SGLT2i during AKI and its association with major adverse kidney events

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Abstract

SGLT2i have revolutionized the treatment of CKD. Its proven beneficial effects could potentially improve renal function when administered during an AKI event. It would be very useful to know if SGLT2i have some positive effect in this group of patients.
In this cohort of patients hospitalized with AKI, we observed that the use of SGLT2i during AKI had no effect on MAKE in the short and medium term but may be some subgroups of patients that could have benefit. The results we obtained from this cohort may give rise to a clinical trial where patients with AKI are randomized to receive SGLT2i or placebo, seeking medium-term MAKE as the primary objective.

Introduction

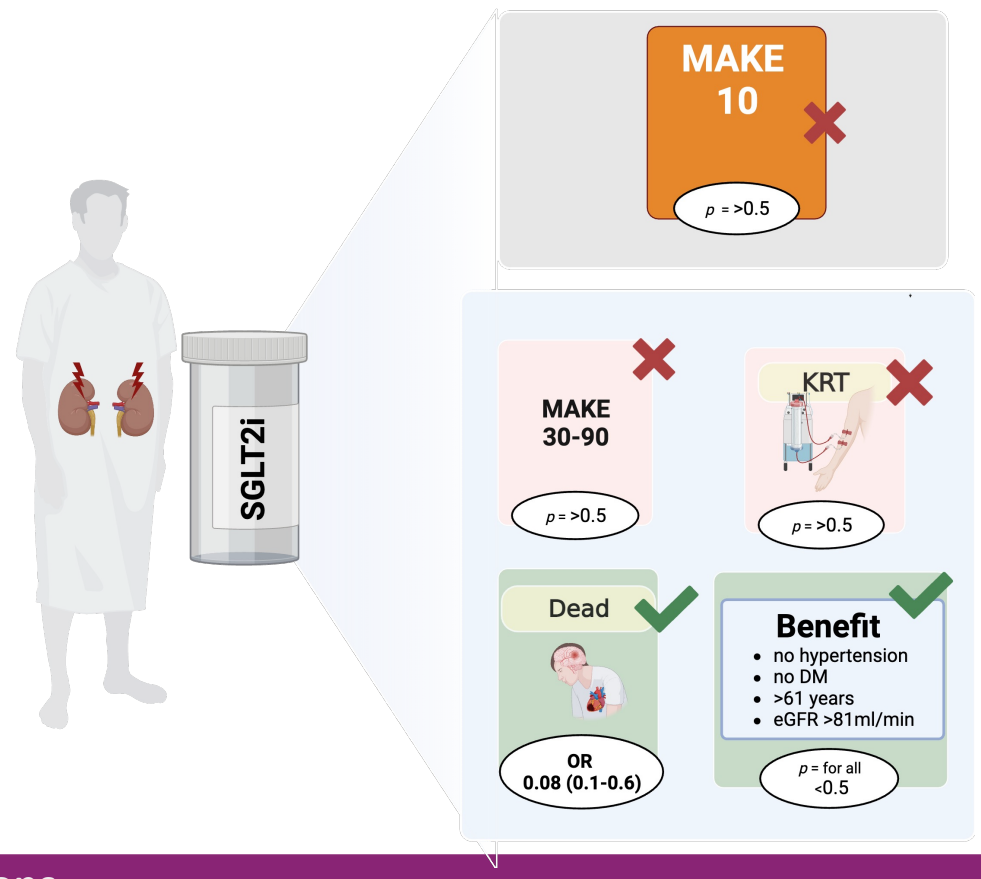
The association between administration of sodium glucose type 2 inhibitors (SGLT2i) during acute kidney injury (AKI) and the incidence of major adverse kidney events (MAKE) is not known

Methods and Materials

In this retrospective cohort study, included patients who had AKI and received SGLT2i during the hospitalization, then compared versus those without. Analyzed the association between AKI and SGLT2i use with the outcomes as MAKE at 10, 30-90 days, each of the MAKE components and prespecified patients subgroups.

Results

From 2021 to 2023, 374 patients were included, 316 without SGLT2i and 58 with. Baseline characteristics differ markedly between groups, patients with SGLT2i, compared to those without, were older, higher proportion of history pf diabetes, hypertension, chronic heart failure and chronic kidney disease, required less often hemodialysis, presented AKI stage 3 less frequently. A logistic regression analysis nearest-neighbor matching showed that SGLT2i use was not associated with the risk of MAKE10, OR 1.08 (0.45 - 2.56), neither with MAKE30-90 OR 0.76 (0.42 - 1.36). For death, the stepwise approach demonstrated SGLT2i associated with reducing risk, OR 0.08 (0.01 - 0.64), and no effect was found to kidney replacement therapy (KRT). Subgroups of patients associated with reduction in the risk of MAKE with AKI and SGLT2I use, were those older than 61 years, with eGFR >81, and those without history of hypertension or DM (p= <0.05 for all).



Conclusions

In conclusion, the use of SGLT2i during AKI had no effect on MAKE in the short and medium term but may be beneficial in some subgroups of patients. Our findings give rise to the design of a clinical trial that considers administering SGLT2i during AKI evaluating MAKE.

THE 29TH INTERNATIONAL CONFERENCE ON
ADVANCES IN CRITICAL CARE NEPHROLOGY
AKI & CRRT 2024
MARCH 12-15, 2024 SAN DIEGO, CALIFORNIA