What is New in Diabetes?

Volume 1

What is New Diabetes'

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Impact of GLP-1RA treatment before ST-segment elevation myocardial infarction (STEMI) on long-term prognosis in patients with type 2 diabetes

Why was the study conducted?

Most studies on GLP-1RA and type 2 diabetes focus on prevention of MACE. The potential protection by GLP-1RA during and after a cardiovascular event has not been studied

What was studied?

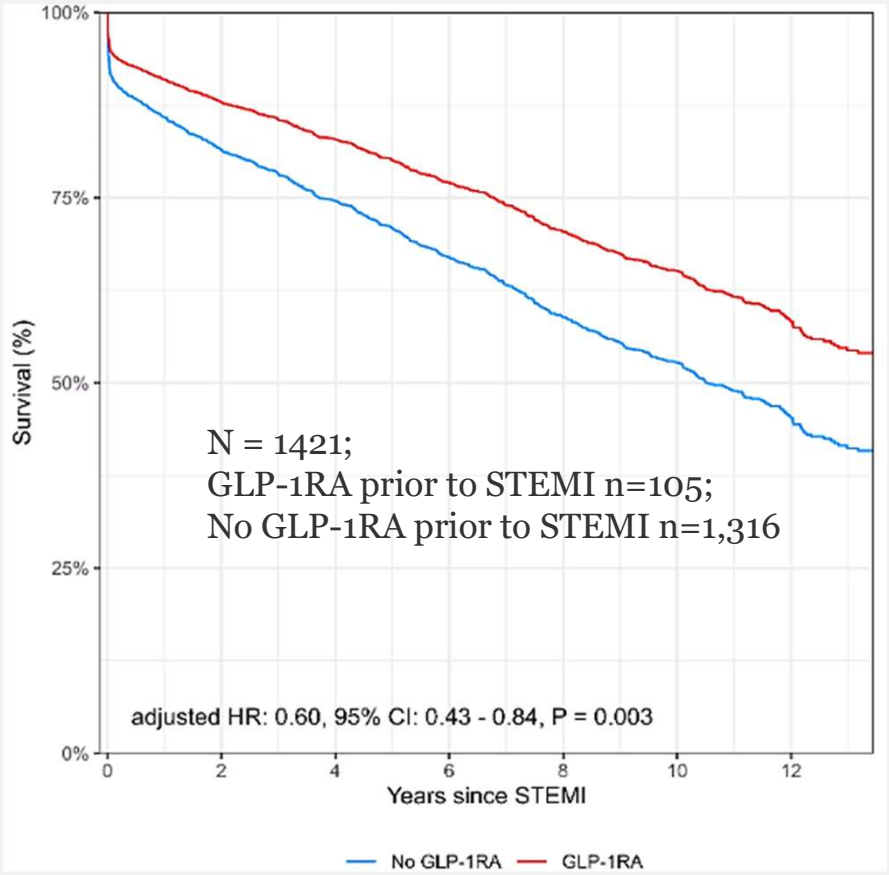
Association between long-term prognosis and prior treatment with GLP1-RA in patients with type 2 diabetes and STEMI who underwent percutaneous coronary intervention

Study design

- Retrospective cohort study
- Only patients who underwent PCI procedure performed on ± 1 day of STEMI were included.
- Prescriptions dispensed in the year before STEMI considered

Key findings

- Patients treated with GLP-1RA were younger, had more comorbidities, and more often treated with other anti-diabetics.
- Over a median follow-up of 8.4 years, prior GLP-1RA treatment was associated with a 40% lower long-term all-cause mortality following STEMI.
- In women, GLP-1RA was associated with a 63% lower long-term all-cause mortality compared to women without GLP-1RA treatment. This association was not found in men.
- There was no association between GLP-1RA and ischemic stroke, recurrent myocardial infarction, or hospitalisation for heart failure



Limitations: retrospective design; no data of eGFR/ HbA1c/ LVEF; patients treated with GLP-1RA were more often treated with more anti-diabetics

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Empagliflozin in nondiabetic individuals with calcium and uric acid kidney stones: SWEETSTONE study

Background

Registry data shows that sodium-glucose cotransporter 2 (SGLT2) inhibitors in patients with type 2 diabetes are associated with a reduction in kidney stone events. However, SGLT2 inhibitors have not been studied in nondiabetic patients with kidney stones

Objective of the study

To evaluate the therapeutic potential of empagliflozin for the prevention of calcium and uric acid kidney stones in nondiabetic adults

Key findings

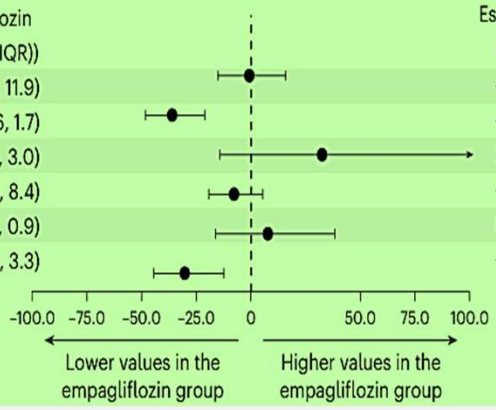
- In patients with calcium stones, empagliflozin reduced RSR of CaP but not of CaOx and UA
- In patients with UA stones, empagliflozin reduced RSR of UA but not of CaOx and CaP

Conclusion: Empagliflozin significantly improved the urinary lithogenic risk profile in nondiabetic patients with calcium and UA kidney stones

Study design

- Randomized, double-blind, placebo-controlled, crossover phase 2 trial
- 53 patients without diabetes and at least one kidney stone event in the past with the most recent kidney stone analyzed containing ≥80% calcium or ≥80% uric acid
- Half the patients were first treated with empagliflozin, the other half with placebo for 2 weeks and then crossed over after a washout period of 2-6 weeks
- Primary outcomes were urine relative supersaturation ratios (RSRs) for calcium oxalate (CaOx), calcium phosphate (CaP) and UA, which are validated surrogates for stone recurrence

Type of SF	Primary outcomes	N[a]	Placebo (median (IQR))	N[b]	Empagliflozin (median (IQR))	Estimated relative difference (% (95% CI))	P value
Calcium	Calcium oxalate supersaturation	25	8.9 (7.7, 13.4)	25	9.1 (7.3, 11.9)	−1 (−15 to 16)	0.921
Calcium	Calcium phosphate supersaturation	25	1.9 (1.0, 2.7)	25	1.0 (0.6, 1.7)	−36 (−48 to −21)	<0.001*
Calcium	UA supersaturation	25	1.3 (0.9, 2.3)	25	2.2 (1.1, 3.0)	32 (−14 to 104)	0.204
UA	Calcium oxalate supersaturation	21	6.6 (4.4, 10.0)	21	5.8 (4.4, 8.4)	−8 (−19 to 5)	0.236
UA	Calcium phosphate supersaturation	21	0.5 (0.3, 0.8)	21	0.4 (0.3, 0.9)	8 (−16 to 38)	0.559
UA	UA supersaturation	21	3.3 (2.6, 5.4)	21	2.5 (1.8, 3.3)	−30 (−44 to −12)	0.002



[a]Number of measurements assessed after placebo treatment.
[b]Number of measurements assessed after empagliflozin treatment

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