North Yorkshire and York
Humber and North Yorkshire
Health and Care Partnership

NHS
Humber and
North Yorkshire
Integrated Care Board (ICB)

North Yorkshire and York

Medicines Management Prescribing Focus – September 2024

Direct-acting Oral Anticoagulant (DOAC) Safety

This month we highlight some safety pointers for practice prescribing teams to consider when anticoagulation is being changed, adjusted or monitored by primary or secondary care. This list is not exhaustive but reflects learning from recent incidents in our local area.

Points to consider:

1. **When calculating renal function:**
    a. Creatinine clearance (CrCl) is recommended for DOAC dose optimisation. Estimated glomerular filtration rate (eGFR) can overestimate renal function and increase the risk of bleeding events.
    b. Use an up-to-date actual body weight, checked with the patient or carer, at the time of dosing/any changes.
    c. Consider using adjusted body weight if BMI is in the obese range – see local guidance (link on page 2) for details.
    d. The frequency of ongoing monitoring of renal function is dependent on CrCl – see local guidance for details.
    e. More frequent monitoring is recommended if there has been a significant recent decline in renal function.

2. **If changing anticoagulant choice or dose:**
    a. Follow shared decision-making principles, making any changes in collaboration with the patient.
    b. Ensure that you remove the previous medicine from the repeat prescription template.
    c. If the dosing frequency is different ensure the patient fully understands the change.
    d. Provide written instructions and involve family members/carers where possible.
    e. Particular care should be taken where patients are using medication compliance aids – ensure that whoever fills the tray is informed. Dabigatran cannot be put into a compliance aid as it is hygroscopic.
    f. Inform the community pharmacy of the change and encourage follow-up via new medicines service or discharge medicines service.
    g. Ensure appropriate ongoing monitoring is in place using the clinical system recall function.

3. **Remember DOAC contraindications and cautions, including (but not limited to):**
    a. Mechanical heart valves.
    b. Mitral valve stenosis.
    c. Patients who are pregnant, breastfeeding, or planning a pregnancy.
    d. Antiphospholipid syndrome (except where advised by an anticoagulant specialist).
    e. Renal impairment with CrCl< 15mls/min (< 30ml/min for dabigatran).

f. Concomitant use of medicines which are contraindicated with some of the DOACs; for example phenytoin, carbamazepine, HIV protease inhibitors (e.g. ritonavir), miconazole oral gel – see SmPCs for each specific DOAC.

Background – Local Errors and Incidents Identified

A Coroner's inquest involving a local GP practice and hospital Trust concluded a patient death was in part related to a DOAC dosing incident; the patient had received an incorrect dose of edoxaban for their weight. Edoxaban should be reduced to 30mg daily for patients weighing under 60kg. In this case, the patient's edoxaban dose had been increased in primary care from 30mg to 60mg based on a creatine clearance calculated a year ago, using a weight that was 2 years old. The patient was subsequently weighed and found to be less than 60kg, however, several opportunities in both primary and secondary care to spot that the dose needed to be reduced back to 30mg were missed. The patient sadly died from complications of an intracerebral haemorrhage and specialist opinion concluded that the higher dose of edoxaban may have increased the size of the bleed.

Good practice guidance recommends that creatinine levels are from within 3 months and weights are from within 12 months when calculating CrCl for DOAC dose adjustment.

A 'snapshot' audit in the same trust reviewed 50 patients admitted on DOACs. 78% of patients had their DOAC prescribed at an appropriate dose for their age, weight and renal function on admission to the hospital. However, 16% of patients were prescribed a DOAC at a dose too high for their age, weight and renal function and 6% at a dose that was too low.

A recent national review by the NHSBSA (NHS Business Service Authority) revealed an increase in the number of patients prescribed and dispensed two forms of anticoagulation in the same month. Changes in the national procurement framework for DOACs for AF have led to new advice on preferred DOACs and as a result, increased scrutiny is in place to identify and prevent prescribing errors from occurring.

Twenty-three patients in our ICB were identified as having two forms of anticoagulation simultaneously prescribed during Q1 of 2024 and these have been highlighted to the practices concerned. In the majority of cases, the patients were in the process of being changed from one anticoagulant to another in a planned way. However, there were several incidences where anticoagulation had been altered (either in primary or secondary care) but the original anticoagulant (or dose) had not been removed from the repeat template.

Further reading and guidance:

- Local guidance - Clinical decision-making tool for embolism prophylaxis for patients with non-valvular AF
- National SPS guidance DOACs (Direct Oral Anticoagulants) monitoring

Please share the information in this document with all relevant members of staff in the Practice.

Comments, questions, ideas or suggestions for future prescribing focus editions are always welcome. We can be contacted on nyccg.rxline@nhs.net (North Yorkshire) or hnyicb-voy.rxline@nhs.net (York).

Many thanks,

North Yorkshire and York Medicines Management Team