

WCN25-AB-1411: EFFECT OF SGLT2 INHIBITORS ON KIDNEY FUNCTION IN INDIVIDUALS WITH TYPE 2 DIABETES AND CHRONIC KIDNEY DISEASE WITH MODERATE TO SEVERE ALBUMINURIA

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Introduction

Extensive studies of patients with type 2 diabetes over a period of 25 years showed that the predominant clinical feature of diabetic nephropathy was progressive renal decline (estimated glomerular filtration rate [eGFR] loss $>3.5\text{mL/min/year}$), and that the prevalence of decliners (patients with renal decline) was 32 and 50% in patients with moderately increased and severely increase albuminuria, respectively. Sodium-glucose cotransporter 2inhibitors (SGLT2i) have emerged as a promising class of medications offering reno-protective benefits beyond their glucose-lowering effects.

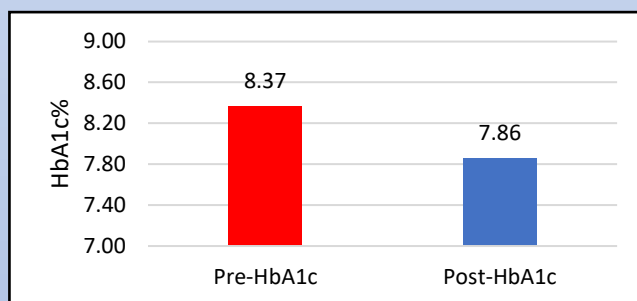
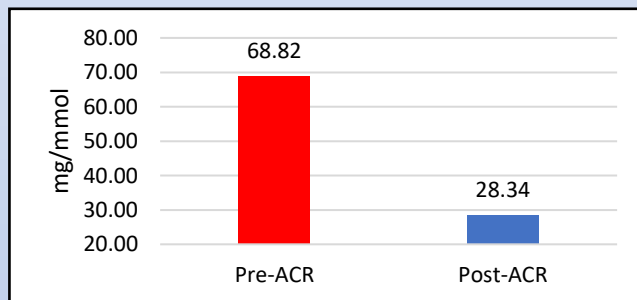
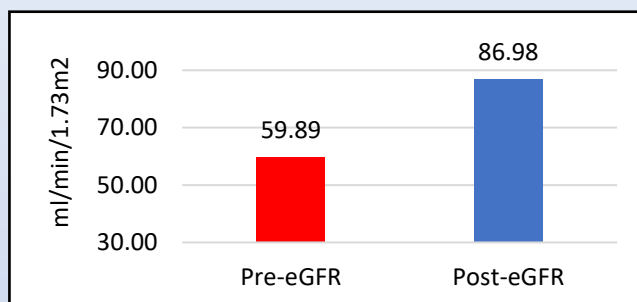
Methods

This is a retrospective, longitudinal study of patients with type 2 diabetes mellitus and chronic kidney disease (CKD), who were initiated on sodium/glucose cotransporter 2 inhibitor (SGLT2i) with a minimum of 6 months of follow up after initiation. Data was collected between January 2020 till October 2021 at the outpatient department in Ibrahim Bin Hamad Obaidullah Hospital (IBHOH) in Ras Al Khaimah, UAE. The primary objective is to assess the clinical effectiveness of SGLT2i on renal function by analysing the change in eGFR at 6 months after initiating SGLT2i compared with eGFR at initiation of the medication. A secondary objective is to investigate the other variables associated with diabetic nephropathy including glycated haemoglobin (HbA1c), and the urinary albumin creatinine ratio (UACR).

Results

A total of 294 participants (162 females, 132 males) were included in the study and divided according to CKD stage (II and III) and according to severity of albuminuria (moderately and severely increased). A significant difference was observed in serum creatinine, eGFR, glycated haemoglobin (HbA1c) and albumin creatinine ratio (ACR) after 6 months of initiation of SLGT2i in comparison to baseline.

These results were not affected by stage of CKD, degree of severity of albuminuria, type of SLGT2i (Empagliflozin or Dapagliflozin), presence of hypertension or use of angiotensin converting enzymes (ACEI)/ angiotensin receptor blockers (ARBs). There was no increase in serious adverse events including acute kidney injury or urinary tract infection.



Conclusion

The reno-protective effects of SGLT2 inhibitors in type 2 diabetes patients with CKD and moderately or severely increased albuminuria are consistent regardless of CKD stage, type of SGLT2i, presence of hypertension, or ACEI/ARBs use.

References

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