Prescribing SGLT2i for Cardiorenal Protection in CKD
Cardiff and Vale University Health Board

A.Wonnacott, R.Pyart, S.Griffin, R.Bradley, D.Fraser
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WHO?

- ✓ T2DM + CKD eGFR>25ml* *(Best evidenced indication[1])*
- ✓ Non-DM CKD eGFR>25ml + ACR>25mg/mmol (≈PCR >55mg/mmol) *(lesser evidenced indication[2])*
- ✓ + On max. tolerated dose ACEi/ARB

DO NOT INITIATE IN:

- X eGFR<25ml (can be *continued* when eGFR falls below 25)
- X T1DM (Diabetes specialists only)
- X Post Transplant DM
- X Pregnancy/breastfeeding
- X Active diabetic foot disease (infection/ischaemia)

WHY?

↓Major CV events ↓CV & Kidney failure death
↓Hospitalisation for CCF ↓eGFR decline

CAUTION IN:

- PMH amputation/PVD
- PMH frequent urogenital infections
- Frail/elderly at risk of hypovolaemia
- Polycystic Kidney Disease/on renal immunosuppressant *(likely benefit, but excluded in trials)*

Step 1

Initial prescription from secondary care; primary care continuation

DKD → (CREDENCE[1])
CKD + ACR>25 → (DAPA-CKD[2])
Can also be used → Evidence supports "class effect" *(EMPA-KIDNEY trial in progress)*

Canagliflozin 100mg od
Dapagliflozin 10mg od
Empagliflozin 10mg od

CO-PRESCRIBING in T2DM

- Safe in combination with SUs, Metformin, DPP4i, PPAR-γ agonists, GLP-1RA & insulin
- Dose reduction of insulin/SUs likely only required if attaining target HbA1c and eGFR>45ml (negligible effect on blood glucose at low eGFR)

Step 2

Specific SGLT2i monitoring NOT required, BUT EXPECT:

↑Creatinine ≈10% in 1st month**
↓ECF volume/BP (natriuretic effect, consider review of diuretics)
↓HbA1c (only if eGFR>45ml, *may* require ↓SUs/insulin, see above)

Once initiated, SGLT2i **can be continued** until the point of RRT

***Note NICE currently recommend U&E monitoring post-initiation, however eGFR drop reflects favourable renal haemodynamics resulting in long term renal preservation, and is therefore NOT an indication to stop SGLT2i. For this reason, we do not mandate post-initiation U&E check, but alert GP to expected initial eGFR fall in clinic correspondence.*

Step 3

STAY ALERT TO Euglycaemic DKA

Check blood ketones if unwell, irrespective of Plasma Glucose

High risk: DM, insulin use, alcoholism, starvation, ketogenic diets, acute illness

DKD= Diabetic Kidney Disease RRT= Renal Replacement Therapy ECF= Extracellular fluid

HOLD/STOP SGLT2i IF:

STOP only once RRT commenced
STOP in event of euglycaemic DKA
STOP in Fournier's gangrene
HOLD during "sick days" (as for ACEi/diuretic)
HOLD if develop foot complication (infection/ischaemia)
HOLD if ↑ risk ketoacidosis e.g. fasting, critical illness (restart 1-2/52 post illness)
HOLD 72hrs before major surgery
No need to hold in mycotic urogenital infection (Treat thrush and continue)

SGLT2i and AKI

SGLT2i have NOT been shown to cause AKI
(trial evidence supports REDUCED AKI risk with SGLT2i)

BUT should be treated like a diuretic
→ *withhold in patients with/at high risk of AKI & dehydration in acute illness (and CHECK KETONES)*

*BNF prescribing threshold is eGFR>60ml (based on ↓OHG efficacy), yet cardiorenal benefits extend to patients with lower eGFRs. Consider ALL potential benefits of SGLT2i; many patients will have diabetic, renal and CV indications to treat!

1. CREDENCE; N Engl J Med 2019; 380:2295-2306; DOI: 10.1056/NFJIMoa1811744
2. DAPA-CKD; N Engl J Med 2020; 383:1436-1446; DOI: 10.1056/NEJMoa2024816

Affiliated CAV Cardiology/Diabetes SGLT2i guidelines also available via CAV intranet medicines hub