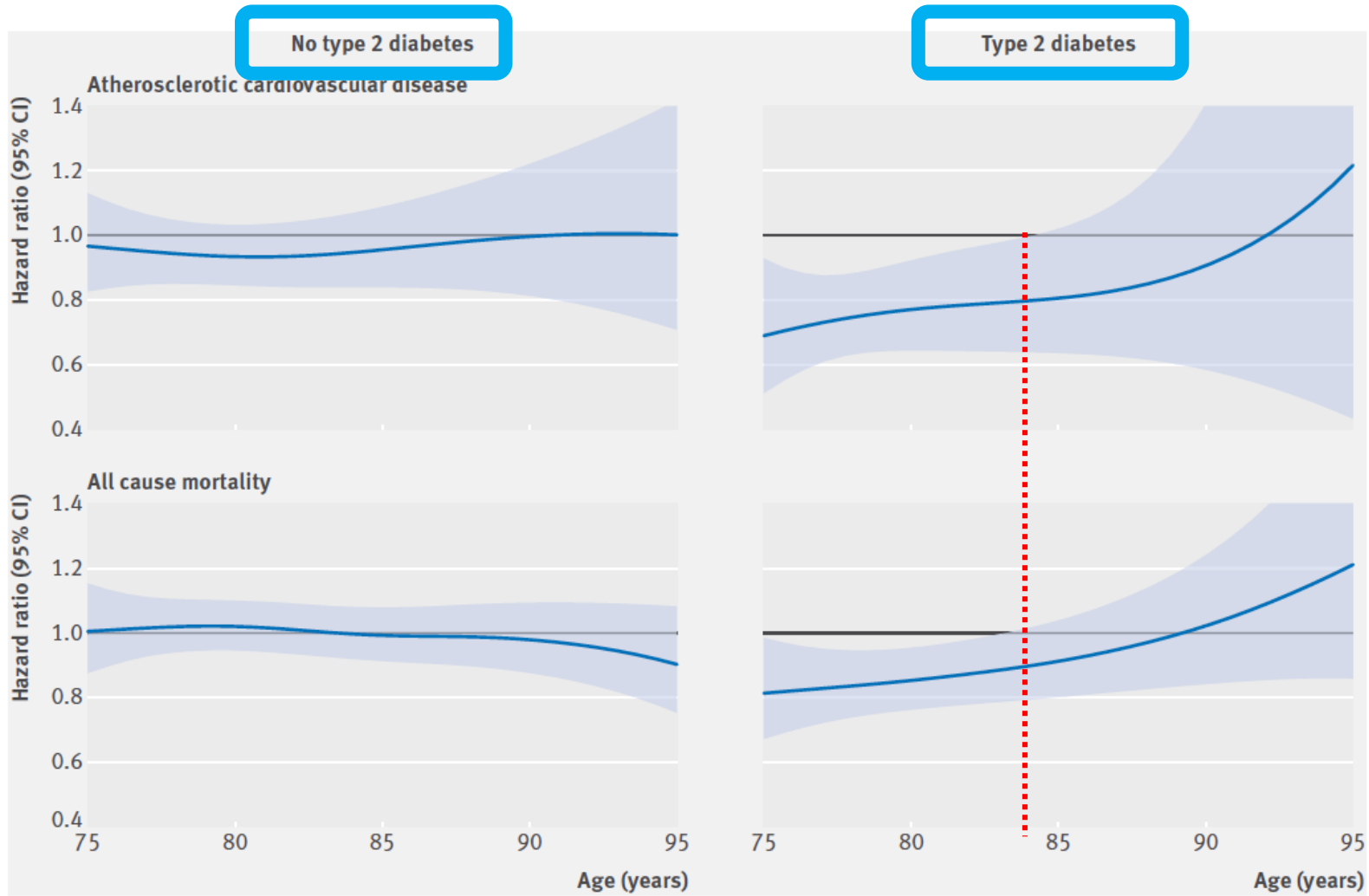


Fig 2 | Thin plate regression splines of hazard ratios of atherosclerotic cardiovascular disease and all cause mortality for statin use, by age, in participants with and without type 2 diabetes mellitus

Arnett et al.
2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

Centrades en el pacient

| Recommendations for Patient-Centered Approaches to Comprehensive ASCVD Prevention | | |
|---|------|---|
| Referenced studies that support recommendations are summarized in Online Data Supplements 1 and 2 . | | |
| COR | LOE | Recommendations |
| I | A | 1. A team-based care approach is recommended for the control of risk factors associated with ASCVD (S2.1.1–S2.1.14). |
| I | B-R | 2. Shared decision-making should guide discussions about the best strategies to reduce ASCVD risk (S2.1.15–S2.1.18). |
| I | B-NR | 3. Social determinants of health should inform optimal implementation of treatment recommendations for the prevention of ASCVD (S2.1.19–S2.1.25). |

Consells sobre el risc CV

| Recommendations for Assessment of Cardiovascular Risk | | |
|--|------|---|
| Referenced studies that support recommendations are summarized in Online Data Supplement 3 . | | |
| COR | LOE | Recommendations |
| I | B-NR | 1. For adults 40 to 75 years of age, clinicians should routinely assess traditional cardiovascular risk factors and calculate 10-year risk of ASCVD by using the pooled cohort equations (PCE) (S2.2.1, S2.2.2). |
| IIa | B-NR | 2. For adults 20 to 39 years of age, it is reasonable to assess traditional ASCVD risk factors at least every 4 to 6 years (S2.2.3–S2.2.3). |
| IIa | B-NR | 3. In adults at borderline risk (5% to <7.5% 10-year ASCVD risk) or intermediate risk (7.5% to <20% 10-year ASCVD risk), it is reasonable to use additional risk-enhancing factors to guide decisions about preventive interventions (e.g., statin therapy) (S2.2.4–S2.2.14). |
| IIa | B-NR | 4. In adults at intermediate risk (7.5% to <20% 10-year ASCVD risk) or selected adults at borderline risk (5% to <7.5% 10-year ASCVD risk), if risk-based decisions for preventive interventions (e.g., statin therapy) remain uncertain, it is reasonable to measure a coronary artery calcium score to guide clinician-patient risk discussion (S2.2.15–S2.2.31). |
| III | B-NR | 5. For adults 20 to 39 years of age and for those 40 to 59 years of age who have <7.5% 10-year ASCVD risk, estimating lifetime or 30-year ASCVD risk may be considered (S2.2.1, S2.2.2, S2.2.3–S2.2.35). |

Recomanacions nutricionals

| Recommendations for Nutrition and Diet | | |
|---|------|--|
| Referenced studies that support recommendations are summarized in Online Data Supplements 4 and 5 . | | |
| COR | LOE | Recommendations |
| I | B-R | 1. A diet emphasizing intake of vegetables, fruits, legumes, nuts, whole grains, and fish is recommended to decrease ASCVD risk factors (S3.1.1–S3.1.11). |
| IIa | B-NR | 2. Replacement of saturated fat with dietary monounsaturated and polyunsaturated fats can be beneficial to reduce ASCVD risk (S3.1.12, S3.1.13). |
| IIa | B-NR | 3. A diet containing reduced amounts of cholesterol and sodium can be beneficial to decrease ASCVD risk (S3.1.9, S3.1.14–S3.1.15). |
| IIa | B-NR | 4. As a part of a healthy diet, it is reasonable to minimize the intake of processed meats, refined carbohydrates, and sweetened beverages to reduce ASCVD risk (S3.1.17–S3.1.24). |
| III | B-NR | 5. As a part of a healthy diet, the intake of trans fats should be avoided to reduce ASCVD risk (S3.1.12, S3.1.17, S3.1.25–S3.1.27). |

Recomanacions exercici

| Recommendations for Exercise and Physical Activity | | |
|---|------|--|
| Referenced studies that support recommendations are summarized in Online Data Supplements 6 and 7 . | | |
| COR | LOE | Recommendations |
| I | B-R | 1. Adults should be routinely counseled in healthcare visits to optimize a physically active lifestyle (S3.2.1, S3.2.2). |
| I | B-NR | 2. Adults should engage in at least 150 minutes per week of accumulated moderate-intensity or 75 minutes per week of vigorous-intensity aerobic physical activity (or an equivalent combination of moderate and vigorous activity) to reduce ASCVD risk (S3.2.3–S3.2.8). |
| IIa | B-NR | 3. For adults unable to meet the minimum physical activity recommendations (at least 150 minutes per week of accumulated moderate-intensity or 75 minutes per week of vigorous-intensity aerobic physical activity), engaging in some moderate- or vigorous-intensity physical activity, even if less than this recommended amount, can be beneficial to reduce ASCVD risk (S3.2.5, S3.2.6). |
| III | C-LD | 4. Decreasing sedentary behavior in adults may be reasonable to reduce ASCVD risk (S3.2.3, S3.2.9–S3.2.11). |

Obesitat i sobrepes

| Recommendations for Adults With Overweight and Obesity | | |
|---|------|---|
| Referenced studies that support recommendations are summarized in Online Data Supplements 8 and 9 . | | |
| COR | LOE | Recommendations |
| I | B-R | 1. In individuals with overweight and obesity, weight loss is recommended to improve the ASCVD risk factor profile (S4.1-1). |
| I | B-R | 2. Counseling and comprehensive lifestyle interventions, including calorie restriction, are recommended for achieving and maintaining weight loss in adults with overweight and obesity (S4.1-1, S4.1-2). |
| I | C-EO | 3. Calculating body mass index (BMI) is recommended annually or more frequently to identify adults with overweight and obesity for weight loss considerations. |
| IIa | B-NR | 4. It is reasonable to measure waist circumference to identify those at higher cardiometabolic risk (S4.1-3–S4.1-6). |

Diabetes tipus 2

| Recommendations for Adults With Type 2 Diabetes Mellitus | | |
|---|-----|---|
| Referenced studies that support recommendations are summarized in Online Data Supplement 10 . | | |
| COR | LOE | Recommendations |
| I | A | 1. For all adults with T2DM, a tailored nutrition plan focusing on a heart-healthy dietary pattern is recommended to improve glycemic control, achieve weight loss if needed, and improve other ASCVD risk factors (S4.2.1, S4.2.2). |
| I | A | 2. Adults with T2DM should perform at least 150 minutes per week of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity to improve glycemic control, achieve weight loss if needed, and improve other ASCVD risk factors (S4.2.3, S4.2.4). |
| IIa | B-R | 3. For adults with T2DM, it is reasonable to initiate metformin as first-line therapy along with lifestyle therapies at the time of diagnosis to improve glycemic control and reduce ASCVD risk (S4.2.5–S4.2.8). |
| III | B-R | 4. For adults with T2DM and additional ASCVD risk factors who require glucose-lowering therapy despite initial lifestyle modifications and metformin, it may be reasonable to initiate a sodium-glucose cotransporter 2 (SGLT-2) inhibitor or a glucagon-like peptide-1 receptor (GLP-1R) agonist to improve glycemic control and reduce CVD risk (S4.2.9–S4.2.14). |

Hipercolesterolemia

| Recommendations for Adults With High Blood Cholesterol | | |
|---|------|---|
| Referenced studies that support recommendations are summarized in Online Data Supplements 11 and 12 . | | |
| COR | LOE | Recommendations |
| I | A | 1. In adults at intermediate risk (7.5% to <20% 10-year ASCVD risk), statin therapy reduces risk of ASCVD, and in the context of a risk discussion, if a decision is made for statin therapy, a moderate-intensity statin should be recommended (S4.3–S4.3.9). |
| I | A | Adapted from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| I | A | 2. In intermediate-risk (7.5% to <20% 10-year ASCVD risk) patients, LDL-C levels should be reduced by 50% or more, and for optimal ASCVD risk reduction, especially in patients at high risk (20% to 10-year ASCVD risk), levels should be reduced by 50% or more (S4.3.2, S4.3.9–S4.3.10). |
| I | A | Adapted from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| I | A | 3. In adults 40 to 75 years of age with diabetes, regardless of estimated 10-year ASCVD risk, moderate-intensity statin therapy is indicated (S4.3.11–S4.3.15). |
| I | A | Included from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| I | B-R | 4. In patients 20 to 75 years of age with an LDL-C level of 190 mg/dL (4.9 mmol/L) or higher, maximally tolerated statin therapy is recommended (S4.3.2, S4.3.20–S4.3.25). |
| I | B-R | Included from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| IIa | B-R | 5. In adults with diabetes mellitus who have multiple ASCVD risk factors, it is reasonable to prescribe high-intensity statin therapy with the aim to reduce LDL-C levels by 50% or more (S4.3.2, S4.3.7). |
| IIa | B-R | Included from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| IIa | B-R | 6. In intermediate-risk (7.5% to <20% 10-year ASCVD risk) adults, risk-enhancing factors favor initiation or intensification of statin therapy (S4.3.7, S4.3.20–S4.3.25). |
| IIa | B-R | Adapted from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| III | B-NR | 7. In intermediate-risk (7.5% to <20% 10-year ASCVD risk) adults or selected borderline-risk (5% to <7.5% 10-year ASCVD risk) adults in whom a coronary artery calcium score is measured for the purpose of making a treatment decision, AND <ul style="list-style-type: none"> If the coronary artery calcium score is zero, it is reasonable to withhold statin therapy and reassess in 5 to 10 years, as long as higher-risk conditions are absent (e.g., diabetes, family history of premature CHD, cigarette smoking); If coronary artery calcium score is 1 to 99, it is reasonable to initiate statin therapy for patients >55 years of age; If coronary artery calcium score is 100 or higher or is in the 25th percentile or higher, it is reasonable to initiate statin therapy (S4.3.28, S4.3.34). |
| III | B-NR | Adapted from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |
| III | B-R | 8. In patients at borderline risk (5% to <7.5% 10-year ASCVD risk), in risk discussion, the presence of risk-enhancing factors may justify initiation of moderate-intensity statin therapy (S4.3.28, S4.3.35). |
| III | B-R | Adapted from recommendations in the 2018 Cholesterol Clinical Practice Guidelines (S4.3-1). |

Hipertensió arterial

| Recommendations for Adults With High Blood Pressure or Hypertension | | |
|---|------|---|
| Referenced studies that support recommendations are summarized in Online Data Supplements 13 and 14 . | | |
| COR | LOE | Recommendations |
| I | A | 1. In adults with elevated blood pressure (BP) or hypertension, including those requiring antihypertensive medications, nonpharmacological interventions are recommended to reduce BP. These include: <ul style="list-style-type: none"> weight loss (S4.4.2–S4.4.5); a heart-healthy dietary pattern (S4.4.4–S4.4.11); sodium reduction (S4.4.9–S4.4.11); dietary potassium supplementation (S4.4.14–S4.4.18); increased physical activity with a structured exercise program (S4.4.5, S4.4.8, S4.4.11, S4.4.19–S4.4.23); and limited alcohol (S4.4.24–S4.4.29). |
| I | A | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| I | A | 2. In adults with an estimated 10-year ASCVD risk* of 10% or higher and an average systolic BP (SBP) of 130 mm Hg or higher or an average diastolic BP (DBP) of 80 mm Hg or higher, use of BP-lowering medications is recommended for primary prevention of CVD (S4.4.30–S4.4.38). |
| I | A | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| I | B-NR | 3. In adults with confirmed hypertension and a 10-year ASCVD event risk of 10% or higher, a BP target of less than 130/80 mm Hg is recommended (S4.4.35, S4.4.39–S4.4.42). |
| I | B-NR | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| I | B-NR | 4. In adults with hypertension and chronic kidney disease, treatment to a BP goal of less than 130/80 mm Hg is recommended (S4.4.43–S4.4.48). |
| I | B-NR | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| I | B-NR | 5. In adults with T2DM and hypertension, antihypertensive drug treatment should be initiated at a BP of 130/80 mm Hg or higher, with a treatment goal of less than 130/80 mm Hg (S4.4.35, S4.4.47, S4.4.49–S4.4.54). |
| I | B-NR | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| I | C-LD | 6. In adults with an estimated 10-year ASCVD risk <10% and an SBP of 140 mm Hg or higher or a DBP of 90 mm Hg or higher, initiation and use of BP-lowering medication are recommended (S4.4.36, S4.4.55–S4.4.58). |
| I | C-LD | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| III | B-NR | 7. In adults with confirmed hypertension without additional markers of increased ASCVD risk, a BP target of less than 130/80 mm Hg may be reasonable (S4.4.39–S4.4.42). |
| III | B-NR | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |
| III | C-EO | Adapted from recommendations in the 2017 Hypertension Clinical Practice Guidelines (S4.4-1). |

Tabac

| Recommendations for Treatment of Tobacco Use | | |
|---|------|--|
| Referenced studies that support recommendations are summarized in Online Data Supplements 15 and 16 . | | |
| COR | LOE | Recommendations |
| I | A | 1. All adults should be assessed at every healthcare visit for tobacco use and their tobacco use status recorded as a vital sign to facilitate tobacco cessation (S4.5-1). |
| I | A | 2. To achieve tobacco abstinence, all adults who use tobacco should be firmly advised to quit (S4.5-2). |
| I | A | 3. In adults who use tobacco, a combination of behavioral interventions plus pharmacotherapy is recommended to maximize quit rates (S4.5-2, S4.5-3). |
| I | B-NR | 4. In adults who use tobacco, tobacco abstinence is recommended to reduce ASCVD risk (S4.5-4, S4.5-5). |
| IIa | B-R | 5. To facilitate tobacco cessation, it is reasonable to dedicate trained staff to tobacco treatment in every healthcare system (S4.5-1). |
| III | B-NR | 6. All adults and adolescents should avoid secondhand smoke exposure to reduce ASCVD risk (S4.5-6). |

Aspirina

| Recommendations for Aspirin Use | | |
|---|------|---|
| Referenced studies that support recommendations are summarized in Online Data Supplements 17 and 18 . | | |
| COR | LOE | Recommendations |
| III | A | 1. Low-dose aspirin (75–100 mg orally daily) might be considered for the primary prevention of ASCVD among select adults 40 to 70 years of age who are at higher ASCVD risk but not at increased bleeding risk (S4.6.1–S4.6.8). |
| III | B-R | 2. Low-dose aspirin (75–100 mg orally daily) should not be administered on a routine basis for the primary prevention of ASCVD among adults >70 years of age (S4.6-9). |
| III | C-LD | 3. Low-dose aspirin (75–100 mg orally daily) should not be administered for the primary prevention of ASCVD among adults of any age who are at increased risk of bleeding (S4.6-10). |

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Els 10 millors missatges per a la prevenció primària de la Malaltia cardiovascular

1. La forma més important de prevenir la malaltia vascular ateroscleròtica, la insuficiència cardíaca i la fibril·lació és promoure un **estil de vida saludable al llarg de la vida**.
 2. Un enfocament assistencial basat en **equips** és una estratègia eficaç per a la prevenció de malalties CV.
Cal avaluar els determinants socials de la salut per prendre decisions
 3. Adults de 40 a 75 anys avaluats per a la prevenció de malalties CV cal estimar el risc a 10 anys i **discutir amb el pacient el benefici/risc de tractaments** com antihipertensius, estatines o aspirines
 4. Tots els adults han de consumir una **dieta saludable** (verdures, fruites, fruits secs, llegums ...) i minimitzar la ingesta de greixos trans, carns processades, carbohidrats refinats i begudes endolcides.
 5. Els adults han de tenir com a **mínim 150 minuts setmanals de activitat moderada o 75 minuts de vigorosa**
 6. Per a adults **amb DM2**, canvia l'estil de vida (millorar els hàbits alimentaris i exercici). Si s'indica la medicació, la **metformina** és de primera línia, seguit probablement per un iSGLT2 o un arGLP1.
 7. Tots els adults han de ser preguntats pel **consum de tabac** i ajudar-los a deixar-lo.
 8. **L'aspirina** s'ha d'utilitzar amb poca freqüència en la prevenció primària de la MCV perquè no està clar el benefici
 9. **Les estatines** són un tractament de primera línia per a la prevenció primària de la MCV en pacients amb *LDL* ≥ 190 mg/dL, els que *tenen DM2* o els que tenen entre 40 i 75 anys i que després de *discutir-ho amb el pacient* tenen suficient risc de MCV.
 10. Es recomana intervencions no farmacològiques a tots els adults amb pressió arterial elevada o HTA. Per a aquells que necessiten fàrmacs, **l'objectiu de la pressió arterial hauria de ser generalment <130/80 mm Hg.**
-

Un ràpid resum:

- En el DM2 si controla els seus FRCV no té un significatiu excés de mortalitat, ni de IAM, ni de AVC. Si s'ha observat un major risc de hospitalització per insuf cardíaca (HR 1.45 IC 1.34-1.57)
 - La edat al diagnòstic de la DM2 és un factor pronòstic per la supervivència i pel risc CV. En joves s'ha de fer un abordatge intensiu i més laxe en les edats avançades
 - Les famílies terapèutiques que han demostrat reduir la malaltia CV i la mort de les persones amb DM2 són els iSGLT2 i els arGLP1
 - arGLP1 i iSGLT2 redueixen el risc de MACE de forma similar en pacients amb malaltia ateroscleròtica establerta, però no tenen efecte en prevenció primària (en un període de 2-4 anys). Per a la prevenció de la insuficiència cardíaca i de la progressió de la malaltia renal s'hauria de considerar el ús de iSGLT2
 - En pacients amb DM2, el ús de Canagliflocina millora la caiguda del filtrat glomerular i la progressió de la albuminúria (HR: 0,73)
 - En pacients de >74 anys en Prevenció Primària i sense DM2 el ús de estatines no es va associar amb reducció de la malaltia CV. En persones amb DM2 es redueix la incidència de malaltia CV i de la mortalitat global. A partir dels 85 anys es redueix aquest efecte
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