NICE on prescribing in CKD

NICE make specific reference to the use of a number of drugs in relation to CKD:

- **NSAIDs in people with CKD.**
  - **Long-term use of NSAIDs may be associated with progression of the disease.**
  - **Short-term use may be associated with a reversible decrease in eGFR.**
  - **Monitor people on NSAIDs for this if low baseline eGFR and/or other risks of progression.**

Bisphosphonates for osteoporosis in people with CKD.

If needed for the prevention and treatment of osteoporosis, bisphosphonates can be used **if eGFR ≥30.**

- **Antiplatelets for cardiovascular disease in people with CKD.**

In someone with cardiovascular disease, aspirin can be used for the secondary prevention of CKD. There is insufficient evidence to recommend the other antiplatelet agents.
Aspirin, as with the general population, should NOT be offered for the primary prevention of cardiovascular disease in CKD.

- **Anticoagulants/NOACs in AF in people with CKD.**

In those with CKD and AF, consider offering apixaban in preference to warfarin **if eGFR 30–50** (and anticoagulation warranted). This recommendation is based on what NICE describe as 'low and very low quality evidence' which appears to be from a single trial. Others: NOACs are not recommended on the basis of lack of evidence, or concern about evidence of harm.

- **I'd add – there are many other drugs that require us to be cautious in those with renal impairment – ALWAYS check the BNF before prescribing.**

Acute kidney injury/acute renal failure and CKD

After AKI people are at increased risk of CKD. Even if their renal function returns to normal after the episode of AKI, their increased risk is around 4-fold). NICE advise:

- After AKI, monitor people for CKD for 2–3y.
- Advise those who have had AKI that they are at increased risk of developing CKD.

Known unknowns

- NICE highlights the fact that there is very little evidence for the use of RAAS drugs beneficial in those over 75y.

Practicalities of using renin–angiotensin system (RAS) drugs in CKD

First some definitions:

ACE inhibitors, ARBs, and the direct renin inhibitors (aliskerin) are classed as **renin–angiotensin system (RAS) antagonists**. Aliskiren is licensed for hypertension; it is rarely used and I will not discuss it further.

The **RAAS (renin–angiotensin–aldosterone system) antagonists** are the RAS drugs plus the aldosterone inhibitors (e.g. spironolactone and eplerenone).

Here I will focus on the practical advice NICE offers when using ACE inhibitors/ARBs:

Use a single RAS drug: do not use combinations of RAS drugs together.

Potassium levels

- Do not start if potassium >5. Stop if potassium rises to 6 or more.
- When using RAS drugs, do not hold back from adding other drugs known to cause hyperkalaemia if needed, but do monitor carefully for this.

Monitoring renal function when starting/changing dose of RAS drugs

- Check renal function and potassium 1–2w after starting and at every dose increase. A fall in eGFR/rise in creatinine may be seen.
- If eGFR falls/creatinine rises: repeat test 1–2w later.
- Do NOT alter dose UNLESS:
  - eGFR falls by more than 25% of pre-treatment level
  - Serum creatinine rises by more than 30% from baseline.

  If eGFR falls by more than 25% of pre-treatment level, OR creatinine rises by more than 30% from baseline:
  - Look for other causes (concurrent medication, such as NSAIDs, volume depletion)
  - If no other cause found, stop/reduce dose of RAS and use an alternative antihypertensive.

Drug dilemma: spironolactone with ACE inhibitors/ARBs

As a result of 3 fatalities due to hyperkalaemia with concomitant spironolactone and ACE inhibitor/angiotensin receptor blocker (ARB) use, the MHRA have issued the following advice (MHRA Drug Safety Update February 2016):

- Concomitant use of spironolactone with ACE inhibitors/ARBs is not recommended, especially if marked renal impairment.
- If co-administered use the lowest possible dose.
- Regularly monitor serum potassium and renal function (they don't specify what 'regularly' means!). Stop treatment if hyperkalaemia occurs.