NHS South Yorkshire Integrated Care Board Doncaster Place

NHS Nottingham and Nottinghamshire Bassetlaw Place-Based Partnership

Optimising management of chronic kidney disease in adults with persistent proteinuria (ACR ≥3mg/mmol) or in adults with Type 2 Diabetes

Check Creatinine/eGFR and visible/non-visible haematuria.
Ensure infection treated /ruled out

If haematuria is present consider Urology referral

1. **ACE inhibitor**[1] (or ARB) Titrated to highest dose tolerated
2. **SGLT2 inhibitor**[2,3] – Dapagliflozin 10mg OD can be initiated down to eGFR 25mls/min for patients with diabetes or uACR≥22.6mmol/L [2,4,5] – currently the only SGLT2i licensed for treatment of CKD (emerging evidence that Empagliflozin is also beneficial for CKD patients[6]) other SGLT2i are licensed for diabetes control and can usually be continued, please check SPC, consider switch to dapagliflozin given observed benefits for CKD patients[5,7,8]
   NB *there may be a small drop in eGFR (with rise in creatinine) on initiation of SGLT2i (which will then plateau) however additional monitoring not required – experts suggest waiting 1 month after initiation before rechecking renal function.*
3. **BP control** – initial target <130/80mmHg[1,9]
4. Address **other CVD risk factors** - smoking, diet, exercise, cholesterol – Atorvastatin 20mg titrated up as needed[10]
5. Optimise **glycaemic control** - target HbA1c 48-58mmol/mol – consider referral to community diabetes nurses if not achieving targets
6. **Review medications**. Avoid NSAIDs (risk of progressive CKD)
7. **Check kidney function** during acute illness and advise patients regarding **'Sick day Rules**' *(appendix 2)*
   Hold ACEi/ARB andSGLT2i when unwell with GI symptoms and/or poor oral intake until fully recovered

Review: (BP, U&E, urine ACR) if stable.

- Annually if eGFR >60ml/min
- 6 monthly if eGFR 30-60ml/min
- At least 6 monthly if eGFR ≤30ml/min and patient stable

Refer to Nephrologist for review if they have any of the following[1]

- 5-year risk of needing renal replacement therapy >5% (using 4-variable Kidney Failure Risk Equation) *(appendix 1)*
- ACR ≥70mg/mmol, unless known to be caused by diabetes and already appropriately treated (see above)
- ACR >30mg/mmol with haematuria
- Sustained decrease in eGFR ≥25% and a change in eGFR category within 12 months *(appendix 1)*
- A sustained decrease in eGFR of 15ml/min/1.73m^2 or more per year
- Hypertension that remains poorly controlled despite use of at least 4 antihypertensive medications at therapeutic doses
- Known or suspected rare or genetic causes of CKD
- Suspected renal artery stenosis

❖ *Consider Ultrasound KUB to exclude obstructive cause whilst awaiting review*
❖ *Repeat Kidney blood tests every 4-8 weeks until seen by specialist*

Urgent Referral to Nephrology if

- Nephrotic syndrome – ACR >200mg/mmol or PCR >300mg/mmol
- eGFR < 15 ml/min or sudden, unexplained, rapid decline in eGFR

Consider urgent admission to hospital if patient unwell

Useful Resources:

1.Kidney Failure Risk Equation Calculator (also has some useful information and visual aids)
https://kidneyfailurerisk.co.uk/

Classification of CKD using GFR categories

Category	eGFR in ml/min/1.73m^2
1	≥90
2	60-89
3a	45-59
3b	30-44
4	15-29
5	<15

2.SICK DAY RULES

Any illness causing dehydration increases risk of (euglycaemic) diabetic ketoacidosis in patients taking SGLT2 inhibitors.

Advise patients to hold SGLT2i ('flozin) during period of illness if unable to eat and drink as normal. Once feeling better and able to eat and drink for 24-48 hours these may be restarted.

Advice to patients: -

Medicine Sick Day Rules When you are unwell with any of the following:	Medicines to stop if unwell	
• Vomiting and Diarrhoea	ACEi or ARB	e.g., Lisinopril, perindopril, Ramipril or losartan, candesartan
• Dehydration e.g., from fevers or sweats	NSAID	e.g., Ibuprofen, diclofenac
• Not able to eat and drink as normal	Diuretic	e.g., furosemide, spironolactone
Stop taking the medicines listed and restart when you are well After 24-48 hours of eating and drinking normally	Metformin or flozin	e.g., dapagliflozin, canagliflozin

3**. Doncaster and Bassetlaw Place Guideline for the safe and appropriate use of Sodium Glucose Co-Transporter 2 inhibitors (SGLT2i's)**
https://medicinesmanagement.doncasterccg.nhs.uk/wp-content/uploads/2022/10/Safe-and-Appropriate-use-of-SGLT2i-July-2022.pdf

References:

1.NICE Guidelines NG 203 chronic kidney disease: Assessment and Management (see sections 1.5 and 1.6) http://www.nice.org.uk/guidance/ng203/chapter/Recommendations
2.NICE Technology Appraisal Guidance TA775: Dapagliflozin for treating chronic kidney disease; https://www.nice.org.uk/guidance/ta775/chapter/1- Recommendations
3.NICE Guidelines NG28 Type 2 diabetes in adults (see sections 1.8.12 – 1.8.15) https://www.nice.org.uk/guidance/ng28/chapter/recommendations#chronic-kidney-disease
4.Dapagliflozin SmPC (see section 4.2, 4.4) http://www.medicines.org.uk/emc/product/7607/smpc
5.Dapagliflozin (Forxiga) official website including visual representation of trial data https://www.forxiga.co.uk/ckd.html
6.Empa-Kidney trial stopped early due to evidence of efficacy; http://www.empakidney.org/news/empa-kidney-trial-stops-early-due-to-evidence-of-
7.SGLT2 inhibitors for non-diabetic kidney disease, Fernandez et al; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7577767/
8.Dapagliflozin in chronic kidney disease patients (DAPA-CKD trial), Heerspink et al. https://www.nejm.org/doi/pdf/10.1056/NEJMoa2024816?articleTools=true
9.Commentary on NICE guideline (NG136) 'Hypertension in adults: diagnosis and management' including proposals for blood pressure management in patients with chronic kidney disease https://ukkidney.org/sites/renal.org/files/Commentary%20on%20NICE%20guideline%20%28NG136%29%20HypertensionFINAL.pdf
10.NICE Guidelines CG181 on Cardiovascular Disease, Risk assessment and reduction including Lipid modification (see section 1.3.26 and 1.3.27) www.nice.org.uk/guidance/cg181/chapter/1-Recommendations#lipid-modification-therapy-for-the-primary-and-secondary-prevention-of- c vd-2

This document was developed by NHS Somerset Clinical Commissioning Group and adopted by South Yorkshire Integrated Care Board Doncaster Place and Nottingham and Nottinghamshire Integrated Care Board Bassetlaw Place.