



Creazione dell'interazione

**DIABETOLOGO e
CARDIOLOGO** nel paziente con
diabete mellito di tipo 2
con multipli fattori di rischio cardiovascolare
o malattia cardiovascolare concomitante

10 luglio 2020

800
1222 · 2022
ANNI



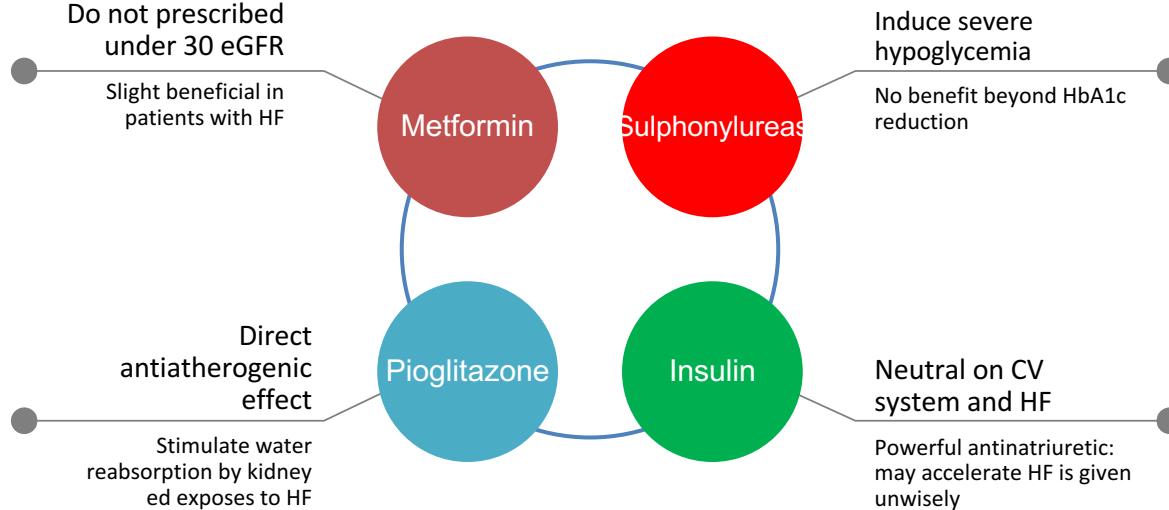
UNIVERSITÀ
DEGLI STUDI
DI PADOVA



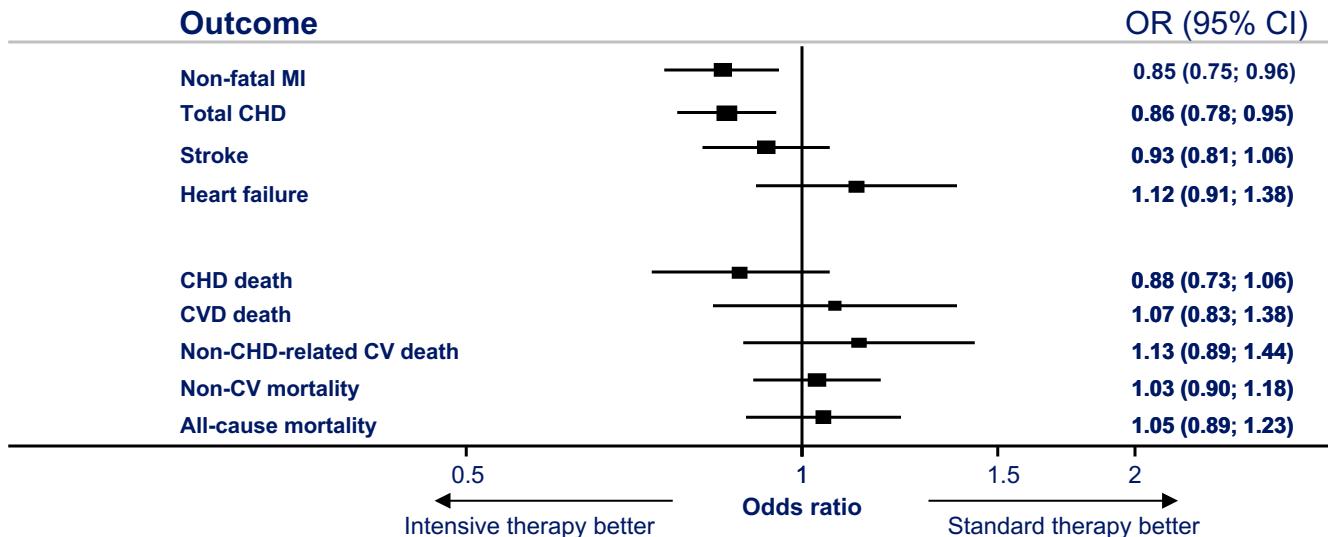
Una nuova era per la malattia cardiovascolare nel diabete mellito: i CVOTs

Angelo Avogaro. Dpt. di Medicina (DIMED)-Università of Padova

Before 2008...



Meta-analysis: Comparison of effect of more intensive glycaemic control on clinical outcomes*



The NEW ENGLAND
JOURNAL *of* MEDICINE

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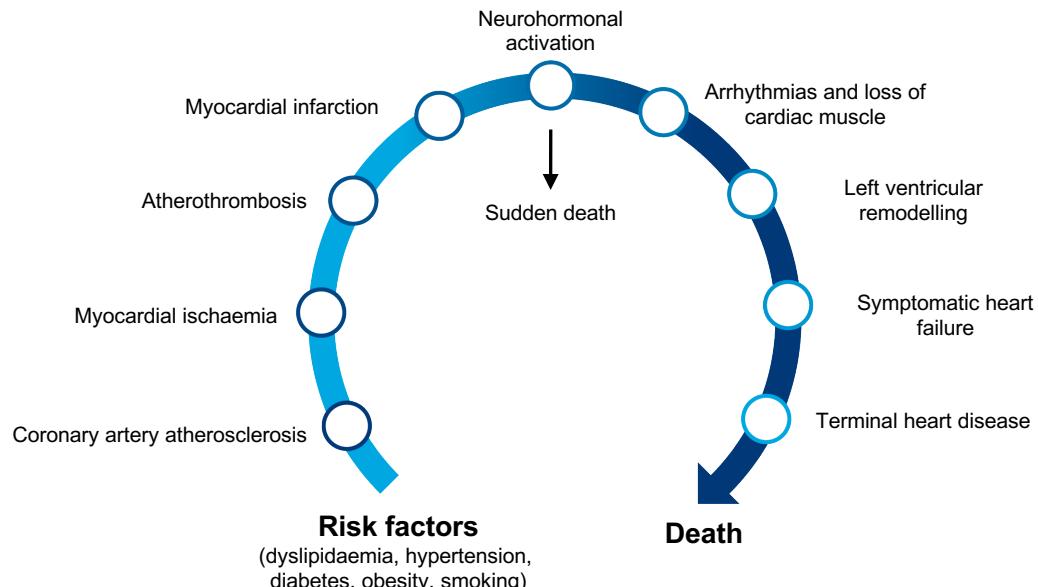
Effect of Rosiglitazone on the Risk of Myocardial Infarction
And Death from Cardiovascular Causes

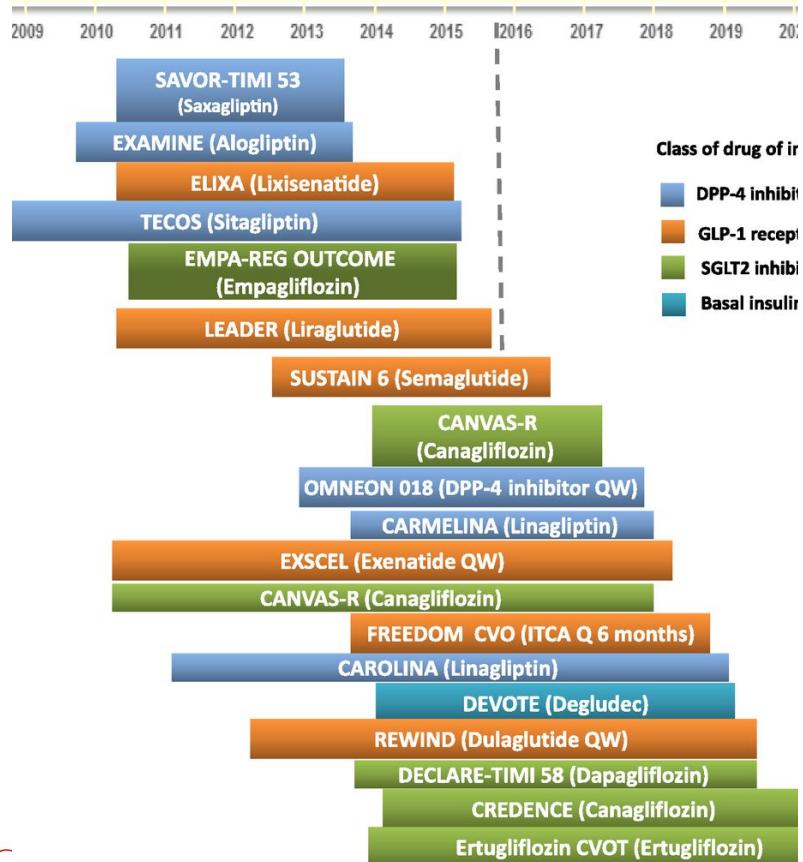
Steven E. Nissen, M.D., and Kathy Wolski, M.P.H.

CONCLUSIONS

Rosiglitazone was associated with a significant increase in the risk of myocardial infarction and with an increase in the risk of death...that had borderline significance.

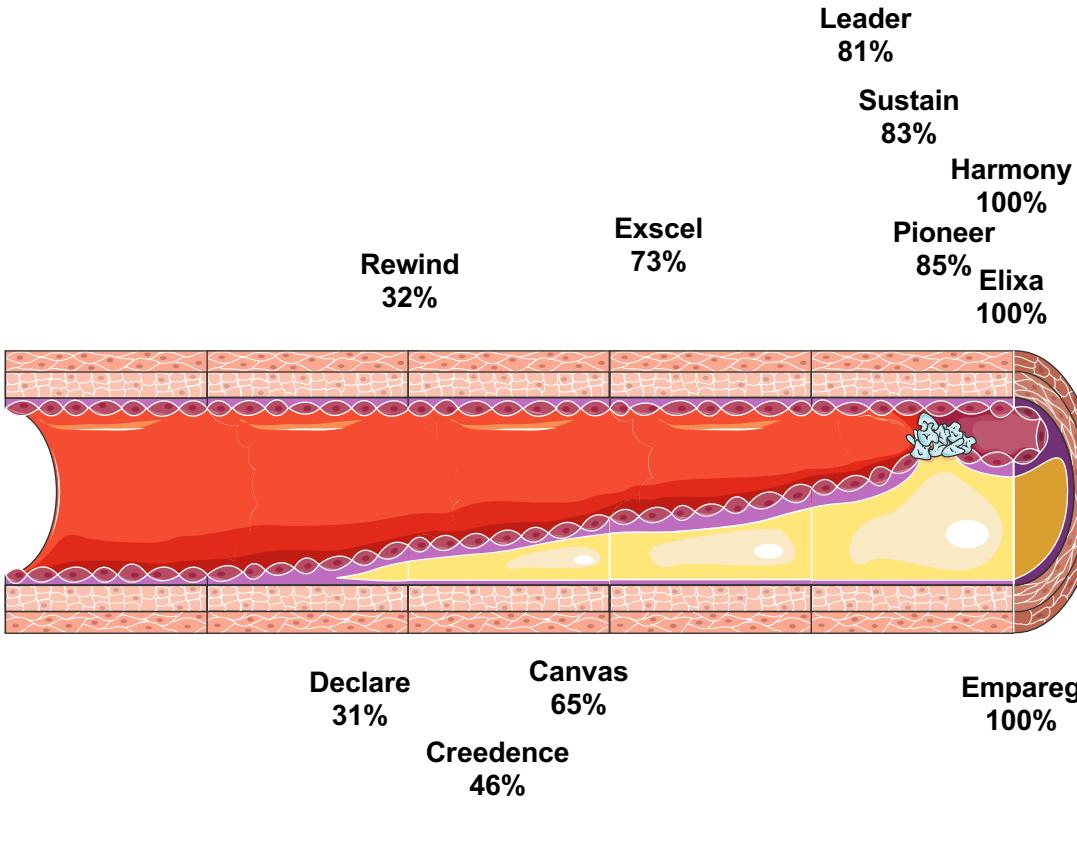
CV continuum in patients with diabetes





Timing of CV safety trials with drugs for type 2 diabetes.

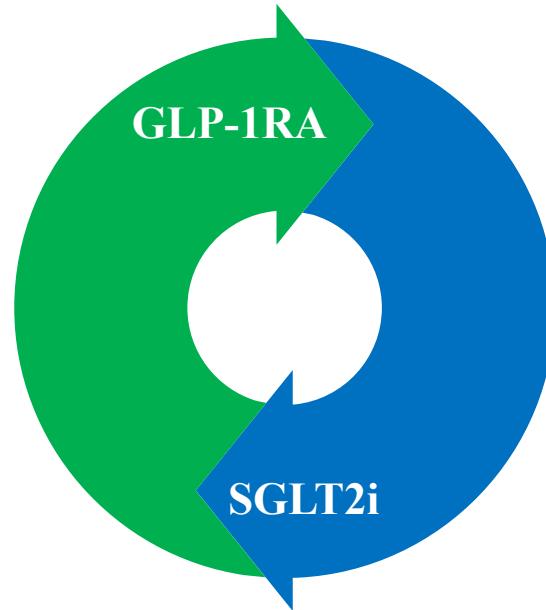
Natural History of CV and CVOT



The complementary Effects of Treat-to-Benefit Treatments

ANTI-ATHEROGENIC EFFECTS

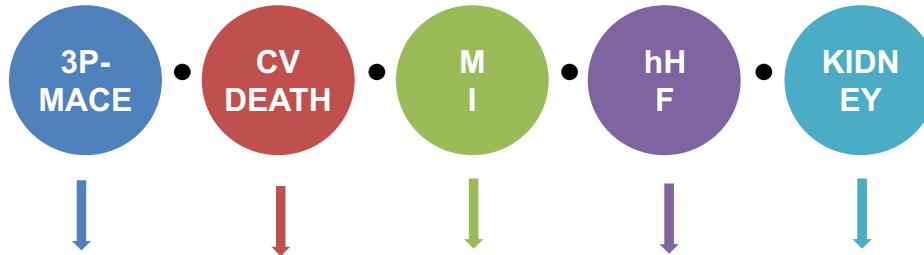
- Increase NO release
- Decrease inflammation
 - Stabilize plaque
 - Reduce fat spillover



HEMODYNAMIC EFFECTS

- Reduce pre-load
- Reduce after-load
- Reduce epicardial fat

SGLT2i CVOT Results



EMPAREG	-14	-38	-13 (N.S.)	-35	-39
CANVAS	-14	-13 (N.S.)	-11 (N.S.)	-33	-40
DECLARE	-7 (N.S.)	-2 (N.S.)	-11 (N.S.)	-47	-47
CREDENCE	-20	-22	NR	-39	-30
DAPA-HF	-26	-25	-18	-30	-17 (N.S.)



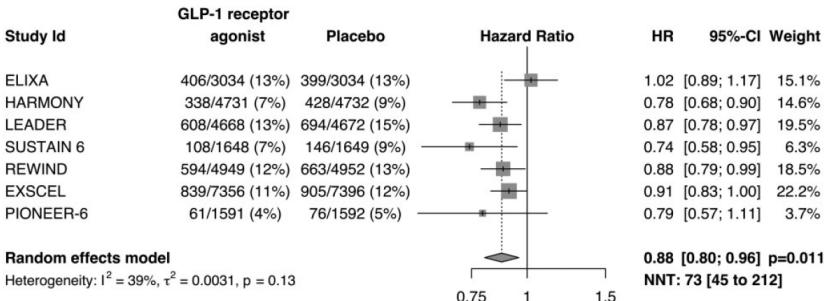
European Heart Journal (2020) 0, 1–14
doi:10.1093/eurheartj/ehaa082

META-ANALYSIS

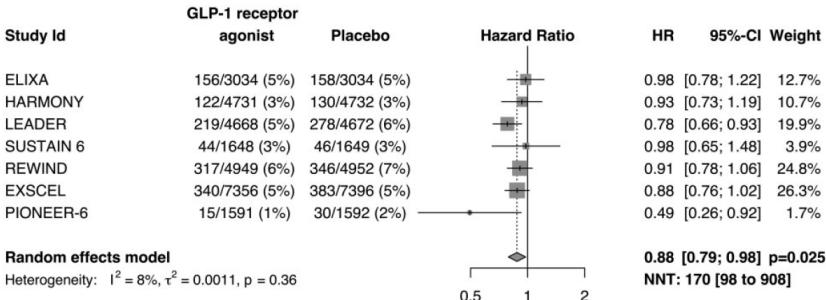
Effects of glucagon-like peptide-1 receptor agonists on major cardiovascular events in patients with Type 2 diabetes mellitus with or without established cardiovascular disease: a meta-analysis of randomized controlled trials

Fabio Marsico^{1†}, Stefania Paolillo^{1,2†}, Paola Gargiulo^{1,2}, Dario Bruzzese^{1,3},
Simona Dell'Aversana^{1,4}, Immacolata Esposito^{1,5}, Francesco Renga^{1,6},
Luca Esposito^{1,7}, Caterina Marciano⁴, Santo Dellegrottaglie⁵, Ivana Iesu¹, and
Pasquale Perrone Filardi^{1,2*},

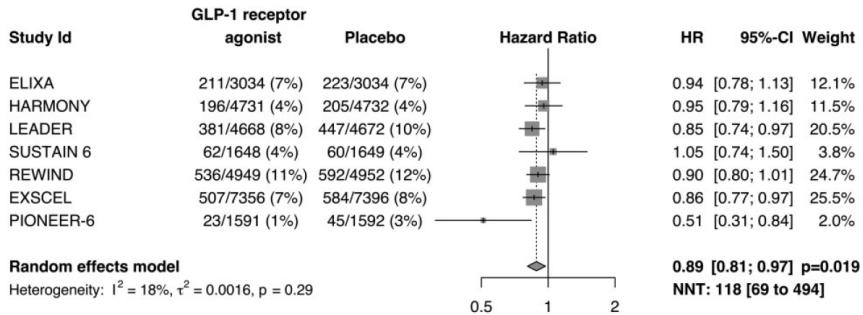
Three-point MACE



Cardiovascular death



All-cause mortality



European Society
of Cardiology

European Heart Journal (2020) 0, 1–14
doi:10.1093/eurheartj/ehaa082

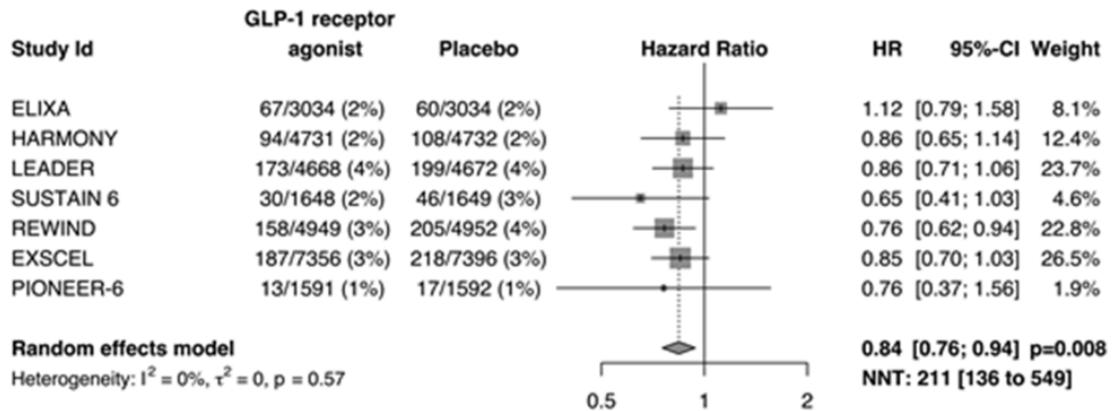
META-ANALYSIS

Effects of glucagon-like peptide-1 receptor agonists on major cardiovascular events in patients with Type 2 diabetes mellitus with or without established cardiovascular disease: a meta-analysis of randomized controlled trials

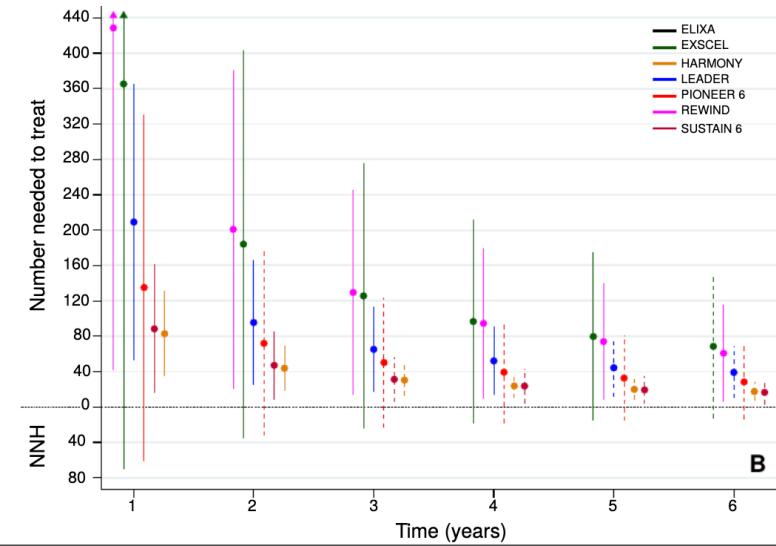
Fabio Marsico^{1†}, Stefania Paolillo^{1,2†}, Paola Gargiulo^{1,2}, Dario Bruzzese³,
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Fatal or non-fatal stroke



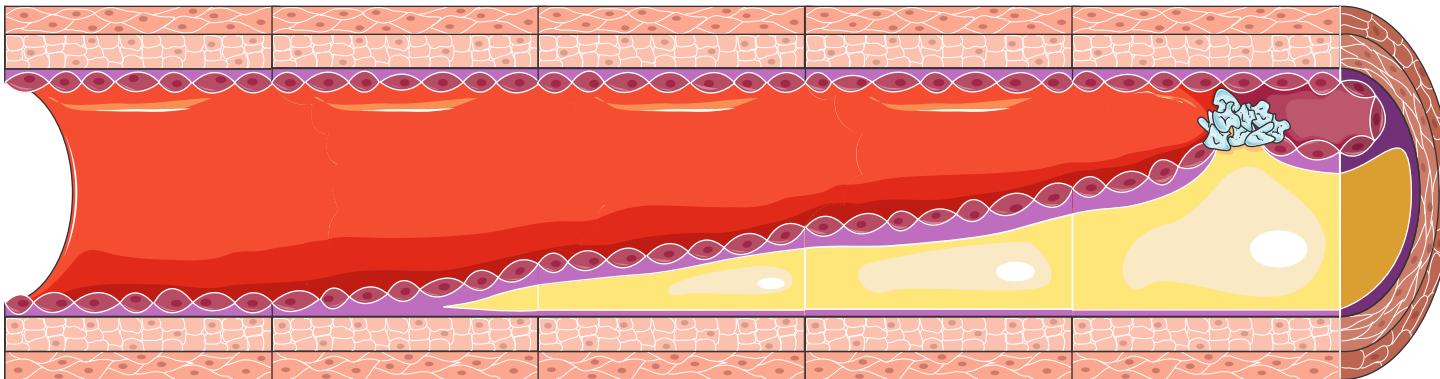
Number needed
to treat over time
for major
adverse
cardiovascular
events



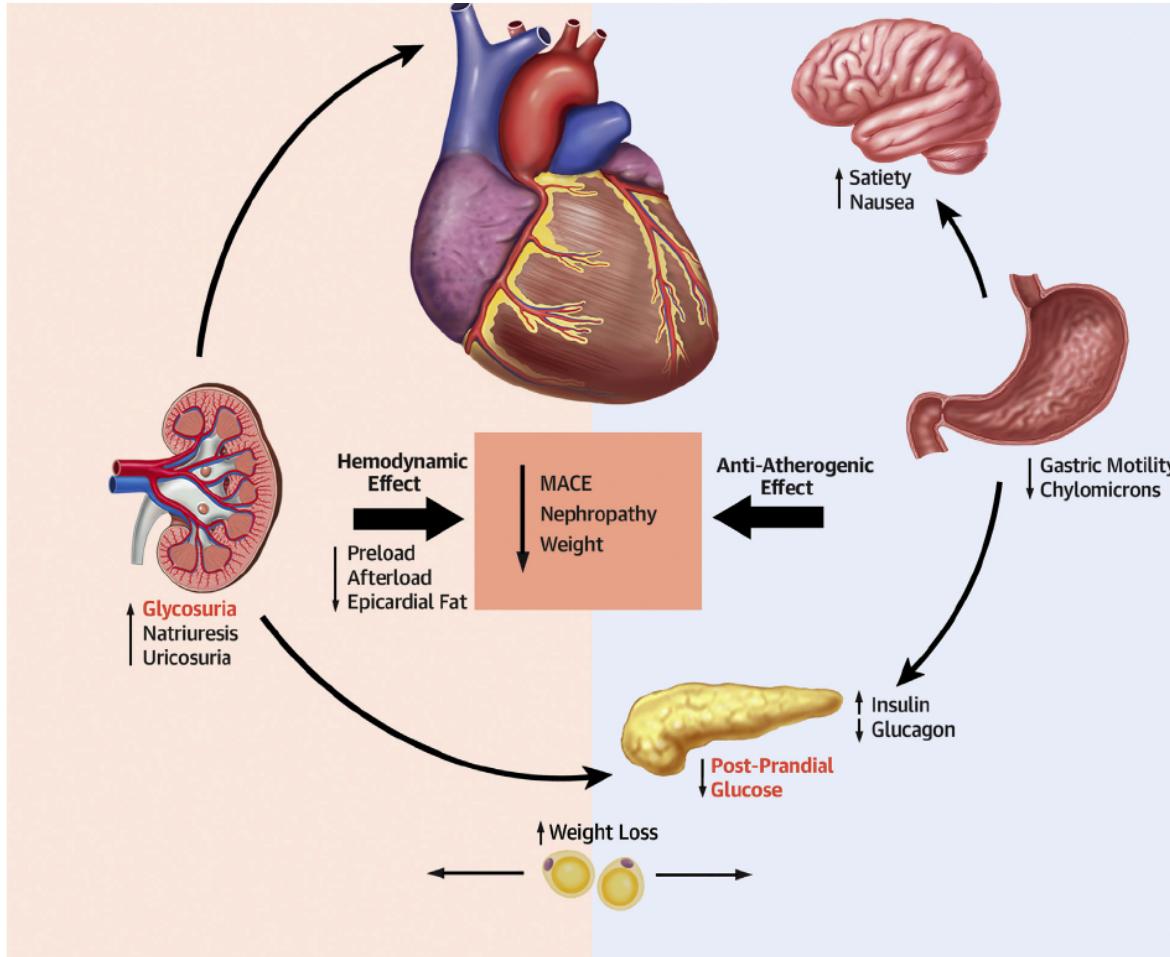
Davies et al. DOM 2020

Natural History of CV and CVOT

Rewind
32%



Declare
31%



3P-MACE

AMI

Stroke

CV death

hHF

Renal events

10

0

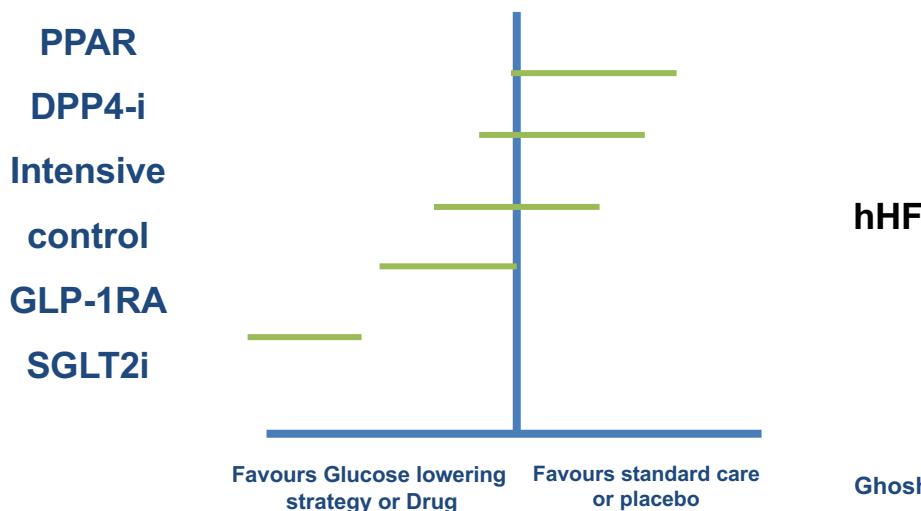
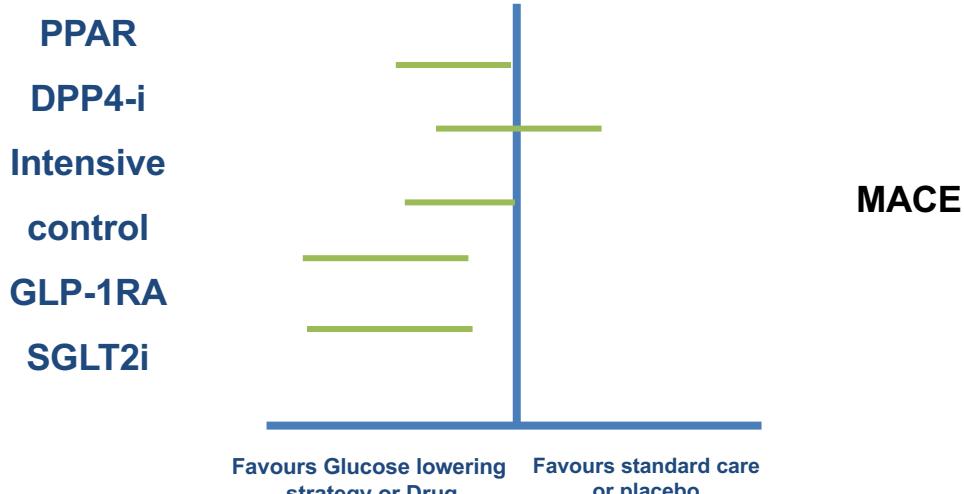
-10

-20

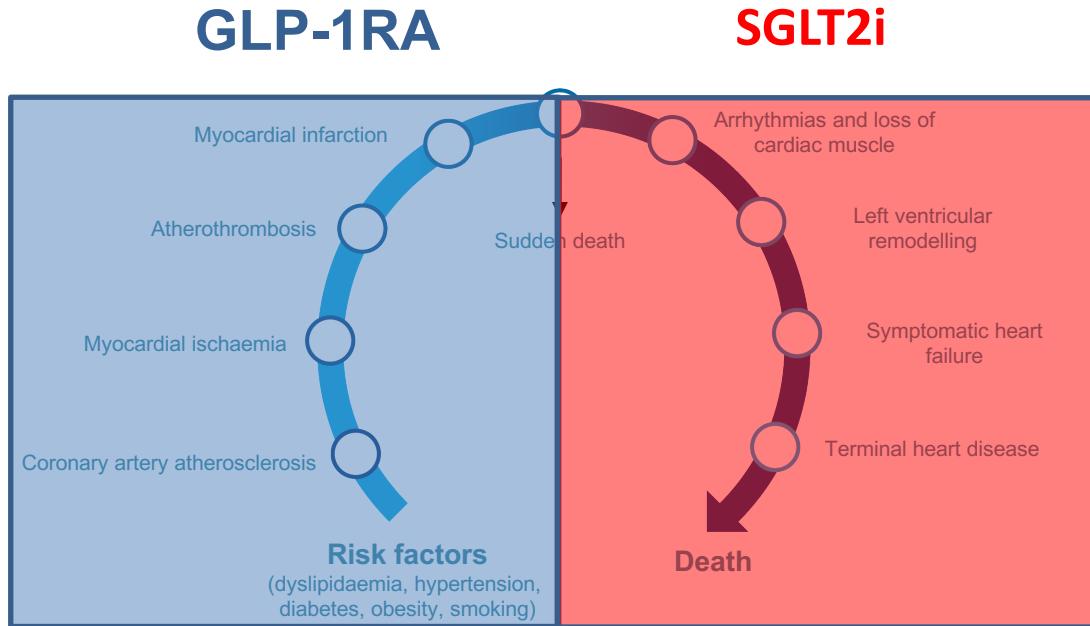
-30

-40

-50



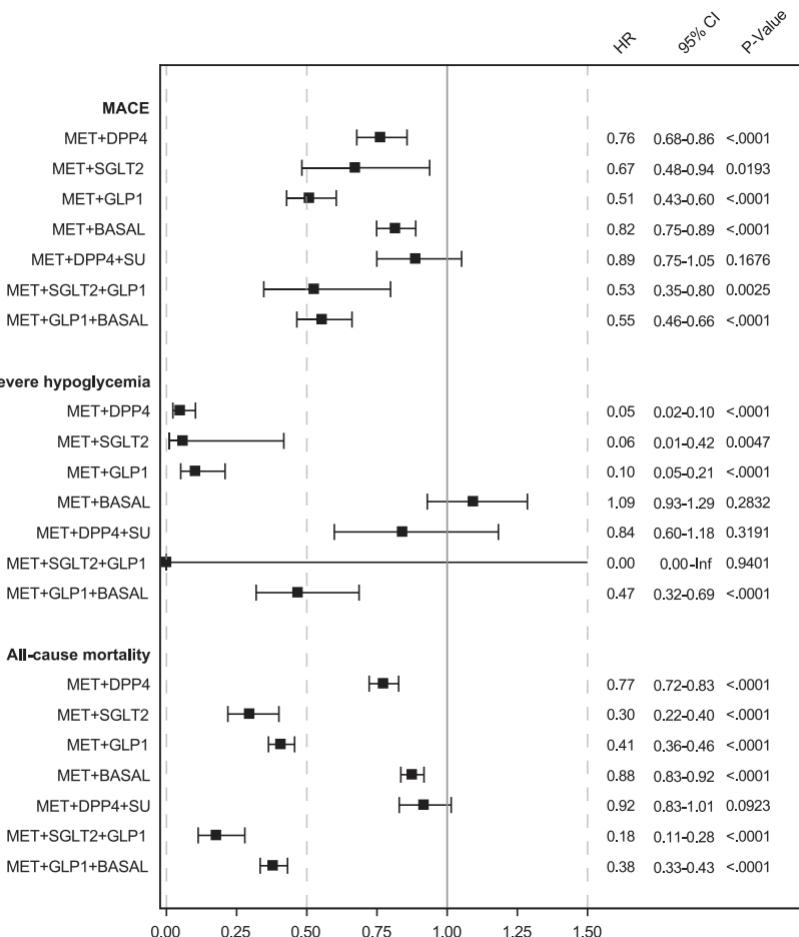
CV continuum in patients with diabetes



Risk of Major Adverse Cardiovascular Events, Severe Hypoglycemia, and All-Cause Mortality for Widely Used Antihyperglycemic Dual and Triple Therapies for Type 2 Diabetes Management: A Cohort Study of All Danish Users

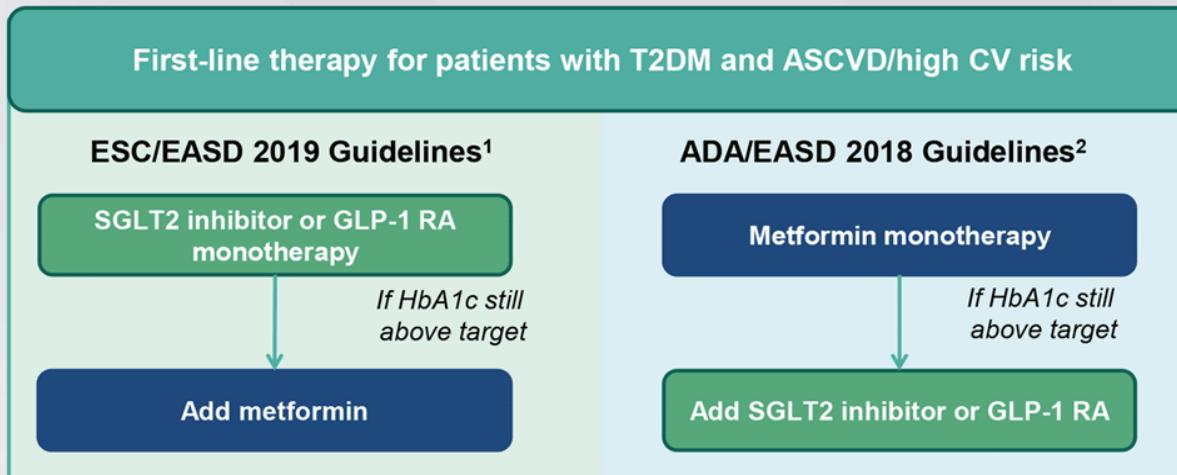
Diabetes Care 2020;43:1209–1218 | <https://doi.org/10.2337/dc19-2535>

Morten Hasselstrøm Jensen,^{1,2}
Mads Kjøbly,^{3,4,5,6} Ole Hejllesen
Paul Erik Jakobsen,^{7,8} and
Peter Vestergaard^{1,7,8}



ESC/EASD Guidelines

T2DM and ASCVD: What Do the Guidelines Recommend?

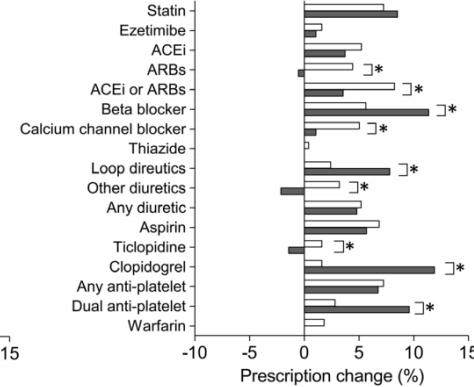
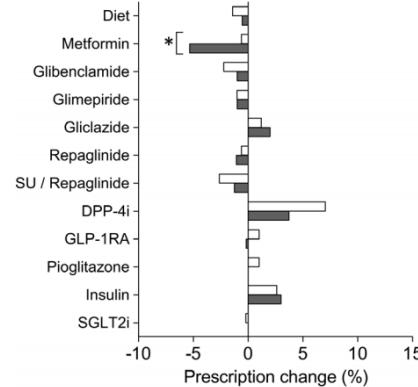


Changes in the Prescription of Glucose-Lowering Medications in Patients With Type 2 Diabetes Mellitus After a Cardiovascular Event: A Call to Action From the DATAFILE Study

Gian Paolo Fadini, MD, PhD; Vera Frison, MD; Natalino Simioni, MD; Annunziata Lapolla, MD; Adriano Gatti, MD; Antonio Carlo Bossi, MD; Andrea Del Buono, MD; Paolo Formengo, MD; Lucia Gottardo, MD; Mario Laudato, MD; Gianluca Perseghin, MD; Enzo Bonora, MD; Angelo Avogaro, MD, PhD

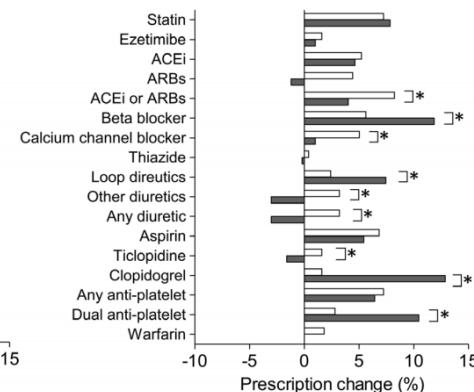
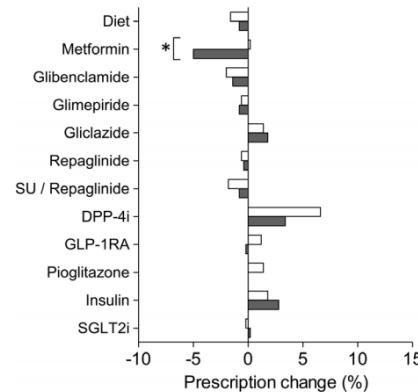
■ Cases with CVE
□ Controls without CVE

■ Cases with CVE
□ Controls without CVE



■ Cases with CVE
□ Controls without CVE

■ Cases with CVE
□ Controls without CVE



Conclusioni

- I CVOTs hanno dimostrato come l'approccio treat-to-benefit utilizzando GLP-1RA e SGLT2i migliori gli outcomes CV e renali
- L'effetto delle 2 classi di farmaci sembrano agire in tempi diversi nel continuum CV
- I benefici del GLP-1RA e di SGLT2i possono essere estesi anche in pazienti con multipli fattori di rischio
- Il concetto di early treatment si deve applicare all'esordio della malattia indipendentemente o meno dalla presenza di malattia CV