Management of patients on anticoagulation in primary care

Dr Carol Buttriss
Clinical Lead in Anticoagulation
• 1. Decision to anticoagulate- CHADSVASC2 score
• 2. Referral to anticoagulation clinic- e-referral/choose and book
• 3. Choice of anticoagulant- one drug does not fit all
Choice of Anticoagulant

ASPIRIN - averroes trial/NICE Guidance
WARFARIN
DOAC- Dabigatran/ Pradaxa
  - Rivaroxaban/ Xarelto
  - Apixaban/ Eliquis
  - Edoxaban/ Lixiana

Nice Guideline- 2014- anticoagulation may be with a DOAC or a vitamin K antagonist
Mechanism of action

Rivaroxaban
Apixaban
Edoxaban

Dabigatran
Thrombin
Prothrombin
Fibrin
Fibrinogen
VKA
The Right drug for the Right patient?

- Stroke risk
- Risk of ICH
- Bleeding risk
- Extreme age
- Extreme weight
- Co-morbidities
- Renal function
- Drug interactions
- Liver function
- TTR

- Risk of side effects
- Mitral stenosis or mechanical heart valve
- Adherence with complex regimens
- Compliance issues
- Dose frequency
- Lack of licensed antidotes for some NOACs
Reducing risk of bleeding

1. Address uncontrolled hypertension
2. Review benefit/risk of concomitant aspirin:
3. Risk of bleeding is greatest in first 90 days of OAC therapy
   - Caution: drug interactions and new drugs
   - Close or more frequent monitoring
4. Review concomitant use of NSAIDS
5. Consider a PPI
Drug Interactions

• All DOACS
  i) P-gp inducers eg: Rifampicin, carbamazepine, phenytoin, phenobarbitone, St John`s wort
  ii) Aspirin + other antiplatelets
  iii) Other anticoagulants
  iv) NSAIDs
  v) Imidazole + Triazole anti-fungals
  vi) HIV Protease inhibitors
  vii) SSRIs    vii) Clarithromycin/erythromycin
Specific Interactions

• Dabigatran: amiodarone, ticagrelor, dronedarone, verapamil, tacrolimus, ciclosporin
• Rivaroxaban: dronedarone, amiodarone
• Edoxaban: amiodarone, verapamil, dronedarone
DOAC Dosages

• Dabigatran
150mg bd with or without food
110mg bd if ≥ 80yrs or trt with verapamil
Consider lower dose if 75-80yrs, mod renal impairment( Cr clearance 30-49mls/min) or at increased risk of bleeding
Reversal agent- Idarucizamab(praxbind) 5mg IV
• Rivaroxaban

20mg od with food

15mg od with food if moderate(Cr cl 30-49 mls/min) or severe( Cr cl 15-29 mls/min) renal impairment
• Apixaban

5mg bd with water, with or without food

2.5mg bd if two or more factors

A ge ≥ 80yrs

B ody wgt ≤ 60kg

C reatinine ≥ 133µmol/L
• Edoxaban:
60mg od with or without food
30mg od if one of the following: wgt\leq 60\text{kg}, \text{Cr Cl} 15-49 \text{ mls/min}, \text{concomitant trt with ciclosporin, dronedarone, erythromycin or ketoconazole}
Switching from warfarin to a DOAC

- Patient choice
- Poor TTR < 65%
- Adverse reaction to warfarin
- Difficulty attending for monitoring
- Need for medication in compliance aid
- Deteriorating memory/mental faculties
1. Assessing anticoagulation control with vitamin K antagonists

2. 1.5.11 Calculate the person's time in therapeutic range (TTR) at each visit. When calculating TTR:

- use a validated method of measurement such as the Rosendaal method for computer-assisted dosing or proportion of tests in range for manual dosing
- exclude measurements taken during the first 6 weeks of treatment
- calculate TTR over a maintenance period of at least 6 months. \[\text{new 2014}\]

3. 1.5.12 Reassess anticoagulation for a person with poor anticoagulation control shown by any of the following:

- 2 INR values higher than 5 or 1 INR value higher than 8 within the past 6 months
- 2 INR values less than 1.5 within the past 6 months
- TTR less than 65%. \[\text{new 2014}\]
1.5.13 When reassessing anticoagulation, take into account and if possible address the following factors that may contribute to poor anticoagulation control:

- cognitive function
- adherence to prescribed therapy
- illness
- interacting drug therapy
- lifestyle factors including diet and alcohol consumption. [new 2014]

1.5.14 If poor anticoagulation control cannot be improved, evaluate the risks and benefits of alternative stroke prevention strategies and discuss these with the person. [new 2014]
Switching from a DOAC to warfarin

- Patient choice
- Adverse reaction to DOAC
- Deteriorating renal function
- Interacting medicines- HIV meds/triple therapy
Switching from a DOAC to LMWH

• Pre or post surgery
• Interacting medicines- Rifampicin
• Cancer
• Chemotherapy
• bleeding
Discontinuation of anticoagulation: 1

- **GI BLEED**
  - On warfarin, INR at presentation and last check
  - On a DOAC - on correct dose - recent change in renal function
- Interacting medicines eg NSAIDs/ diuretics affecting renal function
- Drop in Hb
- OGD/colonoscopy: ulcer/diverticulitis/malignancy
- CHADSVASC2+ HASBLED score
Discontinuation of anticoagulation:

- ICH
- Spontaneous/provoked (fall/head injury)
- Previous history
- Acute or chronic
- High INR
- Correct dose of DOAC
- CHADSVASC2+ HASBLED scores
- DOAC preferable to warfarin
Discontinuation of anticoagulation: 3

- **FALLS**
- Number
- Type
- Co-morbidities
- Medication
- Social situation
- Housing
- Falls clinic
- CHADSVASC2+ HASBLED score
Interruption of anticoagulation

- Anti-thrombin inhibitor
  Low risk procedure- stop DOAC 24-48hrs prior to procedure depending on renal function
  High risk procedure- stop DOAC 48-96 hrs prior to procedure depending on renal function
- Anti Xa inhibitor
  Low risk procedure- stop DOAC 24-36 hrs prior to procedure depending on renal function
  High risk procedure- stop DOAC 48 hrs prior to procedure Depending on renal function.
Transfer of Care

• After 3 months prescription from secondary care

  exceptions:

  i) patient requiring medication in compliance aid

  ii) Initiated on ward and unable to attend anticoagulation clinic

  iii) Switching to an alternate DOAC if previously 3 mnths prescribed
Primary care follow-up

• 6 monthly renal function or sooner if clinical condition changes or if medication prescribed that may affect renal function eg diuretics
• Use Cockcroft-Gault equation to calculate Cr Clearance as this may differ from GFR significantly if elderly +/- low body wgt
• 6 monthly FBC
• Yearly LFTS
Switching between DOACs

• Dabigatran-dyspepsia
• Rivaroxaban- mucosal bleeding, back pain, muscle pains
• Rivaroxaban/Apixaban- rashes, headache, lightheadedness, nausea

No need to refer back to secondary care
i) Check renal function in case dose reduction required
ii) GP advice line
Annual Review

• For people who are not taking an anticoagulant because of bleeding risk or other factors, review stroke and bleeding risks annually, and ensure that all reviews and decisions are documented. [new 2014]

• For people who are taking an anticoagulant, review the need for anticoagulation and the quality of anticoagulation at least annually, or more frequently if clinically relevant events occur affecting anticoagulation or bleeding risk. [new 2014]
Improvements to anticoagulation service

• Choose and book
• All patients with INRs outside of their therapeutic range are dosed and leave the clinic with their yellow book
• GP advice line
• More community based clinics